The perceived effects of ICTs on employees´ job demands and job resources

Which ICT job demands and ICT job resources do tax accountants perceive in an ICT based fully digitized tax accountancy work approach in Germany?

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Preface

Before you lies the Master thesis´ "The perceived effects of ICTs on employees´ job demands and job resources". The Master thesis´ has been written to fulfil the requirements of the graduation program of the Nijmegen School of Management, in the specialization Strategic Human Resources Leadership.

I would especially like to thank my first supervisor, Prof. Dr. Alain De Beuckelaer for his continuous support, his guidance whenever I had difficulties and his patience during the Master thesis´ research process. Without him, finishing the Master thesis´ would not have been possible.

Additionally, I would like to gratefully thank my fellow students, Nathalie Schiffer and Anna Bunse, as well as my mother, Marion Müller von Baczko, and my sister, Linda Müller von Baczko, for their support, critical discourse, and their motivating words throughout the whole Master program.

Thank you,

Maximilian Justus Müller von Baczko

Köln, July 25th, 2019

Abstract

Research regarding positive and negative effects of ICTs on employees´ health is still in its infancy and thus needs further investigation. Perceived ICT job demands and perceived ICT job resources do affect employees´ health through increasing or decreasing perceived employees´ strain. Perceived ICT job demands and perceived ICT job resources do affect desirable organizational outcomes, such as employee retention and decreased employee absenteeism and should thus be taken into account by organizations. However, perceived ICT job demands and especially perceived ICT job resources have only occasionally been assessed before and researchers agree that they are not complete and need to be extended. Consequently, the Master thesis´ research´s aim was to assess formerly identified perceived ICT job demands and perceived ICT job resources, as well as new perceived ICT job demands and perceived ICT job resources in a new, not yet investigated context, an ICT based fully digitized tax accountancy work approach in Germany**.** For this purpose, a qualitative research design has been chosen. Eight semi-structured interviews as well as a document analysis and a follow- up email were conducted. The results of the Master thesis´ research indicate that the majority of the formerly assessed perceived ICT job demands are (partially) disconfirmed while all perceived ICT job resources were (partially) confirmed. Additionally, the Master thesis´ research found three new perceived ICT job resources, namely "Storing and saving", "Voice", and "Increased employability", but no new perceived ICT job demands. As a consequence, the Master thesis´ research´s findings challenge the findings of former researchers, who primarily found ICT job demands to increase perceived employees´ strain negatively affecting employees´ health. Since the Master thesis´ research primarily (partially) confirmed perceived ICT job resources and (partially) disconfirmed the majority of the perceived ICT job demands, a more positivistic view regarding the influence of ICTs on perceived employees´ strain and employees´ health is proposed. ICTs have primarily been found to have the potential to decrease perceived employees´ strain positively affecting employees´ health. Herewith, this Master thesis´ reaches its aim to assess which perceived ICT job demands and perceived ICT job resources tax accountants perceive in an ICT based fully digitized tax accountancy work approach in Germany.

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Introduction

The 21st century is experiencing a fast technological revolution (Jia, Komeily, Wang & Srinivasan, 2019). Organizations have to adapt to different trends, such as work intensification and, or effective and efficient ways of working (Ehnert, 2014). To address these trends, organizations increasingly use technologies (Coovert & Thompson, 2003).

Technologies, such as Information and Communication Technologies (ICTs) (Ritchie & Brindley, 2005), can be used to address these trends improving organizational outcomes like organizational effectiveness and organizational efficiency as well as employees´ health (Atanasoff & Venable, 2017; Alam & Noor, 2009). ICTs can be defined as a "collective term for a wide range of software, hardware, telecommunications, and information management techniques, applications and devices, and are used to create, produce, analyse, process, package, distribute, receive, retrieve, store and transform information" (Barba-Sánchez, Martínez-Ruiz & Jiménez-Zarco, 2007, p. 105). Since employees´ health is expected to lead to positive organizational outcomes, such as employee retention and decreased employee absenteeism (Schaufeli & Bakker, 2004), assessing the influence of ICTs on employees´ health is the overall goal of the Master thesis´ at hand.

The model that fits best to the Master thesis´ focus of assessing the perceived influence of ICTs on employees´ health is the job demands-resources model (JD-R) (Bakker, Demerouti &Verbeke, 2004). The reason for using this model is that the JD-R model is applicable to various occupations (Bakker & Demerouti, 2007; Demerouti, Bakker, Nachreiner & Schaufeli, 2001), assesses employees´ individual perceptions regarding positive and negative influences on employees´ health (Day, Scott & Kelloway, 2010) while taking the working context into account (e.g. ICT context) (Day et al., 2010). A detailed justification regarding the literature search process leading to the choice for the JD-R model can be found in Appendix 1.

The JD-R model assumes that employees are confronted with physical, psychological, social and organizational aspects of the work context that can be categorized into job demands and job resources (Bakker & Demerouti, 2007; Demerouti et al., 2001).

Job demands are physical, psychological, social, or organizational aspects of work that require a high amount of effort over a long period of time, which leads to physiological and psychological costs (Bakker & Demerouti, 2007). Job resources are defined as "physical, psychological, social, or organizational aspects of the job that are either/or: (1) functional in achieving work goals, (2) reduce job demands and the associated physiological costs, (3) stimulate personal growth, learning, and development" (Bakker & Demerouti, 2007, p. 312).

Specific job demands and job resources across various occupations that have been assessed by researchers before (Bakker & Demerouti, 2007; Bakker et al., 2004; Benders et al., 2016) can be found in Appendix 2.

The JD-R model assumes three general processes. Firstly, job demands lead to employees´ strain, which harms employees´ health. Employees´ strain can be defined as employees´ negative reactions to job-related stressors (e.g. job demands) (Beehr & Newman, 1978; Jex & Beehr, 1991). Secondly, job resources lead to employees´ motivation. Thirdly and lastly, job resources can undermine the negative effects of job demands and thus "buffer" the negative effects on employees´ health (Bakker & Demerouti, 2007). The three general processes are portrayed in Appendix 3. The Master thesis´s focus explicitly lies on assessing the effects of ICTs on employees´ health as perceived by employees, and not on assessing the actual effects. The reason for assessing perceived effects rather than actual affects is twofold. Firstly, perceived effects have been found to be of a high relevance for perceptions regarding employees´ resource availability. Employees´ perception of their resource availability allows employees to successfully self-regulate and thus access resources (Clarkson, Hirt, Jia & Alexander, 2010). Secondly, stress and strain are only expected to occur if the individual employee does perceive a situation as stressful (Lazarus & Folkman, 1984, as cited in Day & Jreige, 2002). Although job stressors exist in every job, employees´ perceived strain differs due to employees´ individual differences (Payne, 1988, as cited in Day & Jreige, 2002). Consequently, employees´ perceptions are crucial for job demands and job resources, thus fitting to the chosen JD-R model.

Relating the JD-R model to an ICT context, Lowry and Moskos (2005) and Chesley (2014) argue that ICTs have both, positive and negative effects on employees´ health. A first research by Day et al. (2010) deals with these effects by introducing the terms "perceived ICT job demands" and "perceived ICT job resources". The researchers propose that ICTs affect job demands and job resources (Day et al., 2010), implying that the JD-R model is applicable to ICT contexts. Perceived ICT job demands and perceived ICT job resources can be defined as follows:

Perceived ICT job demands are "any ICT factor or process at work involving some type of storing, transmitting, or processing technology (e.g. computer programs) or device (computer, cell phone), that has the potential to be perceived as stressful by workers" (Day et al., 2010, p.324).

Perceived ICT job resources are "any ICT factor or process at work involving some type of storing, transmitting, or processing technology (e.g. computer programs) or device

(computer, cell phone) that assist employees with the completion of their work, reduce the burden of job demands, or that promote personal growth and development" (Day et al., 2010, p.324). Specific perceived ICT job demands and perceived ICT job resources that have been assessed by researchers before (Day, Paquet, Scott & Hambley, 2012; Ninaus, Diehl, Terlutter, Chan & Huang, 2015) can be found in Appendix 4.

The three general processes of the JD-R model have to be adjusted for ICT contexts. The first process assuming that job demands increase perceived employees´ strain negatively impacting employees´ health holds for perceived ICT job demands and perceived ICT job resources as well, implying that perceived ICT job demands (e.g. constant availability) negatively influence employees´ health. The second process indicating that job resources increase employees´ motivation has to be adjusted. Following Day et al. (2012), perceived ICT job resources, such as personal assistance, decrease perceived employees´ strain and thus positively influence employees health. The third process assuming that job resources undermine the negative effects of job demands and thus buffer their negative effects on employees´ health holds for perceived ICT job demands and perceived ICT job resources (Day et al. 2012). Hence, perceived ICT job demands and perceived ICT job resources both affect employees´ health implying that perceived ICT job demands and perceived ICT job resources are appropriate to assess the effects of ICTs on employees´ health.

As several researchers state, research regarding positive and negative effects of ICTs on employees´ health is still in its infancy (Day et al., 2012; Atanasoff & Venable; 2017, Ninaus et al., 2015) and thus needs further investigation. As outlined in the foregone section dealing with the adjusted three general processes of the JD-R for ICT contexts, perceived ICT job demands and perceived ICT job resources do affect employees´ health through increasing or decreasing perceived employees´ strain (Day et al., 2012; Chesley, 2014; Stadin, Nordin, Broström, Magnusson Hansen, Westerlund & Fransson, 2016). Therefore, perceived ICT job demands and perceived ICT job resources are important for employees´ health (Day et al., 2012; Sonnentag & Bayer, 2005) and desirable organizational outcomes, such as employee retention and decreased employee absenteeism. As a consequence, it is important for organizations to assess, which ICT job resources and, or ICT job demands are perceived by employees to positively affect employees´ health and desirable organizational outcomes. However, perceived ICT job demands and perceived ICT job resources have only occasionally been assessed before. Ninaus et al. (2015) who qualitatively assessed perceived ICT job demands and perceived ICT job resources by interviewing employees in advertising, public relations and journalism industries in Hong Kong and Austria and Day et al. (2012), who quantitively (questionnaires)

assessed perceived ICT job demands and perceived ICT job resources (supports) in different occupations (e.g. engineers, accountants, management and psychologists) and countries, are to the best of the Master thesis´ researcher´s knowledge the only researchers that empirically tested perceived ICT job demands and perceived ICT job resources before. Both researchers clearly state that the assessed perceived ICT job demands and especially perceived ICT job resources are not complete and need to be extended (Day et al. 2012; Ninaus et al., 2015). Especially, research regarding perceived ICT job resources is still in its infancy (Stadin et al., 2016; Day et al., 2012) implying that ICTs have primarily been found to cause perceived ICT job demands increasing perceived employees´ strain and negatively affecting employees´ health. Therefore, the Master thesis´ responds to Day et al. (2012) and Ninaus et al. (2015) future research implication to identify new, not formerly assessed perceived ICT job demands and perceived ICT job resources. Simultaneously, the Master thesis´ aims at assessing the existence of formerly assessed perceived ICT job demands and perceived ICT job resources (Appendix 4), such as constant availability and increased flexibility in a new, not yet investigated context. This context will be portrayed within the next section.

The Master thesis´ research is conducted in an online tax accountancy organization in Germany. The organization created a technology that takes advantage of the benefits of increased digitization by working fully digitally. Invoices can directly be imported to the technology, scanned and sent to the clients or the government via the new technology. Furthermore, communicating with clients and other employees via the technology is possible. The technology allows to store documents and processes invoices automatically. Additionally, the possibility to work remotely is provided for employees. Furthermore, the ICT allows monitoring the productivity of employees, as well as employees response time to messages. Thus, the technology can be regarded as an ICT, fitting to the definition of Barba-Sánchez, del Pilar Martínez-Ruiz, and Jiménez-Zarco (2007). The organization that developed the ICT is called the main organization for the remainder of the Master thesis´ research.

In 2016, the main organization decided to offer formerly traditionally working tax accountants the possibility to join the organization and work as independent network partners using the ICT. These independent network partners used to work as traditional tax accountants in traditional tax accountancy organizations before and shifted to an ICT based fully digitized tax accountancy work approach. Hence, the independent network partners experienced the potential changes in perceived ICT job demands and perceived ICT job resources resulting from working fully digitally. The independent network partners pay a monthly percentage of their sales to the main organization as well as an initial connection fee. Besides providing the

independent network partners with the ICT, the main organization still works as an independent ICT based fully digitized tax accountancy in Germany.

Since ICTs affect organizational outcomes, such as effectiveness, efficiency, employee retention and employee absenteeism (Atanasoff & Venable, 2017; Alam & Noor, 2009), assessing which ICT job demands and ICT job resources employees perceive within organizations is important (Day et al. 2012). Perceived ICT job demands and perceived ICT job resources affect employees´ health through increasing or decreasing perceived employees´ strain. Since increased employees´ health is expected to positively affect desirable organizational outcomes, it is practically relevant for organizations to assess and manage perceived ICT job demands and perceived ICT job resources (Day et al., 2012).

To assess which perceived ICT job demands and perceived ICT job resources are present in the new, not yet investigated context and address the practical and theoretical knowledge gaps outlined before, the following research question is formulated:

Which ICT job demands and ICT job resources do tax accountants perceive in an ICT based fully digitized tax accountancy work approach in Germany?

The remainder of the Master thesis´ is structured as follows: Firstly, an extensive literature review is presented to derive expected, testable research outcomes (propositions). Secondly, the research methodology is outlined followed by the data collection, the analysis of the gathered data sources and the discussion.

Theoretical background

The Theoretical background chapter of the Master thesis´ research is concerned with deriving expected, testable research propositions. Therefore the current stand of literature regarding formerly assessed perceived ICT job demands and perceived ICT job resources is presented and potential new, not formerly assessed, but proposed perceived ICT job demands and perceived ICT job resources are presented. How the literature review for the Theoretical background chapter has been carried out can be seen in Appendix 4.

The research of Day et al. (2010), Day et al. (2012) and Ninaus et al. (2015) are, as mentioned before, to the best of the Master thesis´ author´s knowledge the only researches that assessed perceived ICT job demands and perceived ICT job resources before. Therefore, these researches serve as the main theoretical background for the Master thesis´ Theoretical background chapter.

Day et al. (2010) propose five general characteristics of ICTs: (1) Accessibility and availability, (2) Access to information, (3) Communication, (4) Electronic monitoring, and (5)

ICT control. These five general characteristics of ICTs can, according to Day et al. (2010), either be perceived as ICT job resources decreasing perceived employees´ strain and thus positively affecting employees´ health and, or as ICT job demands increasing perceived employees´ strain and thus negatively affecting employees´ health. The following section is concerned with presenting these five general characteristics, each time both as a perceived ICT job demand and as a perceived ICT job resource.

Accessibility and availability. On the one hand, accessibility and availability considered a perceived ICT job demand refers to an employees´ constant connectivity through ICT usage and general expectations to be available, also outside working hours (Porter & Kakabadse, 2006; Ragu-Nathan, Tarafdar & Ragu-Nathan, 2008). On the other hand, accessibility and availability can also be seen as a perceived ICT job resource addressing the benefits for employees to work in greater spatial and temporal flexibility (Ninaus et al., 2015).

Access to information. On the one hand, access to information considered a perceived ICT job demand refers to an employees´ overload of information and to an increased workload resulting from an increased access to information. On the other hand, access to information can also be seen as a perceived ICT job resource addressing that ICTs can enable employees to work more efficiently (Day et al., 2010) by allowing employees to store and process information (Migliarese & Paolucci, 1995).

Communication. On the one hand**,** communication considered a perceived ICT job demand refers to employees´ potential ineffective or unintentional ways of communicating since information regarding the tone and intonation of a message in e.g. emails is not given when using ICTs (Ramirez, Walther, Burgoon & Sunnafrank, 2002). On the other hand, communication can also be seen as a perceived ICT job resource. ICTs are expected to enhance the process of communicating and sharing of information (Lind & Zmud, 1995; Pickering & King, 1995; Zaccaro & Bader, 2003, as cited in Day et al., 2010,) through being able to link with and coordinate with other employees or clients (Dewett & Jones, 2001).

Electronic monitoring. On the one hand, electronic monitoring considered a perceived ICT job demand refers to employees´ strain outcomes through perceptions of increased workload or the fear of job loss (Amick & Smith, 1992; Day et al., 2010). On the other hand, electronic monitoring can also be seen as a perceived ICT job resource if implemented correctly (Day et al., 2010) through leading to a positive employee mood, especially if groups and not individuals are monitored (Aiello & Kolb, 1995) and the tasks are rather simplistic (Davidson & Henderson, 2000). Employees can be monitored in several ways, e.g. in terms of monitoring emails, internet use, monitors or productivity (Day et al., 2010).

ICT control. On the one hand, ICT control considered a perceived ICT job demand refers to employees´ lack of control over ICTs. A lack of control results from e.g. ICT malfunctions or ICT breakdowns. On the other hand, ICT control can also be seen as a perceived ICT job resource through providing choice regarding spatial and temporal use of ICTs which leads to greater spatial and temporal flexibility (Day et al., 2010).

The perceived ICT job demands and perceived ICT job resources presented within the Master thesis´ Theoretical background chapter are grouped in accordance to the five general characteristics of ICTs by Day et al. (2010).

Formerly assessed perceived ICT job demands

Only a few perceived ICT job demands related to the five general characteristics of ICTs have been empirically assessed by Day et al. (2012) and Ninaus et al. (2015). The eight perceived ICT job demands empirically assessed by Day et al. (2012) are: (1) everyday hassles in using technology, (2) information overload, (3) expectations to be available 24/7, (4) increased workload, (5) a lack of control over technology, (6) expectations for continuous learning, (7) ineffective communication, and (8) use of ICT to monitor employees behaviours (Day et al., 2012). The eight empirically assessed perceived ICT job demands by Day et al. (2012) are presented briefly in the following section.

Firstly, everyday hassles in using technologies can be defined as ICT malfunctions, such as ICT crashes, breakdowns or freezes (Day et al., 2010; Day et al., 2012). Secondly, information overload can be defined as intensifying the workload. Although ICTs provide the possibility to access and review a large amount of information in a short time, the workload did not decrease (Fuglseth & Sørebø, 2014). Thirdly, expectations to be available 24/7 can be defined as providing employees with the opportunity to work remotely and thus anytime, without physically being at work (Day et al., 2012). Therefore, ICTs might create an "always on mentality" (Park, Fritz & Jex, 2011), through organizational expectations of employees to be available (Mazmanian et al., 2013). Previous studies found that the use of ICTs during non-working hours can lead to conflicts between work and family (Ayyagari, Grover & Purvis, 2011) as well as to an employees´ disability to disconnect from work (Mazmanian et al., 2013). Hence, a conflict between work and family can occur. A conflict between work and family has been found to be a forerunner of burnout increasing perceived employees´ strain (Allen, Herst, Bruck & Sutton, 2000; Sonnentag & Bayer, 2005) and thus negatively influencing employees´ health (O´Driscoll et al., 2010). Fourthly, an increased workload can be defined as ICTs enabling excessive work (Porter & Kakanadse, 2006). A compelling example was found by Chesley (2014), who found that daily ICT usage at work is positively related to increased job

pace, increased level of interruptions (Bailey & Konstan, 2006), and an increased need for multitasking causing perceived employees´ strain (Su & Mark, 2008). Fifthly, a lack of control over technology can be defined as an employees´ lack of perceived control over the ICT (e.g. Day & Jreige, 2002; Dwyer & Ganster, 1991). Employees who have control over the use of ICTs, e.g. in terms of when they use them, experience decreased stress (Chesley, 2014). Dwyer and Ganster (1991) found that people who do not have control over their environment perceive increased strain. This finding also holds for an ICT working context (Day et al., 2012). Sixthly, expectations for continuous learning can be defined as the situation when ICTs are constantly developing. Consequently, employees have to constantly upgrade technical skills regarding the ICTs (Wang et al., 2008) to be able to use them creating the demand to continuously learn and adapt to the new features (Day et al., 2012). Seventhly, ineffective communication can be defined as the increased probability that though using ICTs (e.g. emails) misunderstandings increase, due to the absence of nonverbal clues, tone, and intonation of the message (Rainey, 2000). Eighthly, the use of ICTs to monitor employees´ behaviours can be defined as the situation when employees perceive electronic monitoring as a restriction to their personal space and privacy (Coovert & Thompson, 2003; Fairweather, 1999). Additionally, Chesley (2014) state that employees are monitored in terms of response time in answering emails. Employees who did not conform with the organizational norm to respond to emails quickly faced sanctioning, which led to increased employees´ perceived work overload. In Day et al.´s (2012) research, these eight assessed perceived ICT job demands have been found to increase perceived employees´ strain (Day et al., 2012; Chesley, 2014) negatively affecting employees´ health.

Besides Day et al.´s (2012) research, Ninaus et al. (2015) assessed four perceived ICT stressors (demands). The research of Ninaus et al. (2015) focuses explicitly on assessing ICTs providing better communication and therefore, providing spatial and temporal flexibility. The four perceived ICT job demands empirically assessed by Ninaus et al. (2015) are: (1) constant availability, (2) connectivity pressure, (3) inner obligation for availability, and (4) increased workload (Ninaus et al., 2015). The four assessed perceived ICT job demands are presented briefly in the following section. Firstly, constant availability can be defined as the possibility for employees to work outside of working hours. Thus, the number of employees´ total working hours is expected to increase. Secondly, connectivity pressure can be defined as an organization's expectation towards employees to stay connected throughout the day, which is expected to increase due to the use of ICTs (Ninaus et al., 2015). This perceived ICT job demand matches with the perceived ICT job demand expectations to be available 24/7, assessed

by Day et al. (2012). Thus, these perceived ICT job demands are treated as one perceived ICT job demand for the purpose of this Master thesis´. Thirdly, an inner obligation for availability can be defined as an employees´ possibility to constantly engage with work-related topics through the presence of wireless technological devices (Ninaus et al., 2015; Chesley, 2014). Therefore, an inner obligation for availability has been found to increase (Ninaus et al., 2015). Fourthly, an increased workload can be defined as an employee´s work field extension through ICT usage due to new forms of e.g. advertising through social media applications. Additionally, ICT use has been found to extend the field of work (Chesley, 2005) and to increase work intensification (Chesley, 2014). Therefore, an employee´s workload is expected to increase (Ninaus et al., 2015). This perceived ICT job demand matches with the perceived ICT job demand increased workload assessed by Day et al. (2012). Thus, these perceived ICT job demands are treated as one perceived ICT job demand for the purpose of this Master thesis´. These four perceived ICT stressors are expected to negatively affect employees´ health through being work-related stressors (Ninaus et al., 2015), that increase perceived employees´ strain (Beehr & Newman, 1978; Jex & Beehr, 1991) and are thus treated as perceived ICT job demands in this Master thesis´ research.

The eight formerly assessed perceived ICT job demands by Day et al. (2012), and four formerly assessed perceived ICT job demands by Ninaus et al. (2012), grouped in accordance to the five general characteristics of ICTs by Day et al. (2010) are displayed in table 3.

Table 4. Formerly assessed perceived ICT job demands by Ninaus et al. (2015) and Day et al. (2012).

Five general characteristics (Day et al., 2010)	Formerly assessed perceived ICT job demands
(1) Accessibility and availability	- expectations to be available 24/7 / connectivity pressure - constant availability - inner obligation for availability
(2) Access to information	- information overload/ increased workload
(3) Communication	- ineffective communication

(4) Electronic monitoring	- use of ICT to monitor employees
(5) ICT control	- everyday hassles in using technology (e.g. losing data; computer crashing)
	- a lack of control over technology
	- expectations for continuous learning

It appears to be questionable whether the perceived ICT job demands assessed by Day et al. (2012) and Ninaus et al. (2015) hold for the Master thesis´ context, an ICT based fully digitized tax accountancy in Germany, since the context of the research of Day et al. (2010) and Ninaus et al. (2015) is clearly different to the Master thesis´ context as outlined in the Introduction. Nevertheless, Johnson et al. (2005) found that (tax) accountants score low on the dimensions physical health, psychological well-being and job satisfaction in comparison to other occupations, such as teachers or police officers, indicating that (tax) accountants potentially perceive more perceived ICT job demands than employees working in other occupations. Since accountants appear to be at risk in perceiving ICT job demands, the perceived ICT job demands assessed by Day et al. (2012) and Ninaus et al. (2015) are expected to hold for the Master thesis´ context, an ICT based fully digitized tax accountancy in Germany. Hence, the following proposition is formulated:

Proposition 1: The perceived ICT job demands assessed by Day et al. (2012) and Ninaus et al. (2015) (Table 4) are expected to hold for the ICT based fully digitized tax accountancy in Germany.

Formerly assessed perceived ICT job resources and new, potential not formerly assessed, but proposed perceived ICT job resources

Ninaus et al. (2015) also assessed three perceived ICT related benefits within their research. The three perceived ICT benefits (job resources) empirically assessed by Ninaus et al. (2015) are: (1) improved communication processes, (2) instant accessibility, and (3) increased flexibility (Ninaus et al., 2015). The three assessed perceived ICT job resources are presented briefly in the following section. Firstly, improved communication can be defined as better internal communication processes with colleagues, or external ones with clients.

Secondly, instant accessibility can be defined as the accessibility of information (e.g. email) by using devices remotely allowing employees to better control the information flow. Moreover, Kelliher and Anderson (2010) found that flexible work through the possibility of remote work by using ICTs positively affects job satisfaction and organizational commitment. Thirdly, increased flexibility can be defined as an employee´s possibility to balance work and home in accordance with their personal preferences. The positive effects of an increased flexibility were also found by Lee et al. (2014) who argue that access to work-related content regardless of location and time increases the compulsive checking of missed calls, text messages or emails and therefore, positively affects flexibility which might be desirable for employees. These three ICT benefits are expected to positively affect employees´ health through being work-related benefits (Ninaus et al., 2015), that decrease perceived employees´ strain (Beehr & Newman, 1978; Jex & Beehr, 1991) and are thus treated as perceived ICT job resources in the Master thesis´ research.

Besides these empirically assessed perceived ICT job demands and perceived ICT job resources, Day et al. (2012) developed two general ways in which organizations can offer ICT support. Day et al. (2012) assessed two perceived ICT job resources (supports), (1) ICT personal assistance, and (2) resource support (Day et al., 2012, p. 484). These two ICT supports have been found to decrease perceived employees´ strain, thus positively affecting employees´ health. These ICT supports are treated as perceived ICT job resources in the Master thesis´ research.

Besides assessing the formerly assessed perceived ICT job demands and perceived ICT job resources, the contribution of the Master thesis´ research to the ICT job demands and ICT job resources literature lies in assessing new, not, formerly assessed perceived ICT job demands and perceived ICT job resources in the not yet investigated context of an ICT based fully digitized tax accountancy in Germany. Therefore, this section is concerned with proposing potential new, not formerly assessed perceived ICT job demands and perceived ICT job resources.

As outlined before, only perceived ICT job demands related to the five general characteristics of ICTs by Day et al. (2010) have been empirically assessed by Day et al. (2010). Nevertheless, Day et al. (2010) propose that each of the five general characteristics can be seen as a perceived ICT job resource as well, and they are expected to decrease perceived employees´ strain and thus to positively affect employees´ health. Hence, due to the foregone explanations, (1) Accessibility and availability, (2) Access to information, (3) Communication, (4) Electronic

monitoring, and (5) ICT control are expected to be potential perceived ICT job resources in the Master thesis´ at hand.

Firstly, Accessibility and availability seen as a perceived ICT job resource refers to an employees´ possibility to work in greater spatial and temporal flexibility (Ninaus et al., 2015; Lowry & Moskos, 2005). Accordingly, this perceived ICT job resource matches with Ninaus et al.´s (2015) assessed perceived ICT job resources, instant accessibility, and increased flexibility. These two perceived ICT job resources are treated as the perceived ICT job resources of the first ICT characteristic proposed by Day et al. (2010). Secondly, Access to information allows employees to work more efficiently (Day et al., 2010) by allowing them to store and process information (Migliarese & Paolucci, 1995), thus decreasing employees´ workload. This perceived ICT job resource is named decreased workload treated as the perceived ICT job resource of the second ICT characteristic proposed by Day et al. (2010). Thirdly, Communication seen as a perceived ICT job resource refers to enhancing the process of communicating and sharing of information (Lind & Zmud, 1995; Pickering & King, 1995; Zaccaro & Bader, 2003, as cited in Day et al., 2010,) through being able to link with and coordinate with other employees or clients (Dewett & Jones, 2001). Accordingly, this perceived ICT job resource matches with Ninaus et al. (2015) assessed perceived ICT job resource improved communication, which refers to the potential of better internal communication processes with colleagues or external ones with clients (Ninaus et al., 2015). This perceived ICT job resource is named improved communication and is treated as the perceived ICT job resource of the third ICT characteristic proposed by Day et al. (2010). Fourthly, Electronic monitoring seen as a perceived ICT job resource refers to an employee´s positive perceptions regarding electronic monitoring if implemented correctly (Day et al., 2010) through leading to positive employees´ mood, especially if groups and not individuals are monitored (Aiello & Kolb, 1995). This perceived ICT job resource is named electronic monitoring motivating employees treated as the perceived ICT job resource of the third ICT characteristic proposed by Day et al. (2010). Fifthly, ICT control seen as a perceived ICT job resource refers to an employee´s ability to control the ICT system (Stanton & Barnes-Farrell, 1996), leading e.g. to greater spatial and temporal flexibility (Day et al., 2010). To increase employees´ perceived ICT control, organizational support might be beneficial. This assumption matches with the assessed ICT job resource ICT personal assistance, and resource support, by Day et al. (2012). For the Master thesis´ pursuit, these assessed perceived ICT job resources are summarized as ICT support. This perceived ICT job resource is named ICT support treated as the perceived ICT job resource of the fifth ICT characteristic proposed by Day et al. (2010).

The perceived ICT job resources formulated in accordance to Ninaus et al. (2015) are expected to decrease perceived employees´ strain, thus positively affecting employees´ health. Questionable remains whether the potential new, not formerly assessed perceived ICT job resources, electronic monitoring motivating employees and decreased workload, decrease perceived employees´ strain and thus positively affect employees´ health.

The formerly assessed (Ninaus et al., 2015; Day et al., 2012) and potential new, not formerly assessed perceived ICT job resources can be seen in table 4.

Table 5. Formerly assessed and proposed and not formerly assessed perceived ICT job resources.

Five general characteristics (Day et al., 2010)	Formerly assessed perceived ICT job demands
(1) Accessibility and availability	- instant accessibility/ increased flexibility
(2) Access to information	- decreased workload
(3) Communication	- improved communication
(4) Electronic monitoring	- electronic monitoring motivating employees
(5) ICT control	- ICT support

It appears to be questionable whether the perceived ICT job resources assessed by Day et al. (2012) and Ninaus et al. (2015) and the potential new, not formerly assessed perceived ICT job resources hold for the Master thesis´ context, an ICT based fully digitized tax accountancy in Germany, since the context of the research of Day et al. (2010) and Ninaus et al. (2015) is clearly different to the Master thesis´ context as outlined in the Introduction. As argued before, Johnson et al. (2005) found that (tax) accountants score low on the dimensions physical health, psychological well-being and job satisfaction in comparison to other occupations, such as teachers or police officers, indicating that (tax) accountants potentially perceive less perceived ICT job resources than employees working in other occupations. Since accountants appear to perceive less perceived ICT job resources, the perceived ICT job resources assessed by Day et al. (2012) and Ninaus et al. (2015) are not expected to hold for the Master thesis´ context, an ICT based fully digitized tax accountancy in Germany. Consequently, the following proposition is formulated:

Proposition 2: The perceived ICT job resources assessed by Day et al. (2012) and Ninaus et al. (2015) and the potential new, not formerly assessed perceived ICT job resource (Table 5) are not expected to hold for the ICT based fully digitized tax accountancy in Germany.

Methodology

Within this chapter, the Master thesis´ research methodology is presented. Firstly, an extensive case description is formulated. Secondly, the research´s design including a justification for qualitative research is provided. Thirdly, the Master thesis´ research interviewee base as well as the data collection methods and a statement regarding ethical considerations are presented.

Case description

The Master thesis´ research is carried out in the first online tax accountancy in Germany (steuerberaten.de). The main organization is the first online tax accountancy in Germany and is unique in the German tax accountancy working context. The main organization works solely digitally by using ICTs. Therefore, the main organization´s working context is fundamentally different in comparison to other (traditionally working) tax accountancies in Germany. The main organization was founded in 2006 and went online after three years of technology development in 2009. Currently, the main organization employs 68 employees in three business locations in Germany, namely Wittenberg (headquarter), Halle an der Saale and Köln. The main organization´s aim is to deploy the benefits of ICTs within the tax accountancy work sector in Germany. The main organization´s clients are primarily small and medium enterprises (SME´s) that pursue to work fully digitally. Through the ICT, clients´ invoices or other documents can be directly imported to the ICT, scanned and sent to the clients or the government via the ICT. Resultantly, the traditional way of sending invoices and other documents via post is replaced. The developed ICT does allow for communication with clients as well as between employees. The employees communicate with clients and other employees who are not working in the same office, solely via sending messages via the ICT or calling them. Therefore, face to face meetings are replaced. Furthermore, the ICT allows monitoring the productivity and the response time regarding emails of employees allocating tasks, automating the processing of invoices and documents, and storing and ordering them automatically. Additionally, the possibility to work remotely and during non-working hours is provided allowing greater spatial and temporal flexibility for employees.

In 2016, the main organization extended its business model by building a partner network. Through this partner network, tax accountants have the possibility to join the main

organization as independent network partners and open their own ICT based fully digitized tax accountancy under the main organization´s name. These independent network partners partially worked as traditional tax accountants before and fulfil the tasks of tax accountants after joining the network by using the main organization´s ICT. The independent network partners pay a monthly percentage of their sales to the main organization, as well as an initial connection fee. Besides providing the independent network partners with clients, marketing activities and the ICT, the main organization still works as an online tax accountancy. Currently, the main organization has got five independent network partners with a total amount of 17 employees. The independent network partners' business locations are Köln (2x), Bremen, Viersen, and Darmstadt.

Interviewee base

Access to the organization and its employees is granted by the owner and CEO of the main organization. Two different groups of people are taken into account (interviewee base), firstly independent network partners and secondly, employees working for the main organization.

The first interviewee base consists of two of the main organization´s independent network partners. It is expected that perceived ICT job demands and perceived ICT job resources are clearly visible within this interviewee base since those independent network partners partially worked in a traditional way before. Moreover, it appears to be interesting to observe the differences in perceived ICT job demands and perceived ICT job resources between the main organization´s independent network partners and employees working for the main organization.

The second interviewee base consists of six employees working for the main organization. It is expected that perceived ICT job demands and perceived ICT job resources are clearly visible within this interviewee base since some of those employees used to work exclusively traditionally and experienced the shift to a fully digitized tax accountancy work approach. The other employees did not work in traditional tax accountancies before. It appears to be interesting to observe, if the employees perceive ICT job demands and ICT job resources differently due to their former work approaches. Additionally, employees working for the main organization have different hierarchical positions within the organization, different ages and work in different business locations. It appears to be interesting to observe the differences in perceived ICT job demands and perceived ICT job resources between the employees by taking these differences into account.

Both presented interviewee bases are expected to be appropriate to test the developed propositions and answer the Master thesis´ research question An overview regarding the interviewees' gender, hierarchical position, profession, age, and business location can be found in Appendix 5.

Research design

The Master thesis´ research is a case study. Case studies deal with investigating "a contemporary phenomenon (the "case") in its real-world context (…)" (Yin, 2014, p. 2). Since the Master thesis´ research pursuit is to investigate perceived ICT job demands and perceived ICT job resources (contemporary phenomenon) in the German online tax accountancy working context, a case study is applicable. Additionally, following Yin (2014), case studies are especially applicable if the research question aims at explaining present circumstances (Bleijenbergh, 2015; Buchanan, 2012). Since the Master thesis´ research question aims at assessing which perceived ICT job demands and perceived ICT job resources are present in an ICT context (present circumstances), a case study is applicable. Several forms of case studies exist, e.g. critical single case studies. Critical single case studies are especially applicable if the investigated case is firstly, critical, secondly, unusual and thirdly, revelatory. Firstly, the case should be critical which means that the case has the potential to confirm and, or expand the knowledge within the field of perceived ICT job demands and perceived ICT job resources. On the one hand, since all interviewees work daily with ICTs, and the JD-R model is applicable to various occupations (Bakker & Demerouti, 2007; Demerouti et al., 2001), the Master thesis´ research case is expected to be able to confirm the knowledge within the field of perceived ICT job demands and perceived ICT job resources. On the other hand, since the Master thesis´ research context is new, and not yet investigated, the Master thesis´ research case is expected to be able to expand the knowledge within the field of perceived ICT job demands and perceived ICT job resources. Secondly, the case should be unusual meaning that the case should deviate from the norm. Since the organization chosen for the Master thesis´ research is unique and the first online tax accountancy in Germany, the case is expected to be unusual deviating from traditional working tax accountancies in Germany. Thirdly, the case should be revelatory which means that the case should reveal something that was not possible to investigate before. Again, since no investigation has been carried out within online tax accountancies in Germany before and the shift from traditional tax accountancy work to an ICT based fully digitized tax accountancy work approach is expected to influence perceived ICT job demands and perceived ICT job resources, the case is expected to be revelatory. Therefore, the use of a critical single case can

be justified (Yin, 2014). A critical single case study has the potential to confirm, challenge or expand a theory (Yin, 2014). Since the Master thesis´ general pursuit is to test formerly assessed perceived ICT job demands and perceived ICT job resources in a new context (confirm) and identify new, not formerly assessed perceived ICT job demands and perceived ICT job resources (expand), the use of a critical single case study can be justified.

For the Master thesis´ research, a qualitative research design has been chosen. Qualitative research "use[s] methods that are well suited to describe phenomena in context and, against that background, provide an interpretation that leads to a greater understanding of the phenomenon" (Justesen & Mik- Meyer, 2012, p. 16). One possible adoption of a qualitative research design is interviewing a relatively small amount of people personally and afterwards, interpreting the gathered material (Justesen & Mik- Meyer, 2012). Thus, the relatively small interviewee base size of eight employees is characteristic for qualitative research (Van der Stoep & Johnston, 2009, as cited in Ninaus et al. 2015). Qualitative research might be advantageous in comparison to quantitative research since it potentially allows insights into otherwise overlooked areas (e.g. new perceived ICT job demands and new perceived ICT job resources). Therefore, qualitative research is expected to deliver propositions or findings that might be tested subsequently (Schonfeld & Farrell, 2010; Silverman, 2005, as cited in Ninaus et al., 2015). Since the Master thesis´ aims to test propositions and potentially identify formerly overlooked areas, e.g. new, not formerly assessed perceived ICT job demands and perceived ICT job resources, a qualitative research design is justified. Moreover, it is expected, that the qualitative research design has the potential to reveal insights why employees perceive ICTs as demands or resources.

Different perspectives can be deployed when doing qualitative research: firstly, a realist perspective, secondly, a phenomenological perspective or thirdly, a constructivist perspective (Justesen & Mik-Meyer, 2012). Firstly, a realist perspective assumes that an unambiguous reality exists independently of individuals´ knowledge. Secondly, a phenomenological perspective is concerned with the subjective meaning (perception) an individual attributes to a certain topic. Thirdly, a constructivist perspective assumes that reality is continuously constructed through social processes (Justesen & Mik-Meyer, 2012). For the Master thesis´ research, a phenomenological perspective is chosen. The reasons for this choice are that the perspective suits best to assess the individual employees´ perceptions regarding perceived ICT job demands and perceived ICT job resources since it clearly focuses on assessing subjective perceptions (Justesen & Mik-Meyer, 2012).

The question remains how the quality of a qualitative research design can be judged (Golafshani, 2003). Different researchers propose different quality criteria to judge the quality of a qualitative research design (Justensen &Mik-Meyer, 2012; Yin, 2014). However, to judge the quality of the Master thesis´ qualitative research design, the quality criteria of Yin (2014) are used since they are thoroughly elaborated upon and strategies on how to deal with these quality criteria are presented (Yin, 2014). Yin (2014) proposes four quality criteria, namely construct validity, internal validity, external validity and reliability. Firstly, construct validity can be defined as "identifying correct operational measures for the concepts being studied" (Yin, 2014, p. 46). Secondly, internal validity can be defined as "seeking to establish a causal relationship, whereby certain conditions are believed to lead to other conditions, as distinguished from spurious relationships" (Yin, 2014, p. 46). Thirdly, external validity can be defined as "defining the domain to which a study´s findings can be generalized" (Yin, 2014, p.46). Fourthly, reliability can be defined as "demonstrating that the operations of a study- such as the data collection procedure- can be repeated, with the same results" (Yin, 2014, p. 46). However, Yin (2014) underlines, that not all quality criteria are applicable to all kinds of qualitative research designs. Resultantly, only two of the four mentioned quality criteria are used, namely construct validity and reliability. The reason for not taking internal validity and external validity into account is twofold. Firstly, internal validity is mainly taken into account in experimental research designs, where the researcher tries to establish a causal relationship (Yin, 2014). Internal validity is therefore not applicable to the Master thesis´ research and thus not taken into account (Yin, 2014). Secondly, external validity refers to the extent to which a research's findings can be generalized. Since the Master thesis´ research deploys a phenomenological perspective which is concerned with the subjective meaning an individual gives to a certain topic, the Master thesis´ researcher is not interested in generalizing the results (Justesen & Mik-Meyer, 2012). Additionally, the Master thesis´ interviewee base is rather small and the Master thesis´ research is conducted in one organization within one country. Hence, generalizing the results does not seem to be possible. Consequently, only construct validity and reliability are used as quality criteria to judge and guide the Master thesis´ research design.

Data Sources

A potential way to increase the construct validity of the Master thesis´ research is to use multiple data sources (Yin, 2014). By taking different data sources into account, convergence and, or divergence between the data sources can be detected and the construct validity of the Master thesis´ research is increased (Yin, 2014). In order to increase the construct validity of the Master thesis´ research, three data sources, two primary and one secondary data source are

used. The three data sources used are interviews, a follow-up email (secondary data source, validating the interview results) and documents. These three data sources are elaborated upon in the next three sections extensively. The interviews will serve as the main data source for the Master thesis´ research. A potential way to increase the reliability of the Master thesis´ research is to "make as many steps as operational as possible and to conduct research as if someone were looking over your shoulder" (Yin, 2014, p. 49). By explaining in depth how the data sources are gathered and by providing extensive explanations in the Master thesis´ main text and, or in the Appendixes, the reliability of the Master thesis´ research is expected to increase (Yin, 2014).

Interviews. The interviews are carried out by the Master thesis´ researcher personally or via phone. Every interviewee is contacted in advance and asked to participate in the Master thesis´ research. A brief explanation of the Master thesis´ pursuit as well as a statement underlining that the data sources gathered within the interview are treated confidentially have been sent in advance. This statement can be seen in Appendix 6. Eight interviews within different offices of the independent network partners and different offices of the main organization are conducted in German. The interviews are expected to last 45-60 minutes and will be audio recorded and transcribed by the Master thesis´ researcher afterwards. For the interview, a semi-structured interview guide is used which can be found in Appendix 7.

Semi-structured interviews are suitable for studies that pursue to generate new knowledge and, or asking interviewees about their thoughts on preselected themes (Fontana & Frey, 2002; Gillham, 2005, as cited in Justesen & Mik-Meyer, 2012), thus fitting to the Master thesis´ research pursuit. One of the interviews' pursuits lies in deductively assessing formerly assessed and new, not formerly assessed but proposed perceived ICT job demands and perceived ICT job resources. Therefore, the semi-structured interviews pursue to test the propositions developed in the theoretical background section. Semi-structured interviews are somehow predefined but room for manoeuvring is still existent and deviating from the original semi- structured interview guide through e.g. asking additional questions is possible when interesting topics arise or follow-up questions appear to be interesting and beneficial for the Master thesis´ research (Justesen & Mik-Meyer, 2012). The possibility to deviate from the original semi- structured interview guide is especially useful for the inductive pursuit of the Master thesis´ research since interesting topics and insights that have not been formerly assessed in the theoretical background section (perceived ICT job demands and perceived ICT job resources) can be assessed. Hence, semi- structured interviews fit best to the chosen Master thesis´ research pursuit of assessing formerly assessed and new, not formerly assessed, but proposed perceived ICT job demands and perceived ICT job resources while

simultaneously identifying new, not formerly assessed perceived ICT job demands and perceived ICT job resources. However, the use of a semi- structured interview guide is expected to decrease the Master thesis´ research reliability. Repeating the Master thesis´ research and producing the same results in the same case several times (Yin, 2014) appears to be challenging due to the room for manoeuvring which results from the use of a semi-structured interview guide.

The semi-structured interview guide is created by the researcher in advance and consists of 35 questions. The semi-structured interview guide consists of six broad topics: firstly, a general introduction, secondly, general information (gender, hierarchical position, profession, age and business location), thirdly, general questions regarding the ICT system, fourthly, formerly assessed perceived ICT job demands (grouped according to the five general characteristics of Day et al. (2010)), fifthly, formerly assessed and new not formerly assessed, but proposed perceived ICT job resources (grouped according to the five general characteristics of Day et al. (2010)), and sixthly and lastly, a general wrap up. The semi-structured interview guide and a justification for the order of the questions and why questions are asked can be seen in Appendix 7. In the provided Appendix 7, the interview guide is formulated in English although the interviews were conducted in German. The German interview guide can be seen in Appendix 8. A pilot test of the interview was held with the owner of the organization in advance in order to test whether the interview guide is constructed correctly and the questions and concepts are perceived as intended although translated into German. The pilot test showed that the questions are perceived as intended, thus increasing the Master thesis´ construct validity (Yin, 2014).

Follow-up email. A follow-up email was sent to every interviewee after the interview. Since one of the interviews´ pursuit is to deductively test formerly assessed and new, not formerly assessed, but proposed perceived ICT job demands and perceived ICT job resources, the follow-up email is concerned with validating whether the perceived ICT job demands and perceived ICT job resources assessed during the interviews are confirmed by the interviewees. Hence, the follow-up email can be regarded as a secondary data source primarily aiming at confirming or disconfirming the interviews findings.

The follow-up email consists of a summary of the assessed perceived ICT job demands and perceived ICT job resources during the interview. Through providing a summary, the interviewees can get an overview about the assessed perceived ICT job demands and perceived ICT job resources during their interview and individually and without time pressure confirm, disconfirm, and, or comment on assessed perceived ICT job demands and perceived ICT job

resources. The follow-up email can be found in Appendix 9. The follow-up email is expected to increase the study´s construct validity since interviewees do have the possibility to confirm and, or disconfirm what had been found during the interviews. If the interviewees confirm the findings of the interview, convergence between the two sources is present and the Master thesis´ research construct validity is increased (Yin, 2014).

Documents. Besides the aforementioned data source, documents are used, more specifically discussions from the intranet between employees of the main organization and, or the main organization´s network partners. The discussions from the intranet between employees regarding the ICTs are expected to reveal potential perceived ICT job demands and perceived ICT job resources and thus, confirm formerly assessed and new, not formerly assessed, but proposed perceived ICT job demands and perceived ICT job resources. The documents do not cover all formerly assessed perceived ICT job demands and all formerly assessed perceived ICT job resources and new, potential not formerly assessed, but proposed perceived ICT job resources. As a consequence, only a subset of perceived ICT job demands and perceived ICT job resources can be assessed by using the documents, namely "ICT support" and "everyday hassles in using technologies" since the discussions from the intranet mainly deal with ICT hassles and compellingly, potential ICT supports to solve these hassles.

Access to the discussions from the intranet is granted by the owner and CEO of the main organization. By using these documents deeper insights into the processes, as pursued by the main organization, can be gained and contrasted with the actual subjective perceptions of the interviewees. Therefore, the documents are mainly used to confirm the outcomes or statements of the interview and also to assess potential contradictions. The documents can potentially increase the study´s construct validity since convergence between the interviews, the follow-up email and the documents might be detected. If the documents confirm the findings of the interview and the follow-up email, convergence between the sources is present and the Master thesis´ research construct validity is increased (Yin, 2014). Additionally, the Master thesis´ research reliability is expected to increase since the same documents are accessible and a justification for the choice of the documents is provided in Appendix 10. Thus, a repetition of gathering the documents, also by other researchers, is possible (Yin, 2014).

Analysis of the data sources

To analyse the gathered data sources, both deductive and inductive coding are used. The main reason for using a combination of inductive and deductive coding is that the Master thesis´ pursuit is twofold. Firstly, it is aimed to deductively assess whether the formerly assessed perceived ICT job demands and then new, proposed but not formerly assessed perceived ICT

job resources are identified within the specific Master thesis´ context. For this pursuit deductive coding will be used. Secondly, the researcher pursues to inductively assess new, not formerly assessed perceived ICT job demands and perceived ICT job resources. For this pursuit inductive coding will be used.

Firstly, deductive coding will be employed. Deductive coding is used when an existing theory is broken down into codes and applied to the gathered data sources (Syed & Nelson, 2015). Consequently, the theory presented in the Master thesis´ Theoretical background chapter is broken down into codes and applied to the gathered data sources. Four different layers of codes will be used: firstly, selective codes, secondly, axial codes, thirdly, first codes and fourthly original quotes. Firstly, selective codes consist of the five general characteristics of ICTs by Day et al. (2010), as portrayed in the Theoretical background chapter. Secondly, axial codes consist of the formerly assessed perceived ICT job demands and new, not formerly assessed, but proposed perceived ICT job resources, as portrayed in the Theoretical background chapter. Thirdly, first codes are paraphrased original quotes derived from the three gathered data sources. Fourthly, original quotes are original quotes derived from the gathered data sources that appear to fit to the axial codes. Through using a deductive coding structure in which two out of three layers of coding are predefined (selective codes and axial codes), the Master thesis´ reliability is expected to increase because the coding process is predetermined to a large extend. The deductive coding scheme can be found in Appendix 11.

Secondly, inductive coding will be employed. Inductive coding is used when the coding structure depends on the gathered data and is not predefined (Syed & Nelson, 2015). Thus, in order to assess new, not formerly assessed perceived ICT job demands and perceived ICT job resources, two different layers of codes will be used for the assessment: Firstly, original quotes, secondly, first codes. Firstly, original quotes are original quotes from the gathered data sources, that appear to be interesting for the Master thesis research. Secondly, grouped first codes are general terms that group the original terms and form the new, not formerly assessed perceived ICT job demands and perceived ICT job resources. Through using an inductive coding structure where no coding layers are predefined, the Master thesis reliability is expected to decrease because the researcher has the possibility to focus on data sources that are individually perceived as important. As a result, it appears to be challenging to arrive at similar results since repeating the research arriving at the same results several times is expected to be challenging when inductive coding is carried out. The inductive coding scheme can be found in Appendix 12.

For a perceived ICT job demand or perceived ICT job resource to be confirmed interviewees firstly need to perceive the ICT job demand generally to be present and secondly, need to perceive it as decreasing/increasing strain. If all interviewees perceive an ICT job demand or an ICT job resource to be present and as decreasing/increasing perceived strain, a perceived ICT job demand or a perceived ICT job resource is confirmed. If all interviewees perceive an ICT job demand or an ICT job resource as not present and as decreasing/increasing strain, a perceived ICT job demand or a perceived ICT job resource is disconfirmed. If some of the interviewees perceive a perceived ICT job demand or a perceived ICT job resource to be present and as decreasing/increasing perceived strain, but some do not, a perceived ICT job demand or a perceived ICT job resource is partially confirmed/ disconfirmed. For a proposition to be confirmed/disconfirmed, all perceived ICT job demands or perceived ICT job resources need to be confirmed/disconfirmed. If that is not the case, the proposition is partially disconfirmed.

The outlined process for (partially) confirming and, or (partially) disconfirming a perceived ICT job demand, perceived ICT job resource, or a proposition is rather straightforward. Nevertheless, the approach of analysis has been chosen to be able to establish generally applicable justifications to (partially) confirm and, or (partially) disconfirm perceived ICT job demands, perceived ICT job resources and the two propositions. However, the Master thesis´ research analysis will focus on the underlying mechanisms, why employees´ do (partially) confirm and, or (partially) disconfirm perceived ICT job demands and, or ICT job resources. Additionally, especially individual differences between the interviewees will be taken into account.

For new, not formerly assessed or proposed perceived ICT job demands and perceived ICT job resources to be confirmed not all interviewees need to agree that the perceived ICT job demand and perceived ICT job resource is present and perceive it as decreasing/increasing strain. The reason for this decision is that the new, not formerly assessed or proposed perceived ICT job demands and perceived ICT job resources are expected to individually emerge during the interview. Therefore, a general perception regarding these perceived ICT job demands and perceived ICT job resources from all interviewees is not possible since not all interviewees are asked about these perceived ICT job demands and perceived ICT job resources specifically.

Ethical considerations

The researcher conducting the Master thesis´ research currently works for the organization being investigated and thus, prior knowledge regarding the organization, internal

processes and the employees is present which has several implications for the Master thesis´ research. On the one hand, the researcher is familiar with the ICT and therefore might be able to view several situations from a more educated and nuanced point of view. On the other hand, the employment relationship and prior knowledge potentially biases the investigation at hand. However, the Master thesis´ researcher is confident that the potential bias is minimal firstly, because the interviewee base contains only interviewees the Master thesis´ researcher has minimal, if any contact with and secondly, due to the researcher´s position (marketing manager) within the organization. The researcher does work remotely and is not working within the regular offices of the organization, thus any contact with other employees of the main organization, besides the CEO, who is not interviewed, is minimized. The interviewees work as tax accountants while the researcher is primarily concerned with marketing activities. However, although the bias is expected to be minimal, it is still present reducing the Master thesis´ research reliability. Other researchers who pursue to replicate the present Master thesis´ research will potentially arrive at different outcomes since they are not familiar with the organization, e.g. because they will probably ask less educated follow-up questions during the interviews and will potentially interpret the results differently.

Nevertheless, through being familiar with the ICT system under investigation, more precise questions can be asked and specific issues can be addressed, especially during the interview. Therefore, the described situation is seen as an advantage rather than a disadvantage for the Master thesis´ research.

Results

Perceived ICT job demands

In this section, the gathered data sources will be assessed to answer the formulated research propositions. Moreover, potential new, not formerly assessed perceived ICT job demands and perceived ICT job resources that have been found in the data sources are being assessed.

The first proposition assumes that the perceived ICT job demands assessed by Day et al. (2012) and Ninaus et al. (2015) (Table 4) are expected to hold for the ICT based fully digitized tax accountancy in Germany. In order to test this proposition, the formerly assessed perceived ICT job demands by Day et al. (2012) and Ninaus et al. (2015) are individually tested through deductive coding and analysing the gathered data sources. Employees´ perceptions regarding the presence of the perceived ICT job demands as well as their perceptions whether they lead to increased strain are assessed for each of the perceived ICT job demands. For a perceived ICT job demand to be confirmed, interviewees firstly need to perceive the ICT job

demand generally to be present and secondly, need to perceive the ICT job demand as increasing strain in the Master thesis´ context.

Expectations to be available 24/7/ Connectivity pressure. The perceived ICT job demand "Expectations to be available 24/7/ Connectivity pressure" has not been found in the gathered data sources. No interviewees state that they perceive an expectation to be available 24/7 or a connectivity pressure. Interviewee 7 states when asked whether he perceives an organizational expectation to be available 24/7 or a connectivity pressure: "*I don't have the expectations (...) and I don't perceive the expectation from the organization." (1.1.1.)* (I7). Compellingly, interviewee 1 states when asked the same question: *"No…that's my own thing…"(1.1.2.)* (I1). (I7). Interviewee 7 and 1 state that there is no organizational or personal expectation to be available 24/7 or a connectivity pressure. As a result, employees working with the ICT system do not perceive an expectation to be available 24/7 or a connectivity pressure to be present, not from the organization, and not personally either. Moreover, no interviewee perceives a conflict between work and family. Interviewee 4 states when asked whether he perceives a conflict between work and family due to ICTs: *"No it rather solved conflicts…" (1.1.3.) (I4).* Compellingly, Interviewee 7 states*: "Yes…it allows a way better alignment between work and family…" (1.1.4.)* (I7). Interviewee 4 and 7 state that due to the ICT, conflicts between work and family did decrease and not increase, as proposed in the Theoretical background chapter of the Master thesis´ research. Moreover, these interviewees state that organizational expectations to be available 24/7 or a connectivity pressure did not lead to increased perceived strain since they do not perceive it as present. It can be stated that expectations to be available 24/7/ connectivity pressure does not lead to increased perceived strain. As a result, "Expectations to be available 24/7/ Connectivity pressure" can be disconfirmed as a perceived ICT job demand in the Master thesis´ context.

Constant availability. The perceived ICT job demand "Constant availability" has not been found in the gathered data sources. On the one hand, some interviewees state that they are constantly available. Interviewee 1 states, when asked whether he uses the platform daily: *"Yes." (1.2.1.)* (I1). Moreover, Interviewee 1 states: *"When I watch football on Wednesday evening and halftime comes up, then it's possible that I log in for five minutes and log out afterwards…" (1.2.2.)* (I1). Compellingly, interviewee 2 states: *"I always told myself, I want to detach from work, but that is not the case. I catch myself from time to time checking whether a client answered, when I waited for a question, or what the reaction is…I catch myself from time to time checking emails…" (1.2.3.)* (I2). Interviewee 3 states: *"(...) I think that's a difference to non-digital work…I know it from myself... from time to time I have a look on the*

platform with my cell phone…" (1.2.4.) (I3). Interviewees 1, 2 and 3 state that they use the ICT outside working hours and are thus constantly available. On the other hand, some interviewees state that they are not constantly available. Interviewee 5 states: *"Mhh…so…yes…always available….I say it like this…I am not always available for clients…when I am leaving work, then I am not really interested in clients." (1.2.5.)* (I5). Compellingly, interviewee 7 states when asked whether he works outside working hours: *"(…) I think the things I don't accomplish during 8 hours of working time…when I take them (…) home with me, that doesn't work (…)"(1.2.6.)* (I7). Interviewee 8 states: *"I really try to separate work and private life, especially due to my long working experience (…)." (1.2.7.)* (I8). Interviewees 5, 7 and 8 state that they do not use the ICT outside working hours and are thus not constantly available because they try to separate work and private life. As a result, some interviewees working with the ICT system do not perceive a constant availability but other interviewees do perceive a constant availability. All interviewees who do perceive a constant availability work in the main organizations office in Cologne, located in the west of Germany; all interviewees who do not perceive a constant availability work in Wittenberg and Halle (Saale), located in the east of Germany. Consequently, employees working for the main organization in Cologne perceive a constant availability as present and do not separate as much between work and private life as employees working for the main organization in Wittenberg and Halle, who perceive a constant availability as not present. Moreover, when asked for the interviewees' total weekly working hours, none of the interviewees working for the main organization reported working hours that exceed their working contract. Additionally, no interviewees state that constant availability leads to increased perceived employees´ strain. It can be stated that constant availability does not lead to increased perceived strain. As a result, "Constant availability" can be disconfirmed as a perceived ICT job demand in the Master thesis´ context.

Inner obligation for availability. The perceived ICT job demand "Inner obligation for availability" has not been found in the gathered data sources. No interviewee states that they perceive an inner obligation for availability. Interviewee 5 states when asked whether he perceives an inner obligation for availability: *"No…" (1.3.1.) (*I5). Compellingly, interviewee 4 states when asked the same question: *"No…meanwhile not…we are also communicating this actively." (1.3.2.)* (I4). Interviewee 6 states when asked whether he perceives an inner obligation for availability: *"(…) it depends whether I would like to log in in the evening…that happens voluntarily, and it happens seldomly that I do work then…I am just checking from time to time." (1.3.3.)* (I6). Interviewee 5, 4 and 6 state that they do not perceive an inner obligation for availability and if they want to use the ICT after working hours, it happens voluntarily. As

a result, employees working with the ICT system do not perceive an inner obligation for availability as present. Moreover, all interviewees state that an inner obligation for availability did not lead to increased perceived strain since they do not perceive it as present. It can be stated that an inner obligation for availability does not lead to increased perceived strain. Hence, "Inner obligation for availability" can be disconfirmed as a perceived ICT job demand in the Master thesis´ context.

Information overload/ Increased workload. The perceived ICT job demand "Information overload/ Increased workload" has partially been found in the gathered data sources. On the one hand, all interviewees besides one state that they do not perceive an information overload or an increased workload. Interviewee 1 states when asked whether he perceives an overload of information or an increased workload due to ICT based work: *"No, absolutely not…" (2.1.1.)* (I1). Compellingly, interviewee 1 states, that an information overload does not result from working digitally: *"That has nothing to do with a digital work approach… it doesn't result from a digital work approach."(2.1.2.)* (I1). Interviewee 3 compares an ICT based tax accountancy work approach with the traditional tax accountancy work approach in which he worked before: *"I mean the same happens in other accountancies as well…you get ten emails, three letters, you have to do five accountings…(…)…looks different but it is the same problem." (2.1.3.) (I3)*. Compellingly, interviewee 1 states when asked whether working with an ICT system increases the workload by stating: *"No, rather the opposite." (2.1.4.) (*I1). Interviewee 2 argues in a similar direction: *"(…) If you would have to take a folder and do the accountings like this and search in the folder…that would increase the workload….(…). (2.1.5.)"* (I2). On the other hand, one interviewee states that he does perceive an information overload or an increased workload: *"(…) some things that could have been solved quickly and without documenting (…), thorough calling or talking to someone personal… can't be solved in this way…in these cases it really increases the workload…(…)." (2.1.6.)* (I4). As a result, all employees besides one working with the ICT system do not perceive an information overload or an increased workload as present. The majority of these interviewees even perceive an ICT based work approach as decreasing information overload/increased workload. Moreover, all interviewees besides one state that an information overload or increased workload does not lead to increased perceived strain since they do not perceive it as present. Interviewee 7 states when asked whether he perceives increased strain due to an information overload or an increased workload*: "For me not, no." (2.1.7.)* (I7).

On the other hand, one interviewee states that she does perceive an information overload and an increased workload due to ICT based work by stating: *"Due to my long working*

experience I can judge how things have changed…back in the days it was more relaxed because you had the time to search for supporting documents in a folder…(…) the work was slower…(…) now you have to work faster and you want to work faster (…)….moreover, you are sitting eight hours in front of a monitor…that's really causing strain… you don't stand up and walk through the office or something… my eyes really suffered and got worse." (2.1.8.) (I8). One interviewee working with the ICT system does perceive an information overload or an increased workload as present. This interviewee states that the information overload and increased workload do lead to increased perceived strain because the work is quicker now and movement during working hours is reduced: *"Correct…and this is stressful and leads to strain…" (2.1.9.) (I8).* Interestingly, the one employee who does perceive an information overload and an increased workload as present and increasing perceived strain is the oldest interviewee in the interviewee base (51 years old) and worked in traditional working tax accountancies before. As a result, the perceived ICT job demand "Information overload"/ "Increased workload" has not been found to be a perceived ICT job demand for employees under 33 years old, but by one employee aged 51. As a result, it can be stated that information overload/increased workload partially leads to increased perceived strain, potentially depending on the interviewee's age. Consequently, "information overload/ increased workload" can partially be disconfirmed as a perceived ICT job demand in the Master thesis´ context.

Ineffective communication. The perceived ICT job demand "Ineffective communication" has partially been found in the gathered data sources. All interviewees state that they perceive an ineffective communication. Interviewee 4 states: *"Yes…it does lead to more misunderstandings and it is nerve- racking and leads to strain since you interpret messages wrong because you do not know the tone…than you are angry….and then it is really important that you seek for a personal contact." (3.1.1.) (I4).* Compellingly, interviewee 3 states: *"(…) that's a weakness of working digitally…you don't see gestures…(…) that's a weakness…(…)…the whole writing itself…" (3.1.2.)* (I3). Interviewees 8 and 3 perceive ineffective communication due to missing non-verbal clues such as tone and gesture. A distinction has to be made between writing with colleagues or clients and calling colleagues or clients. Interviewee 1 states: *"I like to call in order to avoid something like this…of course it's something different when you sit in front of someone in comparison to when you call someone…but it is way better than sending messages back and forth." (3.1.3.)* (I1). Compellingly, interviewee 6 states: *"With colleagues I often use the phone…you can discuss things quicker than sending five emails back and forth…(…) if the case is more complicated and not clear to me yet I prefer calling someone" (3.1.4.)* (I6). Interestingly, some interviewees

state that ICT based communication can solve conflicts: *"(…) it doesn't bother me because I can compare it to traditional tax accountancies…some clients are really a bit complicated…than you do not want to have personal contact with them…" (3.1.5.)* (I3). As a result, not all employees working with the ICT system perceive an ineffective communication as present.

Moreover, not all interviewees perceive ineffective communication as increasing strain. On the one hand, some interviewees state that ineffective communication leads to increased perceived strain. Interviewee 5 states when asked whether ineffective communication leads to strain: *"Yes…it is nerve-racking." (3.1.6.)* (I5). Interviewee 8 states when asked whether ineffective communication leads to strain: *"A bit, yes…not extreme, you get used to it over time." (3.1.7.) (I8).* On the other hand, some interviewees state that ineffective communication does not lead to increased perceived strain. Interviewee 6 states when asked whether ineffective communication leads to strain*: "No…No…" (3.1.8.)* (I8). It cannot be stated that ineffective communication partially leads to increased perceived strain. Resultantly, "ineffective communication" can partially be disconfirmed as a perceived ICT job demand in the Master thesis´ context.

Use of ICT to monitor employees behaviours. The perceived ICT job demands "Use of ICT to monitor employees behaviours" has partially been found in the gathered data sources. On the one hand, some interviewees state that they perceive ICT use to monitor employees´ behaviour. Interviewee 4 states*: "As a regular employee and freelancer working for the main company I was controlled…" (4.1.1.)* (I4). Interviewee 7 states: "*I would like to receive the response (follow-up email) outside of the platform…(…) I would like to give you my email address because I am honest…that makes it easier for me to openly respond to questions…" (4.1.2.)* (I7). Interviewee 5 states*: "Yes…that's true…I feel controlled (…)." (4.1.3.)* (I5). Interviewees 4, 7 and 5 state that they perceive the use of ICT to monitor employees´ behaviours. On the other hand, some interviewees state that they do not perceive ICT use to monitor employees´ behaviours. Interviewee 1 states when asked whether he feels monitored: *"No". (4.1.4.)* (I1). Compellingly, Interviewee 2 states when asked the same question: *"No, absolutely no…(…) you can either perceive it as control, or as a motivation…(…)." (4.1.5.)* (I2). Moreover, several interviewees state that there is no difference between ICT based monitoring and non ICT based monitoring: *"(…) in the end it's the same…whether I calculate my hourly payment and see what I have earned or whether I get a calculation on my desk." (4.1.6.)* (I1). Compellingly, interviewee 6 states: *"(…) in other accountancies it's the same basically…buzz word, tracking working time…(…)…you can*

track working time and expenditure for each client…(…).” (4.1.7.) (I6). Interviewee 1 and 6 do not perceive a difference between an ICT based monitoring in comparison to non ICT based monitoring. As a result, not all employees working with the ICT system perceive the use of ICT to monitor employees´ behaviours as present.

Moreover, none of the employees stated that the use of ICTs to monitor employees leads to restrictions of their personal space and privacy. Interviewee 7 states: *“The feeling of being controlled is present, because I am aware of the possibilities, on the other side, I do not perceive an intervention of my privacy since it is a working platform which I use in the working context.” (4.1.8.)* (I7). Compellingly, interviewee 5 states*: “(…) restriction of my privacy is rather not present.” (4.1.9.)* (I5). As a result, it cannot be stated that employees perceive the use of ICTs to monitor employees´ behaviours as present.
Moreover, some interviewees perceive the use of ICT to monitor employees´ behaviours as increasing strain, others do not. On the one hand, Interviewee 4 states*: “(…) If I have nothing to hide, then I have nothing to hide….(…) If you have nothing to hide, it should not increase your strain… (…).” (4.1.10.)* (I4). Interviewee 7 states when asked whether he perceives increased strain due to ICT based monitoring: “*No, that’s also not influencing my usage of the platform…” (4.1.11.)* (I7). These interviewees do not perceive the use of ICTs to monitor employees´ behaviours as increasing strain. On the other hand, Interviewee 5 states when asked whether the use of ICTs to monitor employees´ behaviour increases perceived strain: *“Yes…” (4.1.12.)* (I5). Compellingly, interviewee 8 states when asked the same question: *„Yes…that’s increasing my strain a lot…” (4.1.13.)* (I8). These interviewees do perceive the use of ICTs to monitor employees´ behaviours as increasing strain.

A distinction has to be made regarding the kind of monitoring. None of the interviewees, besides one, reported that monitoring the individual productivity leads to increased perceived strain. The interviewees who perceive the use of ICTs to monitor employees´ behaviour as increasing strain refer to monitoring the response time in answering emails: *“The star system (grading system for response time in answering emails) is increasing strain…everyone has its own system somehow…so yes…that’s hindering my normal work.” (4.1.14.)* (I8). It cannot be stated that the use of ICTs to monitor employees´ behaviours leads to increased perceived strain. Resultantly, “ineffective communication” can be partially disconfirmed as a perceived ICT job demand in the Master thesis´ context.

Everyday hassles in using technology. The perceived ICT job demand “Everyday hassles in using technology” has been found in the gathered data sources. All interviewees state that this perceived ICT job demand is present. Interviewee 6 answered to the question whether

he experienced hassles in using technology, such as ICT crashes, breakdowns or freezes: *"Yes, unfortunately yes...that's a problem we often had in the past..." (5.1.1.)* (I6). Compellingly, interviewee 4 states: *"In general, it's a big risk and I don't want to be in the situation where a big crash happens."(5.1.2.)* (I4). Employees working with the ICT system perceive everyday hassles in using technology as present. Compellingly, many conversations and announcements regarding everyday hassles in using technologies have been found in the documents (discussions from the intranet). One employee e.g. announces: "*Therefore working is not possible till the end of the Update." (5.1.3.)* Compellingly, another employee announces*: "Steuerberaten.de will not be accessible during this time frame for several seconds. When working with the platform, minor hassles might happen."(5.1.4.).* These announcements underline the employees´ perceptions that everyday hassles in using technology are present.
Moreover, nearly all interviewees state that everyday hassles in using technology lead to increased perceived strain due to several reasons. Interviewee 2 states that she perceives everyday hassles in using technology as increasing strain if the workload is increased due to the hassle: *"(...) it increases strain in the moment when additional work or more work is required…if the system crashes for 1-2 hours, I have to work 1-2 hours more (...)" (5.1.5.)* (I2). Interviewee 5 compellingly states when asked whether everyday hassles in using technology lead to increased perceived strain: *"Yes…Yes that's causing lots of strain." (5.1.6.) (I5).* Interviewees 2 and 5 state that they perceive everyday hassles to be present if it leads to more work. Interestingly, both independent network partners report that due to their position as independent tax accountants, they perceive everyday hassles in using technology as increasing perceived strain: *"Yes, I am honest…since I am self-employed it is different…before, when I was working in the tax office and the system crashed, I thought god…four hours are gone…" (5.1.7.) (I6).* Compellingly, interviewee 4, the other independent network partner, states: *"As an employee you perceive it as a nice break because you know you can continue working soon, as a self-employed you perceive it as strain because you know you are about to lose money now." (5.1.8.) (I4).* Employees of the main organization as well as independent network partners perceive the ICT job demand "Everyday hassles in using technology" as present and as increasing strain.

A distinction has to be made between the interviewees positions. The main organizations´ independent network partners seem to perceive increased strain due to "Everyday hassles in using technology" since they are individually economically dependent on the functioning of the ICT system. Employees of the main organization perceive increased strain if it leads to more work. It can be stated that everyday hassles in using technology do lead

to increased perceived strain. Hence, "Everyday hassles in using technology" can be confirmed as a perceived ICT job demand in the Master thesis´ context.

A lack of control over technology. The perceived ICT job demand "A lack of control over technology" has not been found in the gathered data sources. All interviews perceive a lack of control over technology. The interviewees state that they do not have control over the ICT system: *"(...) there is the possibility to send an improvement proposal…I did that in the beginning pretty often but lost the motivation to do this in the end…(...)…there is only a text field that you can send…you do not get a response whether the message was received or who got it…" (5.2.1.)* (I7). Compellingly, interviewee 8 states: *"(...) if you press the button "improvement proposal", you do not get a response or something (...)." (5.2.2.)* (I8). Interviewee 7 and 8 both state that even if they like to control or improve the ICT system, they are not heard. Consequently, employees working with the ICT system perceive a lack of control over technology as present. Moreover, most interviewees state that a lack of control over technology does lead to increased perceived strain. *"Whether its bothering me? Yes, its bothering me." (5.2.3.)* (I5). To be more precise, most employees do not perceive the situation that they lack control over technology as increasing strain, but the situation that they do not receive a response when they propose improvements: *"It´s stressing me that improvement proposals or inspirations lead to nothing…of course there are always things I see that cannot work, that's obvious (...)." (5.2.4.) (I7)*. Interviewee 8 states when asked whether it would decrease strain if she would have the feeling that someone cares for her improvement proposal: *"Exactly, even if it's just about small things." (5.2.5.)* (I8). As a result, the situation that employees lack a control over technology itself is not perceived as increasing strain: *"Of course you would prefer individualized solutions but we also need to have standards…if it's useful for the majority that something is not there …that's fine, as long as you can justify it." (5.2.6.)* (I4). It is more about the situation that employees´ improvement proposals are not heard and they do not receive a response. It can be stated that a lack of control over technology does not lead to increased perceived strain. Thus, "a lack of control over technology" can be disconfirmed as a perceived ICT job demand in the Master thesis´ context.

Expectations for continuous learning. The perceived ICT job demand "Expectations for continuous learning" has partially been found in the gathered data sources. All interviewees state that they perceive expectations for continuous learning. Interviewee 1 states: *"(...) there is no way around it, you have to accept it if you would like to continue and be number one in the process of digitalization, you have to do it. It will be necessary either*

way in 10 years." (5.3.1.) (I1). Compellingly, interviewee 3 states: *"In a way there surely is an expectation…I mean you do not want to be…how shall I say it…you do not want to be the bad employee…(…)." (5.3.2.)* (I3). Interviewee 1 and 3 clearly state that they do perceive an expectation to learn continuously and also the necessity to continuously learn. A distinction has to be made between the interviewees' perceptions about who expects the continuous learning. On the one hand, some interviewees state that they perceive an inner obligation for continuous learning: *"I feel it myself…I am young and I would I would like to learn…(…) from the organization…yes this expectation is present …and yes…this can lead to strain…the inner obligation not, the one from the organization…yes." (5.3.3.)* (I5). Interviewee 3 states when asked whether it is an inner obligation for continuous learning or an organizational expectation for continuous learning: *"It's my own expectation towards myself, to learn certain things…" (5.3.4.)* (I3). On the other hand, Interviewee 1 and 2 state when asked whether the organization expects continuous learning: *"Yes." (5.3.5.; 5.3.6.)* (I1; I2). The interviewees differentiate between an inner obligation and an external, organizational expectation to continuously learn which both have been found in the gathered data sources. As a result, employees working with the ICT system perceive expectations for continuous learning as present. Moreover, no interviewee besides one states that expectations for continuous learning leads to increased perceived strain. Interviewee 5 states when asked whether the expectation for continuous learning leads to increased strain: *"No…that's not the case…Even if there would be an expectation it would rather be positive." (5.3.7.) (I5).* Interviewee 6 states: *"(…) I think it would rather increase strain if you say no, I don't want to learn…I really do not see it as increasing strain…" (5.3.8.)* (I6). Interviewee 4 states: *"For me it does not increase strain, I perceive it as completely positive…because you are developing in a system that is developing and you develop as a person from year to year regarding your personal skills." (5.3.9.)* (I4). On the other hand, interviewee 2 states when asked whether she perceives inner expectations for continuous learning to increase strain: *"Yes…because you want to be able to keep up." (5.3.10.)* (I2). It cannot be stated that expectations for continuous learning lead to increased perceived strain. Consequently, "Expectations for continuous learning" can partially be confirmed as a perceived ICT job demand in the Master thesis´ context.

As analysed within the foregone sections, no formerly assessed perceived ICT job demand besides everyday hassles in using technologies has been confirmed by the gathered data sources. Hence, the first proposition that the perceived ICT job demands assessed by Day

et al. (2012) and Ninaus et al. (2015) (Table 4) are expected to hold for the ICT based fully digitized tax accountancy in Germany can be partially disconfirmed.

Perceived ICT job resources

The second proposition assumes that the perceived ICT job resources assessed by Day et al. (2012) and Ninaus et al. (2015) and the potential new, not formerly assessed perceived ICT job resources (Table 5) are not expected to hold for the ICT based fully digitized tax accountancy in Germany. In order to test this proposition, the formerly assessed perceived ICT job resources by Day et al. (2012) and Ninaus et al (2015) are individually tested by using the gathered data sources. Employees´ perceptions regarding the presence of the perceived ICT job resources as well as their perceptions whether they lead to decreased perceived strain are presented for each of the perceived ICT job demands. For a perceived ICT job resource to be confirmed, employees firstly need to perceive the ICT job demand generally to be present and secondly, need to perceive it as decreasing strain in the Master thesis´ context.

Instant accessibility. The perceived ICT job resource "Instant accessibility" has been found in the gathered data sources. All interviewees state that they perceive an instant accessibility. Interviewee 1 states: *"Yes, when you are on the go at the moment, you have the platform, when you are e.g. traveling to Wittenberg with the train, you can work instead of wasting time…(…)…there are other advantages as well…reachability via cell phones, (…) if you are on the way to the office in the car … (…) you can also work on the way to the office." (6.1.1.)* (I1). Interviewee 2 states: *"If you are working digitally, you can solve the problem directly, no matter whether its 11pm or not…you are way quicker in comparison to if you would have to send a letter or something…" (6.1.2.)* (I2). Interviewee 6 states when asked how he perceives instant accessibility: *"(…) correct, as I said…I perceive it as neutral or maybe even positive…(…)…I can only see it positively that you have the possibility…" (6.1.3.)* (I6). Interviewees 1, 2 and 6 perceive an instant accessibility. A distinction has to be made between employees who perceive instant accessibility as present but do not use it. Interviewees who perceive instant accessibility as present but do not use it state*: "I am neutral towards that…I can't really say something….since I do not use it…(…)." (6.1.4.)* (I7). All employees working with the ICT system perceive an instant accessibility as present but some do not use it.

Moreover, all interviewees who make use of the instant accessibility perceive instant accessibility as decreasing strain. Interviewee 4 states when asked whether he perceives instant accessibility as decreasing strain: *"Yes."(6.1.5.)* (I4). Compellingly, interviewee 2 states when

asked the same question: *"Yes, surely…" (6.1.6.)* (I2). It can be stated that instant accessibility leads to decreased perceived strain. As a result, "Instant accessibility" can be confirmed as a perceived ICT job resource in the Master thesis´ context.

Increased flexibility. The perceived ICT job resource "Increased flexibility" has been found in the gathered data sources. All interviewees state that they perceive an increased flexibility. Interviewee 2 states: *"(…) at home you could work because you have nothing to do during the day….because it's a holiday…and you do not have to come to the office…then its really a help." (6.2.1.)* (I2). Moreover, interviewee 3 states: *"(…) you have the computer…and not 10 folders…you can work from several locations …also from home obviously…sure…the flexibility is definitely given." (6.2.2.)* (I3). Moreover, interviewee 3 states when asked how the increased flexibility helped him: *"(…) we are at the 3rd garage now…and…let's say if you would have strict working hours…then that would be way harder to realize…" (6.2.3.)* (I3). Compellingly, interviewee 3 states: *"(…) that clearly provides advantages…in this case an increased flexibility…(…) If you would e.g. like to stop working earlier in the evening because you would like to have dinner with the family…then you can work on Saturday e.g." (6.2.4.)* (I3). Interviewee 7 states when asked whether he perceives an increased flexibility due to the ICT based work approach: *"Yes…absolutely…I used it e.g. when I was ill…I wasn't able to come to the office but working from home was possible… I was able to join meetings or was able to work…I perceive that as a great development." (6.2.5.)* (I7). Interviewee 8 states: *"(…) If I would like to, I can start working at 5…If I want to…because I can access the information, either in the home office or anywhere else…and I don't have strict working hours…" (6.2.6.)* (I8). Especially, the possibility to work remotely and during flexible working hours seems to be perceived positively. All employees working with the ICT system perceive an increased flexibility as present.

Moreover, all interviewees perceive increased flexibility as decreasing strain. Interviewee 7 states when asked whether increased flexibility decreases perceived strain: *"Yes…definitely…because I know that if my child is ill, I don't have to be scared and can still be reached in the home office." (6.2.7.)* (I7). As a result, an increased flexibility decreases perceived strain through making it possible to balance and align work and private life. Compellingly, interviewee 8 states when asked whether she perceives an improvement between working life and private life as decreasing perceived strain: *"Yes…definitely." (6.2.8.)* (I8). Interviewee 4 states: *"Yes my private life is positively influenced…because I can work always and anywhere…" (6.2.9.)* (I4). Moreover, interviewee 4 states when asked whether he perceives conflicts between work and home: *"No it solved conflicts…back in the days I was not allowed*

to leave…(…) now I am independent…(…) it is not necessary to be present…I have a mother with two children in my team, she is very happy when she is allowed to spontaneously work from home…" (6.2.10.) (I4). As a result, an increased flexibility decreases employees´ perceived stain through balancing and aligning work and home. It can be stated that an increased flexibility leads to decreased perceived strain. Hence, "increased flexibility" can be confirmed as a perceived ICT job resource in the Master thesis´ context.

Decreased workload. The perceived ICT job resource "Decreased workload" has partially been found in the gathered data sources. On the one hand, all interviewees besides one state that they do perceive a decreased workload. Interviewee 1 states: *"It eases the work, especially in a tax accountancy….especially, if you received all the documents in folders, you would have to drive back and forth, go to the post office, collect, distribute…all these things are not present here." (7.1.1.)* (I1). Interviewee 2 states: *"(…) the digital work eases the work…there is no increased workload…" (7.1.2.)* (I2). Interviewee 3 states: *"(…) the digital work eases the work in a way rather than increasing the workload…" (7.1.3.)* (I3). Interviewee 4 states: *"I have a decreased workload because I can really speed things up…especially, if I know how to use a system, I can really shorten things and need less time…" (7.1.4.)* (I4). On the other hand, as already stated in the foregone section "Information overload/ Increased workload", one employee perceives an increased workload (interviewee 8). As a result, all employees besides one perceive decreased workload as present.

Moreover, all interviewees besides one (interviewee 8) perceive a decreased workload as decreasing strain. Interviewee 4 states when asked whether a decreased workload decreased perceived strain: *"Yes…definitely…" (7.1.5.)* (I4). Compellingly, interviewee 5 states when asked the same question: "*No…its reducing strain." (7.1.6.)* (I5). Interviewee 7 states: *"I perceive it as causing less strain to work digitally because I can find and search things easier…" (7.1.7.)* (I7). As a result, an ICT based work approach decreases the workload through easing the work and thus, decreasing employees´ perceived strain. It cannot be stated that decreased workload leads to decreased perceived strain. As a result, "Decreased workload" can be partially confirmed as a perceived ICT job resource in the Master thesis´ context.

Improved communication. The perceived ICT job resource "Improved Communication" has been found in the gathered data sources. All interviewees state that they perceive an improved communication. Interviewee 1 states when asked whether the communication improved: *"Communication itself yes…because you can communicate quicker (…)." (8.1.1.)* (I1). Compellingly, interviewee 2 states when asked the same question: *"Yes, definitely…you are quicker in contact (…)" (8.1.2.)* (I2). Moreover, interviewee 2 underlines

this by stating: *"(…) the flow is quicker…" (8.1.3.)* (I2). Interviewee 4 states: *"It may lead to misunderstandings because I interpret something wrong, but it definitely doesn't lead to a loss of effectivity (…)."* (8.1.4.) (I4). Interviewee 3 states: "*(…) normally, it takes 2-3 days till a client passed by and dropped some documents…if he doesn't want to sometimes even 2 weeks, if the client wants to, you can speed this process up." (8.1.5.)* (I3). As a result, the interviewees perceive an improved communication due to an ICT based work approach resulting from a quicker and more effective communication. Moreover, interviewee 5 states: "*(…) If I am at my working place and I have a problem, than I can send a message, can think over a longer period of time, can make some notes and then send a message to the client…I am not attached to a certain time when the client is free…I can send it back and he can read it at 8 pm." (8.1.6.)* (I5). Compellingly, interviewee 2 states: *"(…) you can structure your time yourself, when you answer…so that's also positive because you can finish a task and answer afterwards…" (8.1.7.)* (I2). Interviewee 8 states: *"(…) If a client calls and you are actually working on another case and try to solve something…and the client at the phone expects an immediate response…that's really hard, and then its way nicer if the client quickly formulates a message…and then you can call afterwards if it's not solvable, but you have time to think…" (8.1.8.)* (I8). As a result, the interviewees perceive an improved communication due to an ICT based work approach resulting from the possibility to structure personally when to respond due to sending messages. Moreover, all interviewees perceive an improved communication as decreasing strain. Interviewee 7 states: *"(…) there are really situations where it can decrease strain because you can really think first and set priorities." (8.1.9.)* (I7). Compellingly, interviewee 5 states: *"Yes…exactly…that's reducing strain…" (8.1.10.)* (I5). It can be stated that improved communication leads to decreased perceived strain. Consequently, "Improved communication" can be confirmed as a perceived ICT job resource in the Master thesis´ context.

Electronic monitoring motivating employees. The perceived ICT job resource "Electronic monitoring motivating employees" has partially been found in the gathered data sources. On the one hand, some interviewees state that electronic monitoring is motivating them. Interviewee 1 states when asked whether he perceives electronic monitoring as motivating: *"Yes, it motivates me…" (9.1.1.)* (I1). Interviewee 2 compellingly states: *"(…) you can either perceive it as control, or you take it as a motivation for yourself…(…)." (9.1.2.)* (I2). Both interviewees report to have a positive productivity. On the other hand, some interviewees state that electronic monitoring is demotivating them. Interviewee 3 states when asked whether a negative productivity would demotivate him: *"(…) when the productivity is good, I possible start my working day with a good mood…when it is bad...I am demotivated…" (9.1.3.)* (I3). As

a result, electronic monitoring can potentially motivate employees, or demotivate employees depending on whether the productivity is positive or negative.

Interviewees who perceive electronic monitoring as motivating perceive decreased strain while interviewees who perceive electronic monitoring as demotivating perceive increased strain. On the one hand interviewee 1 states: *"(...) our productivity is mostly positive, therefore it´s obviously not increasing strain for us…but If I would argue from an unproductive perspective, then it would increase strain…" (9.1.4.)* (I1). On the other hand, interviewee 3 states: *"(...) that can lead to increased strain….because you are always asking yourself the question…does the organization consider to fire me…(...)…and that creates fear for an employee (...)." (9.1.5.)* (I2). Whether electronic monitoring in terms of productivity increases perceived strain or decreases perceived strain depends on whether an employee´s productivity is positive or negative. It cannot be stated that electronic monitoring motivating employees leads to decreased perceived strain. As a consequence, "Electronic monitoring motivating employees" can partially be confirmed as a perceived ICT job resource in the Master thesis´ context.

ICT support. The perceived ICT job resource "ICT support" has partially been found in the gathered data sources. All interviewees working for the main organization besides one state that they do not perceive personal ICT support: *"I think when someone would be here, who could always support when having problems, I would think that that would be really really good…because…well…at the moment you feel left behind…"(10.1.1.)* (I3). Compellingly, interviewee 2 states when asked whether ICT personal assistance would be positive: *"Yes, ideally at the office." (10.1.2.)* (I2). When asked whether ICT assistance via phone would be positive, interviewee 2 states: *"(...) via phone would also be ok..(...)…If I could choose I would prefer personally in the office….but via phone would also be possible." (10.1.3.)* (I2). Interviewees 3 and 2 do not perceive ICT support in general and wish for ICT personal support (ideally in the office) to be present. Interviewee 8 states: *"An internal training would be good…may it be as a video tutorial or somehow else (...)" (10.1.4.)* (I8). Compellingly, interviewee 2 states: *"A training would also be good…but it would be good if the one giving the training would be present if you have questions…because maybe you only get to know one case in a training... (...) ...you should definitely have someone to talk to." (10.1.5.)* (I2). Employees 3, 2 and 8 state that they do not perceive any ICT support to be present. The interviewees would prefer ICT personal assistance, ideally in the office via video tutorials or ICT support via the phone. Interestingly, interviewee 1 also states that it would be good to have ICT personal support in the office: *"It would be important to have an expert (...) in Cologne…who is present in the office, who could show us how it works (...)." (10.1.6.)* (I1).

Nevertheless, interviewee 1 states: *"For me it's no problem due to my position to call him but it's not possible for 10-15 employees to call him…(...) therefore, it would be nice to have such an employee like Mr. X here." (10.1.7.)* (I1). Employee 1, who is a team leader and in a higher hierarchical position than the other interviewees working for the main organization, states that he perceives ICT support via phone due to his privileged position. Nevertheless, he does not perceive personal ICT support in the office which would be the best in his eyes. The same holds for both of the main organizations´ independent network partners. Interviewee 6 states: *"Yes, personal help in the office, that's surely the best, the ideal solution…(...)".* (10.1.8.) (I6). Moreover, he states: *"I can talk about the past…when I had questions or problems, I called Mr. X…a lot of things we can solve at the phone…" (10.1.9.)* (I6). As a result, the main organizations´ independent network partners and the team leader of the main organization perceive ICT support via phone. Nevertheless, they do not perceive personal ICT support in the office which would be the best in their eyes. As a result, ICT (personal) support appears not to be present in the organization. However, many conversations and announcements regarding ICT supports have been found in the documents (discussions from the intranet). One employee e.g. announces: *"(...) there is an Amainvoice Webinar for the topic "Datev Schnittstelle" and Amainvoice (...) who wants to participate?" (10.1.10.)*. Compellingly, another employee announces: "*If you have questions, please don't hesitate to contact me." (10.1.11.).* Consequently, ICT support via the intranet (not personal) appears to be present but not perceived by the employees.

Moreover, all interviewees perceive ICT personal assistance/ resource support as decreasing strain, if present. Interviewee 5 states when asked whether ICT personal support would decrease perceived strain: "*Yes of course…that's decreasing strain.." (10.1.12.)* (I5). Compellingly, interviewee 8 states when asked the same question: *"Definitely, Definitely." (10.1.13.)* (I8). Interviewee 3 states: *"(...) I am sitting there for an hour and don't know what to do…I am going nuts at a certain point because I am, I am sitting there perceiving strain…" (10.1.14.)* (I3). Although ICT (personal) support is not perceived by the interviewees, all interviewees state that ICT (personal) support is perceived to potentially decrease strain. As a result, it cannot be stated that ICT support leads to decreased perceived strain. Consequently, "ICT support" can partially be confirmed as a perceived ICT job resource in the Master thesis´ context.

As analysed within the foregone sections, all formerly assessed perceived ICT job resources and potential not formerly assessed perceived ICT job resources besides two that have been partially confirmed by the gathered data sources. As a result, the second proposition that the perceived ICT job resources assessed by Day et al. (2012) and Ninaus et

al. (2015) and the potential new, not formerly assessed perceived ICT job resources (Table 5) are not expected to hold for the ICT based fully digitized tax accountancy in Germany is partially disconfirmed.

The perceived ICT job demands and perceived ICT job resources assessed in the Master thesis´ results chapter grouped in accordance to the five general characteristics of ICTs by Day et al. (2010) can be seen in table 5. Not all interviewees responded to the follow-up email. However, all interviewees that did respond, confirmed the assessment of the perceived ICT job demands and perceived ICT job resources in in the follow-up email. Hence, no adjustments have to be made.

Table 6. Perceived ICT job demands and perceived ICT job resources assessed in the Master thesis´ results chapter grouped in accordance to the five general characteristics of ICTs by Day et al. (2010).

Five general characteristics (Day et al., 2010)	**Formerly assessed perceived ICT job demands**	**Assessment in the Master thesis´ Results chapter**
(1) Accessibility and availability	expectations to be available 24/7 / connectivity pressure	Disconfirmed as a perceived ICT job demand
	constant availability	Disconfirmed as a perceived ICT job demand
	inner obligation for availability	Disconfirmed as a perceived ICT job demand
(2) Access to information	information overload / increased workload	Partially disconfirmed as a perceived ICT job demand
(3) Communication	ineffective communication	Partially disconfirmed as a perceived ICT job demand
(4) Electronic monitoring	use of ICT to monitor employees´ behaviours	Partially disconfirmed as a perceived ICT job demand

(5) ICT control	everyday hassles in using technology (e.g., losing data; computer crashing)	Confirmed as a perceived ICT job demand
	a lack of control over technology	Disconfirmed as a perceived ICT job demand
	expectations for continuous learning	Partially disconfirmed as a perceived ICT job demand

Five general characteristics (Day et al., 2010)	**Formerly assessed/ Proposed perceived ICT job resources**	**Assessment in the Master thesis´ Results chapter**
(1) Accessibility and availability	instant accessibility	Confirmed as a perceived ICT job resource
	increased flexibility	Confirmed as a perceived ICT job resource
(2) Access to information	decreased workload	Partially confirmed as a perceived ICT job resource
(3) Communication	improved communication	Confirmed as a perceived ICT job resource
(4) Electronic monitoring	electronic monitoring motivating employees	Partially confirmed as a perceived ICT job resource
(5) ICT control	ICT support	Partially confirmed as a perceived ICT job resource

New, not formerly assessed or proposed perceived ICT job demands and perceived ICT job resources

Within this section, new, not formerly assessed or proposed perceived ICT job demands and perceived ICT job resources are analysed. For this pursuit, inductive coding is used.

Storing and saving. Most interviewees clearly state that they perceive the possibility to store and save messages as decreasing perceived strain. Interviewee 5 states: *"(...) I can refer*

back to what I have written, I can refer back to what the client has written even a year ago…" (11.1.) (I5). Compellingly, interviewee 6 states: *"(…) its documented and stored a 100%, you can always look it up…when did the client upload something …when did I respond…(…)." (11.2.)* (I6). Interviewee 8 states when asked why she is primarily communicating via messages*: "Because everything is stored…that's important to have a proof." (11.3.)* (I8). Compellingly, interviewee 8 states why she is not using the phone*: "(…) if you would call, you would have to refer back to this and somehow make a note…" (11.4.)* (I8) Interviewee 7 argues in a similar direction*: "Primarily, it's my aim to store everything and attach a note…also at the end of a phone call…for the safety of both sides." (11.5.)* (I7). Especially, communicating via messages is perceived positively since it allows to refer back to what the employee or the client has said and creates a perception of safety.

Moreover, most interviewees perceive the possibility to store and safe messages as decreasing strain. Interviewee 5 states: "*Yes exactly…that's reducing strain…(…) I can type something in and directly find something." (11.6.) (I5)*. Compellingly, interviewee 6 states when asked whether the possibility to store and save messages reduces his perceived strain*: "Exactly, exactly…because when things happen, I can say that we have communicated about this before and not as usual, that the client says, ohh I didn't know that…" (11.7.)* (I6). Interviewee 8 states when asked whether it reduces perceived strain that you can refer back to what someone has wrote*: "Yes, definitely!" (11.8.)*. (I8). Compellingly, interviewee 7 states when asked the same question: "*Yes, I would totally agree." (11.9.)* (I7). The possibility to store and save certain things (e.g. messages) and refer back to them creates a feeling of safety that reduces employees´ perceived strain. Hence, "storing and saving" can be confirmed as a perceived ICT job resource in the Master thesis´ context.

Voice. Most interviewees clearly state that they perceive having a voice as decreasing perceived strain. Interviewee 2 states: *"I think generally it would bother you If you are not heard…*". *(12.1.)* (I2). Compellingly, interviewee 2 states: *"(…) I have heard that if you suggest something, what to improve, that that's not leading to something (…)." (12.2.)* (I2). Interviewee 5 states when asked whether he feels heard when he suggests something: *"Let's say… not always" (12.3.)* (I5). The interviewees do not feel to be heard by the organization: *"(…) that's for me a thing of general appreciation for such a suggestion (…)" (12.4.)* (I7). Moreover, interviewee 7 states: *"(…) I like communication and I think it's an absurdity if people put energy in a suggestion for improvement and don't get a response." (12.5.)* (I7). Most interviewees do not feel to be heard and do not perceive having a voice. Some interviewees state that it is not important in their eyes that the suggestion they make is being implemented.

Interviewee 7 states when asked whether it would be enough to receive a response that the suggestion that is made can't be implemented: *"Exactly, that would absolutely be enough…(…)." (12.6.)* (I8). As a result, the employees do not perceive to have a voice. Nevertheless, most interviewees clearly state that having a voice would decrease perceived strain while not having a voice would increase perceived strain. Interviewee 8 states when asked whether having the feeling of having a voice would decrease her perceived strain. *"Exactly…" (12.7.)* (I8). Interviewee 5 states when asked how he feels with having no voice: *"I perceive it as bothering me…" (12.8.)* (I5).

Interestingly, both independent network partners perceive to have a voice. Interviewee 4 states when asked whether suggestions he makes are heard: *"Yes definitely…" (12.9.)* (I4). Compellingly, interviewee 6 states when asked the same question: *"Yes, exactly!" (12.10.)* (I6). As a result, it depends on the interviewee´s position whether they perceive to have a voice or not. If employees do not perceive to have a voice, their stress increases. Thus, "Voice" can be confirmed as a perceived ICT job resource.

Increased employability. Most interviewees clearly state that they perceive increased employability due to the use of an ICT system as decreasing strain. Interviewee 1 says when asked whether he perceives expectations for continuous learning as increasing perceived strain: *"(…) there is no way around it, you have to accept it, if you would like to continue and be number one in the process of digitalization, you have to do it. It will be necessary either way in 10 years." (13.1.)* (I1). Compellingly, interviewee 4 states: "*(…) I perceive it as completely positive…because you are developing in a system that is developing and you develop as a person from year to year regarding your personal skills." (13.2.)* (I4). When asked whether he perceives this development as positive, he states: *"Positive…and we really have an advantage in comparison to other organization." (13.3.)* (I4). Compellingly, interviewee 4 states when asked why it is necessary to develop and constantly learn: *"It guarantees a job." (13.4.)* (I4). These employees perceive the development of personal skills as necessary and guaranteeing a job. As a result, the development of personal skills increases employees´ employability. Moreover, these interviewees perceive an increased employability as decreasing strain. Interviewee 4 states: *"It would rather increase strain if I didn´t do it." (13.5.)* (I4). Compellingly, interviewee 6 states when asked whether developing skills decreases perceived strain*: "Correct, exactly… I think it would rather increase strain if you say no, I don't want to learn…" (13.6.)* (I6). Compellingly, interviewee 1 states when asked the same question: *"Correct, yes." (13.7.)* (I1). Developing personal skills increases employees´ employability

which reduces employees´ perceived strain. Consequently, “Increased employability” can be confirmed as a perceived ICT job resource.

Three new, not formerly assessed or proposed perceived ICT job resources have been found in the foregone section, namely: “Storing and saving”, “Voice”, and “Increased employability”.

Discussion

Scientific contributions

The Master thesis´ research was designed to assess the existence of formerly assessed perceived ICT job demands and perceived ICT job resources while simultaneously identifying new, not formerly assessed perceived ICT job demands and perceived ICT job resources in a new, not yet investigated context, an ICT based fully digitized tax accountancy in Germany. For this purpose, two propositions were formulated in order to answer the Master thesis´ research question. Both propositions were partially disconfirmed. However, the Master thesis´ research contributed to the perceived ICT job demands and perceived ICT job resources literature in several ways. Firstly, the Master thesis´ research (partially) disconfirmed all perceived ICT job demands, besides one perceived ICT job demand, “everyday hassles in using technology” in a new, not yet investigated context, an ICT based fully digitized tax accountancy in Germany. Moreover, no new, not formerly assessed or proposed perceived ICT job demands have been found in the gathered data sources. Secondly, the Master thesis´ research (partially) confirmed all formerly assessed perceived ICT job resources and new potential, not formerly assessed, but proposed perceived ICT job resources in a new, not yet investigated context, an ICT based fully digitized tax accountancy in Germany. Moreover, three new, not formerly assessed or proposed perceived ICT job resources have been found in the gathered data sources, namely “Storing and saving”, “Voice”, and “Increased employability”.

Hence, the Master thesis´ research found that ICT usage does not primarily cause perceived ICT job demands, but rather perceived ICT job resources. This is particularly interesting since these findings stand in strong contrast to other researchers’ findings. Former researchers mainly found and confirmed perceived ICT job demands to increase perceived employees´ strain negatively affecting employees´ health (Day et al., 2012; Chesley, 2014; Stadin et al., 2016). Since the Master thesis´ research primarily confirms perceived ICT job resources and disconfirms the majority of the perceived ICT job demands, a more positivistic view regarding the influence of ICTs on perceived employees´ strain and employees´ health is

proposed. ICTs have primarily been found to have the potential to decrease perceived employees´ strain positively affecting employees´ health.

Besides (partially) disconfirming the majority of the formerly assessed perceived ICT job demands and (partially) confirming all perceived ICT job resources (also the not formerly assessed proposed perceived ICT job resources**)** , the Master thesis´ research contribution to the perceived ICT job demands and perceived ICT job resources literature lies in the identification of three new, not formerly assessed or proposed perceived ICT job demands and perceived ICT job resources, "Storing and saving", "Voice", and "Increased employability". Firstly, "Soring and saving" refers to employees´ opportunity to store and save messages by using the ICT. Through being able to refer back to what has been communicated about with clients or colleagues in the past, employees perceive safety as decreasing employees´ strain. Secondly, "Voice" refers to employees´ possibility to be heard if problems occur or shortcomings with regards to the ICT system are detected. Several interviewees state that implementing their suggestions is not as important, as the perception that the suggestion has been taken into account by the organization. Through receiving a response with regards to employees´ suggestions, employees perceive "Voice" as decreasing employees´ strain. This finding is in line with the research of Thomas and Feldman (2012) who found that increased employees´ voice decreases employees´ strain. Thirdly, increased employability refers to employees´ opportunity to develop personal skills with regard to ICTs and thus, increasing the perceived individual employability. Several interviewees state that they do perceive an advantage in comparison to other employees not working with ICT systems, which guarantee a job. Through developing skills with regard to ICT systems, employees perceive an increased employability decreasing perceived employees´ strain. This finding is in line with the research of Bernston and Marklund (2007) who found that perceived employees´ employability positively affects employees´ health.

Limitations and Directions for future research

Despite the contributions of the Master thesis´ research to the perceived ICT job demands and perceived ICT job resources literature, these findings need to be considered with caution due to several limitations. Firstly, the assessment was only conducted within one organization, in one working context and primarily among young employees *(M=29,4*). Consequently, it remains questionable whether the findings of the Master thesis´ research are generalizable to other countries, occupations, age groups and working contexts. To assess whether the results are generalizable, future research could conduct a quantitative follow-up research assessing the perceived ICT job demands and perceived ICT job resources discussed

within the Master thesis´ research (Justensen & Mik-Meyer, 2012) increasing the Master thesis´ research external validity (Yin, 2014). Secondly, it might be questioned whether the semi-structured interview guide is best suited for the inductive Master thesis´ research pursuit to assess new, not formerly assessed or proposed perceived ICT job demands and perceived ICT job resources. Although the Master thesis´ research did find three new perceived ICT job resources, it appears to be an interesting direction for future research to conduct unstructured interviews in which the interviewer lets the interviewee guide the interview in a certain direction, especially suiting exploratory research's (Justensen & Mik-Meyer, 2012). Thus, unstructured interviews are expected to potentially reveal additional new, not formerly assessed or proposed perceived ICT job demands and perceived ICT job resources. However, conducting unstructured interviews might have implications for the research's reliability since repeating the research arriving at the same results several times appears to be challenging when conducting unstructured interviews. Thirdly, to increase the construct validity of the Master thesis´ research, different data sources were conducted. However, only two primary data sources have been analysed. Additionally, the follow-up email was not as revealing for the Master thesis´ research as expected. No interviewees commented on the assessed perceived ICT job demands or perceived ICT job resources. That might the case because no adjustments were perceived as necessary, or due to the interviewees´ missing interest. However, to further increase the Master thesis´ construct validity and to find convergence between the different sources, additional data sources, such as participant observations, should be taken into account (Justensen & Mik-Meyer, 2012). Participant observations allow the researcher to participate in the employees´ everyday life gaining more informal knowledge, spotting things that might be taken for granted by the interviewees and thus, not considered during an interview (Justensen &Mik-Meyer, 2012) potentially revealing meaningful insights. Fourthly, the gathered data sources had to be translated from German into English. The Master thesis´ researcher is confident that the concepts are perceived as intended although translated into German. This assumption is supported by the conducted pilot test. However, there still seems to be a risk to lose specific cultural or personal connotations due to the translation of the gathered data sources by the Master thesis´ researcher. Other researchers might translate the gathered data sources differently, thus potentially arriving at differential results questioning the Master thesis´ reliability. Fifthly and lastly, as argued in the Master thesis´ research Methodology chapter, the Master thesis´ research is expected to be minimally biased due the Master thesis´ researchers position and his former knowledge. However, to assess which impact the individual translation of the gathered data sources and the Master thesis´ researcher´s bias has, future researchers

should conduct the same research again. Due to potential other researchers´ different life positions and social positions, especially through not working with the organization and no formerly given knowledge, it appears to be interesting to observe whether the researches findings would differ. Through comparing these findings, a more educated statement regarding the Master thesis´ research´s reliability and bias might be possible through assessing the degree of consensus (Syed & Nelson, 2015).

As outlined in the Introduction, whether employees perceive ICT job demands or ICT job resources to be present differs due to individual differences (Payne, 1988, as cited in Day & Jreige, 2002). Some of these individual differences will be discussed in the following section. Additionally, potential reasons why the Master thesis researches´ findings stand in strong contrast to former researchers´ findings will be discussed and resulting potential directions for future research are outlined. One potential reason for the difference between the findings of the Master thesis´ research and the research of Day et al. (2012), Chesley (2014) and Ninaus et al. (2015) is the interviewees´ age. The interviewees mean age within the Master thesis´ research *(M= 29,4)* is lower in comparison to the research of Day et al. (2012) *(M= 35,01)*, and Chesley (2014) *(M=41,79),* who primarily found ICT demands increasing perceived employees´ strain. A potential reason why younger employees´ perceive less ICT job demands than older employees might be due to their lower confrontation with ICTs throughout their lives. Following Barbosa Neves, Amaro, and Fonesca (2013) and Chen and Chan (2011), older employees do not use ICTs as often as younger employees, and are thus not as familiar with using the ICTs, potentially perceiving more ICT job demands in comparison to younger employees, which could explain why the research of Day et al. (2012) found more perceived ICT job demands than the Master thesis´ research. In line with this argumentation, generational differences and technological savviness might play a role in employees´ perceptions regarding ICT job demands and ICT job resources. ICTs play an important role in younger generations´ lives, like members of the "Generation Y" (employees born between 1982-1999) (Festing & Schäfer, 2013) and change their way of communicating since they have always been surrounded by ICTs (Helsper & Eynon, 2010). Members of the "Generation Y" have been found to be technologically savvy since they are constantly confronted with technologies (e.g. ICTs) throughout their lives (Festing & Schäfer, 2013). Through being technologically savvy, employees from "Generation Y" (majority of the Master thesis´ interviewee base) might perceive less ICT job demands and more ICT job resources in comparison to older employees. This suggestion challenges the research of Ragu-Nathan et al. (2008) who state that older employees perceive less stress resulting from using ICTs since they are more capable of

handling stress in general. Future research should thus focus on assessing the differences between perceived ICT job demands and perceived ICT job resources with regards to age, technological savviness and generational differences.

Additionally, six out of eight interviewees are men. No clear differences were found with regards to the interviewees gender within the Master thesis´ research. However, several researches highlight the differences in terms of perceptions of stressors and resulting stress and strain outcomes between men and women (Pourrajab, Rabbani & Kasmaieenezhadfard, 2014; Matud, 2004). Following Matud (2004), women generally perceive more stress in comparison to men indicating that women might perceive more perceived ICT job demands than men. However, this suggestion cannot be confirmed in the Master thesis´ research, potentially due to small number of female interviewees. Future research should thus focus on assessing the differences between perceived ICT job demands and perceived ICT job resources with regards to differences in terms of gender.

Additionally, whether interviewees perceive specific ICT job demands, e.g. constant availability, to be present, depends on the office location in Germany. Interviewees working in offices located in the west of Germany, e.g. perceive the ICT job demand constant availability as present and do use the ICT to access work related content after working hours, while interviewees working in offices located in the east of Germany do not perceive the perceived ICT job demand constant availability as present and do not access work related content after working hours. As a result, cultural differences appear to exist between employees in terms of employees´ detachment from work. This is in line with the research of Ockenfels and Weimann (1999), who found cultural differences between people located in the east of Germany and people located in the west of Germany. Ockenfells and Weimann (1999) state that people in eastern Germany behave more selfishly than people in western Germany implying that employees in eastern Germany do not care as much about work related content after working hours compared to employees in western Germany. Consequently, differences regarding perceived ICT job demands and perceived ICT job resources might result from cultural and regional differences of employees. Future research should thus focus on assessing the differences between perceived ICT job demands and perceived ICT job resources with regards to cultural and regional differences, not solely within Germany.

Additionally, whether interviewees perceive ICT job demands or ICT job resources to be present, appears to depend on their hierarchical position as well on whether they work as the main organizations employees or as the main organization´s network partners. The main organization´s network partners do especially perceive the ICT job demand everyday hassles

in using technology to be present since they are economically dependent on the functioning of the system. The main organization´s employees perceive the ICT job demand everyday hassles in using technologies to be present due to an increased workload. Thus, differences regarding the perception of ICT job demands and ICT job resources might emerge due to the interviewees´ employment relationship. However, no differences regarding the work- home conflict between the main organization´s employees and the main organization´s network partners have been found as suggested by Parasuraman and Simmers (2001). Parasuraman and Simmers (2001) found that self-employed employees (main organization´s network partners) perceive higher autonomy and flexibility but simultaneously an increased conflict between work and home compared to organizational employed employees (main organization´s employees). A potential reason why this has not been supported by the Master thesis´ research is because the ICT system offers the same degree of flexibility in terms of spatial and temporal flexibility to both main organization´s network partners and main organization´s employees. Future research should thus focus on assessing the differences between perceived ICT job demands and perceived ICT job resources with regards to different employment relationships.

Practical implications

The findings of the Master thesis´ research challenge the findings of other researches assuming that ICTs primarily lead to increased perceived employees strain (Day et al., 2012, Chesley, 2014), thus negatively affecting employees´ health. The Master thesis´ research findings suggest that ICTs do not necessarily lead to increased perceived employees´ strain negatively affecting employees´ health, but rather have the potential to decrease perceived employees´ strain positively affecting employees´ health. This finding proposes that the presence and implementation of ICTs might be a way for organizations to decrease perceived employees´ strain and thus, increase employees´ health positively influencing organizational outcomes, such as employee retention, decreased employee absenteeism (Schaufeli & Bakker, 2004), employees´ effectiveness and employees´ efficiency. However, whether employees perceive ICTs as ICT job demands or ICT job resources, appears to depend on individual employees´ characteristics. As argued before, organizations should therefore focus on taking cultural and individual differences into account and manage those carefully.

The only perceived ICT job demand that has clearly been confirmed by the Master thesis´ research is everyday hassles in using technology. As a consequence, organizations should especially care for the functioning of their ICT in order to avoid perceived employees´ strain resulting from this perceived ICT job demand. The perceived ICT job resource ICT support has been found to potentially decrease perceived employees´ strain and thus, positively affect

employees´ health. Organizations should especially focus on providing ICT personal support, that takes place in the office personally, rather than providing video tutorials or supportive phone calls. Additionally, developing ICTs that allow an instant accessibility, an increased flexibility, especially though providing the possibility to work remotely and during non-working hours, has been found to decrease perceived strain positively affecting employees´ health. This finding stands in contrast to the practical implications of Ninaus et al. (2015), who suggest to promote core working hours and avoid sending messages outside working hours since employees´ cannot detach from work otherwise. Surprisingly, even electronic monitoring has been found to decrease perceived employees´ strain and should thus be implemented in ICTs. However, focus should be set on monitoring employees´ productivity since that might have the potential to motivate employees. Organizations should not focus on monitoring employees in terms of response time since that might increase perceived employees´ strain negatively affecting employees´ health. Additionally, it appears to be important that, although employees´ do not seem to need to control the ICT system, having a voice is of utmost importance to decrease perceived employees´ strain positively affecting employees´ health. Hence, organizations should implement possibilities for employees´ suggestions regarding the ICT system and care about appropriate response.

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Appendixes

Appendix 1: Justification for the JD-R model

Appendix 1 contains an explanation regarding the choice for the JD-R model for the Master thesis´ research, as well as an explanation on how the literature review has been carried out.

For the academic literature search process, two search engines have been used, firstly Google Scholar, secondly the Web of Science (Radboud University). The initial idea of the Master thesis´ researcher was to assess the effects of ICTs on employees´ health, both positive and negative ones. Several search processes have been used to find academic literature dealing with the effects of ICTs on employees´ health. Interestingly, academic literature regarding the effects of ICTs on employees´ health appeared to be relatively scarce, especially regarding positive effects. However, several models have been used before to study the influence of ICTs on employees health, e.g. the Demand- Support Control model (DSC), or the Effort-Reward Imbalance model (Chen et al., 2011). These two models explicitly focus on assessing the influence of ICTs on the health related outcome of depression and thus appeared to be too focused for the Master thesis´ pursuit. Another model that has been used to assess the effects of ICTs on employees´ health is the Person- Environment Fit model (P-E model). The P-E model has been used to assess stressors that lead to perceived employees´ strain (Ayyagari &Purvis, 2011). The health related outcome variable strain, appeared to be fitting to the Master thesis´ idea, since it has been found to influence employees´ health. The P-E model assumes, that there is an "equilibrium relationship between people and their environment" (Ayyagari &Purvis, 2011, p. 833). If this relationship is imbalanced, strain is caused (Ayyagari &Purvis, 2011). Therefore the P-E model appeared to be the ideal model to assess the effects of ICTs on employees´ health. However, the P-E model explicitly focuses on the misfit and thus on factors that lead to increased strain (Ayyagari &Purvis, 2011). Since the Master thesis´ researcher assumes that ICTs can lead to increased perceived strain, but simultaneously to decreased perceived strain, the P-E model did not seem to be appropriate. Hence the search process for a model that assesses both, factors that increase perceived strain and factors that decrease perceived strain in different occupations was continued. Within this search process it became apparent, that especially academic research regarding factors of ICTs that decrease perceived strain is in its infancy. Within this search process, the research of Day et al. (2010), Day et al. (2012) and Ninaus et al. (2015) was found. These researchers used the Job demand resources model as a theoretical foundation to assess both, factors that increase perceived employees´ strain and factors that decrease employees´ perceived strain.

Since the JD-R model is applicable to various occupations (Bakker & Demerouti, 2007; Demerouti, Bakker, Nachreiner &Schaufeli, 2001), assesses employees´ individual perceptions regarding positive and negative influences on employees´ health (Day et al., 2010) and is applicable to different contexts (e.g. ICT context) (Day, Scott &Kelloway, 2010), the model perfectly fits the Master thesis´ purpose of assessing the effects of ICTs on employees´ health, both positive and negative ones. Resultantly the JD-R model has been chosen for the Master thesis´ research.

Appendix 2: List of job demands and job resources

Appendix 2 contains a list of job demands job resources derived from Bakker and Demerouti (2007), Bakker et al. (2004) and Benders et al. (2016). The list can be extended and only serves as an exemplary list of potential job demands and resources.

Table 1. Job demands and job resources

Job demands	Job resources
Work pressure	- Pay
Unfavourable Physical environment	- Career opportunities
Emotionally Demanding interactions (with clients)	- Job security
Work-home conflict	- Social support
Work requirements	- Team climate
Pace of work	- Role clarity
Emotional workload	- Participation in decision making
Task changes	- Skill variety
Role ambiguity	- Task identity
	- Task significance
	- Feedback
	- Autonomy

Appendix 3: General processes of the JD-R model

Appendix 3 contains a visualization of the three general processes of the JD-R model.

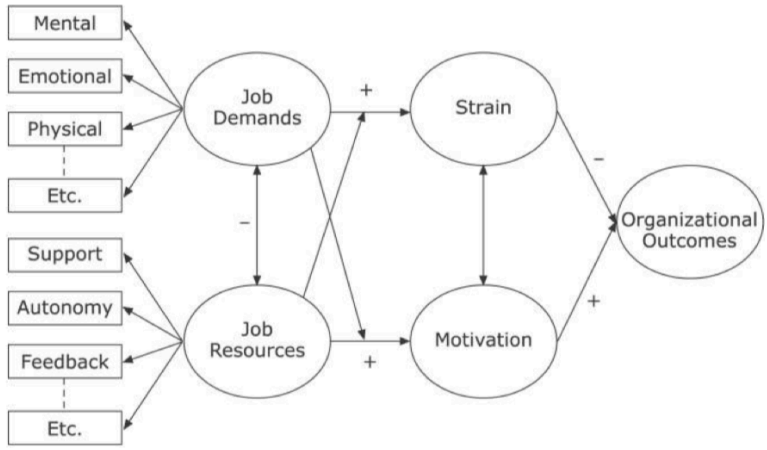

Figure 1. The Job Demands-Resources model (Bakker & Demerouti, 2007)

= Variable

= Examples for Job Demands/ Job Resources

= (+) positive interaction; (-) negative interaction

= Arrows (+) = increase; Arrow (-) decrease

Appendix 4: Formerly assessed perceived ICT job demands and perceived ICT job resources

Appendix 4 contains a list of perceived ICT job demands and perceived ICT job resources assessed by Day et al. (2010), Day et al. (2012) and Ninaus et al. (2015). The literature search, leading to the listed perceived ICT job demands and perceived ICT job resources was carried out as follows. Firstly, Google Scholar was used to search for "perceived ICT job demands" and "perceived ICT job resources". The results of the search for "perceived ICT job demands" led to the article of Day et al. (2012), while the search for "perceived ICT job resources" led to no results. The article of Day et al. (2012) assessed eight perceived ICT job demands and two ICT supports, which are treated as perceived ICT job resources (for an explanation , why the ICT supports are treated as perceived ICT job resources, see the Theoretical background chapter). While carefully studying the article of Day et al. (2012), it became apparent, that the article is based on the article of Day et al. (2010), concerned with both, perceived ICT job demands and perceived ICT job resources. However, the article of Day et al. (2010) only proposed potential perceived ICT job demands and potential perceived ICT job resources, which have not been assessed. Therefore none of these were included within the overview table. The next step within the literature research, was to search for additional academic literature, using the JD-R model, assessing perceived ICT job demands and perceived ICT job resources. Lots of literature has been screened, by using different search terms, or reviewing, who cited the research of Day et al. (2010) and Day et al. (2012). Finally, the search term "JD-R ICT benefits" via Google scholar, led to the article of Ninaus et al. (2015). The article of Ninaus et al. (2015) assessed three ICT job stressors and three ICT job benefits (for an explanation , why the ICT job stressors and ICT job stressors are treated as perceived ICT job demands and perceived ICT job resources, see the Theoretical background chapter), while using the JD-R model as the theoretical background.
To the best of the Master thesis´ researchers knowledge, these two studies are the only studies that assessed perceived ICT job demands and, or perceived ICT job resources so far.

Table 2. Formerly assessed perceived ICT job demands and perceived ICT job resources (Day et al., 2012; Ninaus et al., 2015).

perceived ICT job demands	perceived ICT job resources
o expectations to be available 24/7	o instant accessibility
o increased workload	o increased flexibility

o constant availability o connectivity pressure o inner obligation for availability	
o information overload	
o ineffective communication	o improved communication processes
o use of ICT to monitor employees behaviours	
o everyday hassles in using technology (e.g., losing data; computer crashing) o information overload o a lack of control over technology o expectations for continuous learning	o (personal assistance) o (perceived ICT job resource support)

Appendix 5: General information about the interviewees

Appendix 5 contains general information about the interviewees´ gender, hierarchical position, profession, age and business location.

Table 3. General information about the interviewees.

Interviewee	Gender	Hierarchical position	Profession	Age	Business location	Reported working hours (weekly)	Seniority seuerberaten .de	Seniority in tax accountancy
I1	Male	Team leader	Tax accountant	26	Cologne	40 (+10 hours overtime)	7	-
I2	Female	Apprentice	Tax accountant	29	Cologne	40	3	-
I3	Male	Apprentice/ Student	Tax accountant	20	Cologne	40	1	2
I4	Male	Independent network partner	Tax accountant	28	Cologne	50	5	7
I5	Male	Apprentice	Tax accountant	20	Wittenberg	40	2,5	-
I6	Male	Employee	Tax accountant	33	Bremen	38	1,5	14
I7	Male	Employee	Tax accountant	28	Halle	40	1,5	?
I8	Female	Deputy team leader	Tax accountant	51	Wittenberg	40	4	25
Mean	-	-	-	29,4	-	42,25	3,19	-

Appendix 6: Contact e-mail

Appendix 6 contains a brief explanation about the Master thesis´ pursuit, as well as a statement underlining that the data sources gathered within the interview are treated confidentially. This statement will be sent to the interviewees in advance. The statement asks for the potential interviewees permission to be interviewed and will be sent via email. Firstly an English version, secondly a German version will be provided.

English version:

Dear Sir or Madam,

I would like to kindly ask you to participate in a research project for my Master thesis´. The pursuit of the Master thesis´ research is to assess the influence of ICTs on perceived ICT job demands and perceived ICT job resources. Since ICTs affect organizational outcomes, such as effectiveness, efficiency, employee retention, and employee absenteeism, as well as employees´ health, assessing which perceived ICT job demands and perceived ICT job resources are present within organizations is important. Increased employees´ health is desirable for employees, as well as organizations, as a result assessing which perceived ICT job demands and perceived ICT job resources are present at steuerberaten.de is highly important to address potential issues and react accordingly in order to positively influence employees´ health.

To be able to assess these perceived ICT job demands and perceived ICT job resources, interviews are needed. Therefore I would like to kindly ask you to participate in the research project. All information you provide during the interview will be treated absolutely anonymously. No names, office locations, etc. will be used within the Master thesis´. The gathered information will not be used against you in any circumstances.

Please let me know whether you would like to participate in the interview. The interviews will approximately last 45-60 minutes and will be recorded and transcribed afterwards. The interviews will be carried out either via Skype, or in person.

If you have any questions, please do not hesitate to ask me.

Kind regards,

Maximilian Müller von Baczko

German Version:

Sehr geehrte Frau, Sehr geehrter Herr,

Ich würde Sie gerne fragen, ob Sie mich bei einem Forschungsprojekt für meine Masterarbeit unterstützen würden. Das Ziel besagter Arbeit ist es, den Einfluss von Technologien (ICTs), auf empfundene perceived ICT job demands und perceived ICT job resources zu untersuchen. Da ICTs einen wesentlichen Einfluss auf unternehmerische Parameter, wie Effizienz, Effektivität, Mitarbeiterzufriedenheit etc. haben und gleichzeitig wesentlich für die Gesundheit der Mitarbeiter sind, ist es essentiell wichtig herauszufinden, welche perceived ICT job demands und perceived ICT job resources in einem Unternehmen existieren.
Um diese perceived ICT job demands und perceived ICT job resources bei steuerberaten.de zu untersuchen, sind Interviews mit Mitarbeitern notwendig. Daher würde ich Sie gerne fragen, ob Sie mit mir ein solches Interview führen würden. Es geht hierbei lediglich um Ihre persönliches Empfinden und Ihre persönlichen Erfahrungen mit dem ICT System von steuerberaten.de. Alle Informationen, die Sie während des Interviews geben, werden absolut anonym und vertraulich behandelt. Keine Namen, Niederlassungen oder ähnliches werden in der Masterarbeit verwendet. Die gesammelten Informationen werden demnach absolut vertraulich behandelt und weder an Mitarbeiter, noch an Vorgesetzte weitergegeben. Die Interviews werden ca. 45-60 Minuten dauern und aufgenommen und transkribiert werden. Die Interviews sollen entweder persönlich oder über Skype abgehalten werden.
Sie würden mir aufjedenfall einen riesigen Gefallen tun, wenn Sie sich Zeit für ein solches Interview nehmen könnten.

Wenn Sie Fragen haben, zögern Sie bitte nicht, mich zu kontaktieren.

Mit freundlichen Grüßen,
Maximilian Müller von Baczko

Appendix 7: Semi- structured interview guide (English)

Appendix 7 contains the semi- structured interview guide being used for the interviews.

Firstly, a general introduction, explaining the purpose of the research, asking for a permission to record the interview and mentioning the pursued length of the interview is provided.

Secondly, the interviewer has the possibility to write down general information about the interviewee and the interview, such as age, gender, or the date of the interview. Moreover, the interviewees are asked for information regarding working hours, hierarchical position, etc. These general information primarily serve as a point of comparison between the interviewees. It might be possible to see differences in provided answers, due to the interviewees position, age or sex.

Thirdly, the interviewees are asked for general information regarding the current ICT system of the organization (steuerberaten.de), like e.g. its basic functions and difficulties. These information regarding the current ICT system potentially reveal general perceptions regarding the system. Additionally, the interviewees are asked, whether they worked with comparable systems before and how they perceived the switch (if happened).

Fourthly, formerly assessed perceived ICT job demands are assessed. This section is grouped in accordance with the five general characteristics of ICTs, proposed by Day et al. (2010). The fourth section is primarily concerned with testing Propositions 1. The interviewer does have the opportunity to ask follow- up questions, regarding the formerly assessed and not formerly assessed perceived ICT job demands to be able to test the formulated propositions. At the end of this section, the interviewee is asked, whether he or she can think of other perceived ICT job demands, that have not been discussed within the foregone questions. Herewith the inductive pursuit of assessing new, not formerly assessed or proposed perceived ICT job demands is pursued. Especially in this section, follow- up questions are necessary. These follow- up questions will be asked intuitively and according to the specific interviews situation.

Fifthly, former assessed perceived ICT job resources and new, potential not formerly assessed, but proposed perceived ICT job resources are assessed. This section will be grouped in accordance with the five general characteristics of ICTs, proposed by Day et al. (2010). The fifth section is primarily concerned with testing Propositions 2. The interviewer does have the opportunity to ask follow- up questions, regarding the formerly assessed and not formerly assessed perceived ICT job resources to be able to test the formulated propositions. At the end of this section, the interviewee is asked, whether he or she can think of other

perceived ICT job resources, that have not been discussed within the foregone questions. Herewith the inductive pursuit of assessing new, not formerly assessed or proposed perceived ICT job resources is pursued. Especially in this section, follow- up questions are necessary. These follow- up questions will be asked intuitively and according to the specific interviews situation.

Sixthly and lastly, the interviewee is asked whether he or she would like to add anything or has questions. The possibility to offer the interviewee the transcript is offered and the interviewee is being thanked for the participation.

Interview Guide

Section 1: General

First of all I would like to thank you for participating in the interview. I am a Master student from Radboud University in Nijmegen and currently writing my Master thesis´. The topic of the thesis´ is the influence of ICTs (Information and Communication Technologies), on employees job demands and resources. Therefore the basic aim of the research is, how the new system at steuerberaten.de does affect the working life of employees who just started using the software. The studies practical aim is to examine potential problems arising from the software use and how they might be solvable. There are no correct or false answers. I am just asking for your personal and individual opinion regarding different topics.

The interview will approximately last 45- 60 minutes. If you do not have any objections we would like to record the interview. The recording is to prevent information from being lost and, or misunderstood and will help me to achieve precise results. The gathered information will be treated confidentially and not be shared with other employees, or supervisors of steuerberaten.de.

After transcribing the interview you will be offered the opportunity to check the interview on paper and if necessary adapt your quotes. The final Master thesis´ will be sent to you by September the latest.

Do you have any questions regarding the interview right now? Please do not hesitate to ask for clarifications or definitions during the interview.

If you do not have any questions at this moment, I would like to start with some personal characteristics and your current work situation.

Section 2: General Information

Number interview:
Date interview:
Time interview:
Location interview:
Name interviewer(s):
Age interviewee:
Sex Informant:

Your work, professional training, and skills:

- What is your current position in the organization?
- What is your professional training?
- How many hours per week do you work?
- Seniority at steuerberaten.de?
- Seniority in tax accountancy?

Section 3: General Information regarding the new ICT system:

- Could you please explain the general functions and purposes of steuerberaten.de´s ICT in your own words?
- Did you work with a comparable system beforehand?
    - Which differences can be seen between the two systems?
- Did you perceive the shift from your previous working approach as radical? (If worked with another company)
    - If yes, how?
- How did working with the new system change your personal work?

Section 4: Formerly assessed perceived ICT job demands (grouped according to the five general characteristics of Day et al. (2010)):

In the following section, several questions are being asked regarding potential perceived ICT job demands. perceived ICT job demands are "any ICT factor or process at work involving some type of storing, transmitting, or processing technology (e.g. computer programs) or device (computer, cell phone), that has the potential to be perceived as stressful by workers "(Day et al., 2010, p.324). Could you please tell a bit about whether the ICT of steuerberaten.de provides these functions, and whether you perceive those as stressful? (The question is formulated in accordance with the general definition of perceived ICT job demands by Day et al. 2010).

- **Accessibility and availability**
    - Could you explain your perceptions regarding the topic of "expectations to be available 24/7/ "connectivity pressure regarding the ICT system of steuerberaten.de?
        - Do you perceive this perceived ICT job demand as being present?
        - Does it increase perceived strain?

    - Could you explain your perceptions regarding the topic of "constant availability" regarding the ICT system of steuerberaten.de?
        - Do you perceive this perceived ICT job demand as being present?
        - Does it increase perceived strain?

    - Could you explain your perceptions regarding the topic of "inner obligation for availability" regarding the ICT system of steuerberaten.de?
        - Do you perceive this perceived ICT job demand as being present?
        - Does it increase perceived strain?

- **Access to information**
    - Could you explain your perceptions regarding the topic of "information overload/ increased workload" regarding the ICT system of steuerberaten.de?
        - Do you perceive this perceived ICT job demand as being present?
        - Does it increase perceived strain?

Communication

- Could you explain your perceptions regarding the topic of "ineffective communication" regarding the ICT system of steuerberaten.de?

- Do you perceive this perceived ICT job demand as being present?
- Does it increase perceived strain?

Electronic monitoring

- Could you explain your perceptions regarding the topic of "use of ICT to monitor employees behaviours" regarding the ICT system of steuerberaten.de?
  - Do you perceive this perceived ICT job demand as being present?
  - Does it increase perceived strain?

- **ICT control**
  - Could you explain your perceptions regarding the topic of "everyday hassles in using technology (e.g., losing data; computer crashing)" regarding the ICT system of steuerberaten.de
    - Do you perceive this perceived ICT job demand as being present?
    - Does it increase perceived strain?

  - Could you explain your perceptions regarding the topic of "a lack of control over technology" regarding the ICT system of steuerberaten.de
    - Do you perceive this perceived ICT job demand as being present?
    - Does it increase perceived strain?

  - Could you explain your perceptions regarding the topic of "expectations for continuous learning" regarding the ICT system of steuerberaten.de
    - Do you perceive this perceived ICT job demand as being present?
    - Does it increase perceived strain?

- **Can you think of additional perceived ICT job demands?**

Section 5: Formerly assessed perceived ICT job resources and new, potential not formerly assessed, but proposed perceived ICT job resources (grouped according to the five general characteristics of Day et al. (2010):

In the following section, several questions are being asked regarding potential perceived ICT job resources. perceived ICT job resources can be defined as: perceived ICT job resources are "any ICT factor or process at work involving some type of storing, transmitting, or processing technology (e.g., computer programs) or device (computer, cell phone) that assist employees with the completion of their work, reduce the burden of job demands, or that promote personal growth and development" (Day et al., 2010, p.324). Could you please tell a bit about whether the ICT of steuerberaten.de provides these functions, and whether you perceive those as helping you to complete your work, reduce the burden of the formerly discussed job demands, or promote your personal growth and development? (The question is formulated in accordance with the general definition of perceived ICT job demands by Day et al. 2010).

- **Accessibility and availability**
    - Could you explain your perceptions regarding the topic of "instant accessibility" regarding the ICT system of steuerberaten.de?
        - Do you perceive this perceived ICT job demand as being present?
        - Does it decrease perceived strain?
    - Could you explain your perceptions regarding the topic of "increased flexibility" regarding the ICT system of steuerberaten.de?
        - Do you perceive this perceived ICT job demand as being present?
        - Does it decrease perceived strain?
- **Access to information**
    - Could you explain your perceptions regarding the topic of "decreased workload" regarding the ICT system of steuerberaten.de?
        - Do you perceive this perceived ICT job demand as being present?
        - Does it decrease perceived strain?
- **Communication**
    - Could you explain your perceptions regarding the topic of "improved communication " regarding the ICT system of steuerberaten.de?
        - Do you perceive this perceived ICT job demand as being present?
        - Does it decrease perceived strain?
- **Electronic monitoring**
    - Could you explain your perceptions regarding the topic of "Electronic monitoring motivating employees" regarding the ICT system of steuerberaten.de?
        - Do you perceive this perceived ICT job demand as being present?

        - Does it decrease perceived strain?

- **ICT control**
    - Could you explain your perceptions regarding the topic of "ICT support" regarding the ICT system of steuerberaten.de and how it potentially helps you?
        - Do you perceive this perceived ICT job demand as being present?
        - Does it decrease perceived strain?

- **Can you think of additional perceived ICT job resources?**

Section 6: Wrap up

This is the end of the interview. Are there any subjects which were not addressed in the interview and what would you like to discuss? We want to stress that all information of the interview will be dealt with anonymously. We only ask for your contact details so that we can send you the interview transcript. We thank you very much for your cooperation and the time you made available for us.

Appendix 8: Semi- structured interview guide (German)

Appendix 8 provides the actual interview guide, that is used during the interview. The interview guide is formulated in German since the interviews are being held in German as well.

German Interview Guide

Einleitung:

Thema 1: Allgemeine Einleitung

Als aller erstes würde ich Ihnen gerne für die Teilnahme an diesem Interview danken. Ich bin Student an der Radboud Universität in Nijmegen und schreibe dort aktuell meine Masterarbeit. Die Masterarbeit beschäftigt sich mit der Frage, wie Informations- und Kommunikations- Technologien (im folgenden ICTs), sich auf die Job demands und Job resources von Mitarbeitern auswirken. Das Ziel ist es demnach zu untersuchen, wie sich ICTs (z.B. das steuerberaten.de System), auf das Arbeitsleben und die Gesundheit von Mitarbeitern auswirken. Ziel ist es potentielle Probleme zu erkennen, die durch die Verwendung von ICTs entstehen und diese zu lösen. Wichtig ist, dass es weder falsche noch richtige Antworten gibt. Ich frage Sie lediglich nach Ihrer persönlichen und individuellen Meinung bezüglich verschiedener Themen.

Das Interview wird voraussichtlich 45-60 Minuten dauern. Wenn Sie kein Problem damit haben, würde ich das Interview gerne aufnehmen. Der Grund dafür das Interview aufzunehmen, besteht darin, dass gesagte Informationen nicht verloren gehen oder missverstanden werden. Die gesammelten Informationen werden vollkommen anonym behandelt und nicht mit anderen Mitarbeitern oder Vorgesetzten geteilt.

Nachdem ich das Interview transkribiert habe, können Sie sich das Interview gerne nochmals durchlesen und wenn Sie mögen verbessern. Desweiteren, wie bereits in der email beschrieben, erhalten Sie eine Zusammenfassung mit den gefunden perceived ICT job demands und perceived ICT job resources, die während Ihres Interviews genannt wurden, die Sie bitte noch ergänzen. Die finale Masterarbeit schicke ich Ihnen gerne zu, spätestens im September diesen Jahres.

Haben Sie weitere Fragen bezüglich des Interviews? Wenn fragen währen des Interviews entstehen, zögern Sie bitte nicht zu fragen.

Wenn Sie keine weiteren Fragen haben, würde ich das Interview gerne starten und zuerst einige allgemeine Fragen stellen.

Start Recording

Thema 2: Allgemeine Informationen:

Nummer des Interviews:
Datum des Interviews:
Zeit des Interviews:
Ort des Interviews:
Name der befragten Person:
Alter:
Geschlecht:

Arbeit, Ausbildung und Fähigkeiten:

- Wie lautet ihre derzeitige Position bei steuerberaten.de?
- Welche Ausbildung/ welches Studium haben Sie absolviert?
- Wie viele Stunden arbeiten Sie wöchentlich?
- Wie lange arbeiten Sie in diesem Berufsfeld?
- Wie lange arbeiten Sie bereits bei steuerberaten.de?

Start recording:

Thema 3: Allgemeine Informationen bezüglich des neuen ICT Systems von steuerberaten.de:

- Könnten Sie bitte die allgemeinen Funktionen des ICT Systems von steuerberaten.de in Ihren eigenen Worten beschreiben?

- Haben Sie zuvor (in einem anderen Unternehmen) mit vergleichbaren Systemen gearbeitet?
    - Wenn ja, wo liegen die Unterschiede?
- Haben Sie den Wechsel von Ihrer vorherigen Arbeitsweise als radikal, oder drastisch erlebt?

Thema 4: Bereits identifizierte und nicht vorher identifizierte perceived ICT job demands

In diesem Teil des Interviews werden Sie zu möglichen wahrgenommenen perceived ICT job demands befragt. perceived ICT job demands sind definiert als jegliche Faktoren, oder Prozesse während ihrer Arbeit, die sich mit einer Form des Speicherns, Sendens oder Verarbeitens mit Hilfe eines Programms oder einem Computer, Handy o.ä. befassen und potentiell Stress hervorrufen könnten.

Accessibility and availability:

- Könnten Sie mir bitte Ihre Wahrnehmung bezüglich des Themas „Erwartungen 24/7 erreichbar zu sein“/ „Druck immer erreichbar zu sein immer erreichbar zu sein“ bezüglich des steuerberaten.de Systems nennen?
    - Nehmen sie diesen perceived ICT job demand wahr?
    - Erhöht dieser perceived ICT job demand Ihr Stresslevel?

- Könnten Sie mir bitte Ihre Wahrnehmung bezüglich des Themas „ständige Erreichbarkeit“ bezüglich des steuerberaten.de Systems nennen?
    - Nehmen sie diesen perceived ICT job demand wahr?
    - Erhöht dieser perceived ICT job demand Ihr Stresslevel?

- Könnten Sie mir bitte Ihre Wahrnehmung bezüglich des Themas „innnere Verpflichtung ständig erreichbar zu sein“ bezüglich des steuerberaten.de Systems nennen?
    - Nehmen sie diesen perceived ICT job demand wahr?
    - Erhöht dieser perceived ICT job demand Ihr Stresslevel?

Access to information:

- Könnten Sie mir bitte Ihre Wahrnehmung bezüglich des Themas „Information Überfluss (zu viele Informationen)/ „erhöhter Arbeitsaufwand“ “bezüglich des steuerberaten.de Systems nennen?
    - Nehmen sie diesen perceived ICT job demand wahr?
    - Erhöht dieser perceived ICT job demand Ihr Stresslevel?

Communication:

- Könnten Sie mir bitte Ihre Wahrnehmung bezüglich des Themas „uneffektive Kommunikation“ bezüglich des steuerberaten.de Systems nennen?
    - Nehmen sie diesen perceived ICT job demand wahr?
    - Erhöht dieser perceived ICT job demand Ihr Stresslevel?

Electronic monitoring:

- Könnten Sie mir bitte Ihre Wahrnehmung bezüglich des Themas „Verwendung der ICT um die Arbeit von Mitarbeitern zu kontrollieren“, ist diese vorhanden?
    - Nehmen sie diesen perceived ICT job demand wahr?
    - Erhöht dieser perceived ICT job demand Ihr Stresslevel?

ICT control

- Könnten Sie mir bitte Ihre Wahrnehmung bezüglich des Themas „tägliche Schwierigkeiten durch das Verwenden der ICT (Daten Verlust, Computer crash, System Fehler) bezüglich des steuerberaten.de Systems nennen?
    - Nehmen sie diesen perceived ICT job demand wahr?
    - Erhöht dieser perceived ICT job demand Ihr Stresslevel?
- Könnten Sie mir bitte Ihre Wahrnehmung bezüglich des Themas „mangelnde Kontrolle über die ICT“ bezüglich des steuerberaten.de Systems nennen?
    - Nehmen sie diesen perceived ICT job demand wahr?
    - Erhöht dieser perceived ICT job demand Ihr Stresslevel?
- Könnten Sie mir bitte Ihre Wahrnehmung bezüglich des Themas „Erwartungen ständig zu lernen und sich weiterzubilden“ bezüglich des steuerberaten.de Systems nennen?
    - Nehmen sie diesen perceived ICT job demand wahr?
    - Erhöht dieser perceived ICT job demand Ihr Stresslevel?

Thema 5: Bereits identifizierte und nicht vorher identifizierte perceived ICT job resources

In diesem Teil des Interviews werden Sie zu möglichen wahrgenommenen perceived ICT job resources befragt. perceived ICT job resources sind definiert als jegliche Faktoren oder Prozesse während Ihrer Arbeit die sich mit einer Form des Speicherns, Sendens oder Verarbeitens mit Hilfe eines Programms oder einem Computer, Handy o.ä. befassen, die Mitarbeitern bei der Erledigung Ihrer Arbeit helfen, die Bürde der perceived ICT job demands mindern, oder die persönliche Entwicklung begünstigen.

Accessibility and availability:

- Könnten Sie mir bitte Ihre Wahrnehmung bezüglich des Themas Möglichkeit „durchgehend Erreichbar zu sein“ bezüglich des Systems nennen?
    - Nehmen sie diese perceived ICT job resource wahr?
    - Verringert diese perceived ICT job resource Ihr Stresslevel?
- Könnten Sie mir bitte Ihre Wahrnehmung bezüglich des Themas „höhere Flexibilität“ bezüglich des steuerberaten.de Systems nennen?
    - Nehmen sie diese perceived ICT job resource wahr?
    - Verringert diese perceived ICT job resource Ihr Stresslevel?

Access to information:

- Könnten Sie mir bitte Ihre Wahrnehmung bezüglich des Themas Möglichkeit „verringerter Arbeitsaufwand“ bezüglich des Systems nennen?
    - Nehmen sie diese perceived ICT job resource wahr?
    - Verringert diese perceived ICT job resource Ihr Stresslevel?

Communication:

- Könnten Sie mir bitte Ihre Wahrnehmung bezüglich des Themas „verbesserte Kommunikation“ bezüglich des steuerberaten.de Systems nennen?
    - Nehmen sie diese perceived ICT job resource wahr?
    - Verringert diese perceived ICT job resource Ihr Stresslevel?

ICT control

- Könnten Sie mir bitte Ihre Wahrnehmung bezüglich „ICT Hilfeleistungen“ durch steuerberaten.de in Bezug auf das ICT system nennen?

- Nehmen sie diese perceived ICT job resource wahr?
- Verringert diese perceived ICT job resource Ihr Stresslevel?

Thema 6: Abschließende Worte

Wir sind am Ende des Interviews angelangt. Gibt es Themen, die während des Interviews nicht behandelt wurden, die Sie gerne besprechen oder erwähnen möchten? Ich würde gerne nochmals unterstreichen, dass sämtliche Informationen völlig anonym und vertrauensvoll behandelt werden. Wie bereits in der anfänglichen email erwähnt, erhalten Sie eine Art Zusammenfassung der Ergebnisse, in der Sie bitte mögliche Erweiterungen eintragen. Ich danke Ihnen vielmals für Ihre Hilfe und die gute Zusammenarbeit.

Appendix 9: Follow- up email

Appendix 9 provides the follow- up email the Master thesis´ research.

Dear Sir or Madam,

I would firstly like to thank you again for participating in the Master thesis´ research. As discussed at the end of the interview, this email contains a summary of the perceived ICT job demands and perceived ICT job resources that have been assessed during your interview.
You can go through them and add comments if you disagree.

If a perceived ICT job demand or perceived ICT job resources is marked with an (p) it means that this perceived ICT job demand or perceived ICT job resource has been assessed in your interview.

If a perceived ICT job demand or perceived ICT job resource is marked with an (x) it means that this perceived ICT job demand or perceived ICT job resource has been assessed in your interview.

Assessed or not assessed perceived ICT job demands or perceived ICT job resources during the interview	**Comments**
o expectations to be available 24/7/ connectivity pressure (p)	o …
o constant availability	o …
o inner obligation for availability	o …
o information overload/ increased workload	o …
o ineffective communication	o …
o use of ICT to monitor employees behaviours	o …

○ everyday hassles in using technology (e.g., losing data; computer crashing)	○ …
○ a lack of control over technology	○ …
○ expectations for continuous learning	○ …
○ instant accessibility	○ …
○ increased flexibility	
○ decreased workload	○ …
○ Improved communication processes	○ …
○ Electronic monitoring motivating employees	○ …
	○ …
○ ICT support	

Thank you very much for your participation. If you are interested, I will share the findings of the Master thesis´ once it is finished.

Best regards,

Maximilian Müller von Baczko

Appendix 10: Collection of documents

Appendix 10 contains a short justification for the collection of the documents (data source), used for Master thesis´ research. For the document analysis, discussions from the intranet are used. All documents were retrieved at the 21st of May 2019.

Discussions from the intranet:

The discussions from the intranet are mainly concerned with problem discussions regarding either specific tax accountancy discussions, or with discussions regarding problems with the ICT. For the Master thesis´ research the discussions regarding problems with the ICT have been chosen. Within these discussions, it is expected to find meaningful insights regarding the formerly assessed perceived ICT job demands and perceived ICT job resources (especially ICT support, and everyday hassles in using technologies). The discussions from the intranet have been read thoroughly and interesting parts have been coded. As expected, only the ICT job demands and ICT job resources “ICT support" and “everyday hassles in using technology” have been found in the intranet discussions. The amount of available data, dealing with “ICT support” and “everyday hassles in using technology” is huge. Nevertheless, the data that has been found comprehensively guides in a similar direction, underlying the presence of “everyday hassles in using technologies” and “ICT support” (at least in the intranet). Resultantly, only a representative subset of the discussions from the intranet are used for the Master thesis´ research.

Appendix 11: Deductive coding structure

Appendix 11 provides an overview of the deductive coding structure of the Master thesis´ research. For the deductive coding structure, four layers of codes are used.

Firstly, selective codes consist of the five general characteristics of ICTs by Day et al. (2010), as portrayed in the Theoretical background chapter. The five general characteristics of ICTs by Day et al. (2010) group the second layer of coding, axial codes. Secondly, axial codes consist of formerly assessed perceived ICT job demands and new, not formerly assessed, but proposed perceived ICT job resources, as portrayed in the Theoretical background chapter. Thirdly, first codes are paraphrased original quotes derived from the three gathered data sources, that fit to the selective codes and axial codes and are thus not predefined. These first codes are parts of the gathered data sources, that do fit to the perceived ICT job demands and ICT job resources, presented in the Theoretical background chapter. Accordingly, the first codes are being grouped among the five general characteristics as presented by Day et al. (2010) and the formerly assessed perceived ICT job demands and new, not formerly assessed, but proposed perceived ICT job resources, as portrayed in the Theoretical background chapter. Fourthly, original quotes are original quotes from the gathered data sources. These original quotes are assigned with the numbers of the axial codes, if they fit to them. Afterwards, these original quotes are paraphrased to first codes in order to gain a more precise overview.

The following table gives an overview of the coding structure. The table is generally divided into perceived ICT job demands and perceived ICT job resources. To be able to overview the coded documents, the different axial codes are coded and marked with a specific number and colour coded. The assigned numbers are indicated in the table below. The actual data analysis is carried out in Excel, a spreadsheet programme.

Selective codes	Axial codes	First codes	Original quotes
perceived ICT job demands			
Accessibility and Availability	○ expectations to be available 24/7 / connectivity pressure (1.1.) ○ constant availability (1.2.)		○ (1.1.1); (1.1.2.)… ○ (1.2.1.); (1.2.2.)…

	○ inner obligation for availability (1.3.)		○ (1.3.1.); (1.3.2.)…
Access to information	○ information overload/ increased workload (2.1.)		○ (2.1.1.); (2.1.2.)…
Communication	○ ineffective communication (3.1.)	○	○ (3.1.1.); (3.1.2.)…
Electronic monitoring	○ use of ICT to monitor employees behaviours (4.1.)	○	○ (4.1.1.); (4.1.2.)…
ICT control	○ everyday hassles in using technology (e.g., losing data; computer crashing) (5.1.) ○ a lack of control over technology (5.2.) ○ expectations for continuous learning (5.3.)	○	○ (5.1.1.); (5.1.2.)… ○ (5.2.1.); (5.2.2.)… ○ (5.3.1.); (5.3.2.)…
perceived ICT job resources			
Accessibility and Availability	○ instant accessibility (6.1.)	○	○ (6.1.1.); (6.1.2.)…

	○ increased flexibility (6.2.)		○ (6.2.1.); (6.2.2.)…
Access to information	○ decreased workload (7.1.)	○	○ (7.1.1.); (7.1.2.)…
Communication	○ improved communication processes (8.1.)	○	○ (8.1.1.); (8.1.2.)…
Electronic monitoring	○ electronic monitoring motivating employees (9.1.)	○	○ (9.1.1.); (9.1.2.)…
ICT control	○ ICT support (10.1.)	○	○ (10.1.1.); (10.1.2.)…

Appendix 12: Inductive coding structure

Appendix 12 contains an overview of the inductive coding structure of the Master thesis´ research. Since no formerly defined codes are being used for the inductive pursuit of the Master thesis´, another coding approach is used. Therefore the researcher reads the text and assesses interesting statements (original quotes). Afterwards, these original codes are grouped and summarized in order to arrive at new perceived ICT job demands and perceived ICT job resources (grouped first codes). The following table gives an overview of the coding structure. The table is generally divided into perceived ICT job demands and perceived ICT job resources. The actual data analysis is carried out in Excel, a spreadsheet programme.

	Grouped first codes	Original quotes
perceived ICT job demands	○ …	○ (11.1.1.); (11.1.2.)…
perceived ICT job resources	○ …	○ (12.1.1.); (12.1.2.)…