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DIGITALISATION AND WELL-BEING AT WORK
Understanding work transformation and the role of acceptance through thematic narrative analysis

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ABSTRACT

Digitalisation as a massive and global phenomenon reshapes various industries. It transforms working environments, job design and creates new work characteristics. Since technology acts a crucial part in the working environment, the on-going work transformation is already occurring at workplaces. The concept digitalisation is relatively new, thus there is still limited knowledge regarding its consequences to job design and well-being at work. Despite well-being at work literature has grown into an extensive and multidisciplinary field of research within the last century, the effects of digital tools on well-being at work are significantly less investigated. The acceptance of new technology and individual factors related to it have been increasingly investigated in information systems literature, but limited knowledge is still available regarding the individual acceptance and well-being at work. Hence, this study contributes to well-being at work literature by exploring individuals' experiences of digitalisation in terms of altered job design and well-being at work.

Using the social constructionist lens, the aim of this study is to explore through qualitative thematic narrative analysis how digitalisation transforms work and how it is perceived in terms of well-being at work. The study was conducted by analysing 12 interviews conducted in two organisations, one relatively small consultancy enterprise and one large public administrative organisation. Digital solutions that had caused work transformation were the implementation of new digital enterprise system and information and communication technology tools.

The results were presented as four constructed thematic narratives. The aspects of well-being at work experienced through the implementation and utilisation of digital tools were increased exhaustion and stress as well as job satisfaction and work-life balance. Individual acceptance of new technology was identified to alter individual well-being at work, which highlighted the centrality of the dynamics of individual well-being. The age and skill differences were identified to reflect how individuals adopted and accepted new digital tools. The acceptance of technology and the dynamic nature of well-being interrelates work transformation and aspects of well-being at work in a unique way into a reciprocally influencing entity.

To summarise, this study contributes to the earlier literature regarding digitalisation and well-being at work. The thematic narrative approach provided valuable insights how individuals experienced technological changes in terms of altered job design and how these were perceived in terms of well-being at work. The results were highly aligned with earlier literature. In addition, the narrative approach with social constructionist lens enhanced the understanding of the phenomenon through highlighting the centrality of the dynamics of individual well-being as well as the importance of two individual characteristics, age and skills, reflecting how individuals perceived new digital tools.

For managerial implications, this study elaborates the understanding of the phenomenon, which is crucial for diminishing the risk of prolonged negative aspects of well-being at work among personnel when new technology is implemented within an organisation. Since this study was limited to two organisations, it will offer a point of departure for understanding digitalisation as a phenomenon in terms of well-being at work as well as the dynamic nature of well-being at work through the acceptance of new technology. Future research could explore how other emerging elements of digitalisation are experienced in terms of well-being at work. Also, the dynamic constructs of well-being at work could be assessed in other environments that confront technological changes.

Keywords: well-being at work, digitalisation, technology, work transformation, job design, stress, exhaustion, job satisfaction, work-life balance, acceptance of technology

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Digitalisaatio on työympäristöä mullistava maailmanlaajuinen ilmiö, joka muuttaa vanhoja totuttuja toimintatapoja ja tuo uusia työnkuvia työpaikoille. Muutos näkyy jo tänä päivänä eri työympäristöissä, sillä teknologialla on keskeinen merkitys useilla työpaikoilla. Digitalisaatio on suhteellisen tuore käsite, jonka kokonaisvaikutuksista eri aloihin, työtapoihin ja työhyvinvointiin on vasta kasvavassa määrin tutkimustietoa. Vaikka työhyvinvoinnin kvantitatiiviseen lähestymistapaan painottunut tutkimus on sadan vuoden aikana kasvanut erittäin laajaksi ja monitieteiseksi, digitaalisten ratkaisujen vaikutuksia työhyvinvointiin on kuitenkin tutkittu merkittävästi vähemmän. Yksilön sopeutumista teknologisiin välineisiin keskittyvä tutkimus on lisääntynyt viimeisien vuosikymmenien aikana informaatiotieteiden kirjallisuudessa, mutta yksilön teknologian hyväksymisen vaikutuksesta työhyvinvointiin ei vielä toistaiseksi tiedetä paljoa. Tämä tutkimus liittyy työhyvinvointia käsittelevään tutkimuskirjallisuuteen tarkastelemalla yksilön kokemuksia digitalisaatiosta muuttuneen työnkuvan ja työhyvinvoinnin näkökulmasta.

Tutkimuksessa perehdytään siihen, miten digitalisaation tuoma työn muutos koetaan työhyvinvoinnin näkökulmasta. Tutkimuksessa analysoitiin kahden eri organisaation, pienen yksityisen sektorin konsulttiyrityksen sekä suuren julkishallinnon organisaation, muuttuneita työtapoja ja niiden vaikutusta henkilöstön työhyvinvointiin. Analyysissa hyödynnettiin valmista haastatteluaineistoa, josta valikoitiin yhteensä 12 haastattelua. Työn muutosta aiheuttavat digitaaliset ratkaisut olivat toiminnanohjausjärjestelmän käyttöönotto sekä tieto- ja viestintäteknologian välineet. Tutkimusaineistoa lähestyttiin temaattisen narratiivianalyysin kautta, jossa keskeiset taustaoletukset perustuivat sosiaalisen konstruktionismin filosofistieteelliseen katsantokantaan.

Tutkimuksen tulokset on esitetty neljänä tyyppitarinana. Tulokset tarjoavat syventävää tietoa siitä, kuinka uuden teknologian seurauksena muuttuneet työtavat voidaan kokea sekä uupumusta ja stressiä että työtyytyväisyyttä ja työn ja vapaa-ajan tasapainoa lisäävinä tekijöinä. Uuden teknologian hyväksyminen osaksi toimintatapoja tunnistettiin tekijäksi, joka muuttaa yksilön kokemaa työhyvinvointia korostaen sen dynaamisuutta. Haastateltavat toivat esille myös yksilön iän ja osaamisen vaikutuksen teknologian hyväksymisen kokemiseen ja siten työhyvinvointiin. Teknologian hyväksyminen ja työhyvinvoinnin dynaamisuus sitovat työn muutoksen ja työhyvinvoinnin ilmentymät keskinäisesti vaikuttavaksi kokonaisuudeksi.

Tutkimus täydentää aiempaa työhyvinvoinnin tutkimuskirjallisuutta tuottamalla lisätietoa erilaisten digitaalisten ratkaisujen koetuista vaikutuksista yksilön työhyvinvointiin. Temaattinen narratiivianalyysi tarjosi lähestymistapana arvokasta käsitystä yksilötason kokemuksista, kuinka teknologiset muutokset koettiin työhyvinvoinnin näkökulmasta. Narratiivianalyysi lisäsi myös kokonaisvaltaista ymmärrystä ilmiöstä korostamalla työhyvinvoinnin dynaamisuutta sekä yksilötekijöiden vaikutusta teknologian hyväksymisessä. Tutkimuksen tulokset kokonaisuudessaan tukivat vahvasti aiempaa tutkimuskirjallisuutta.

Käytännön merkityksen näkökulmasta tutkimuksen tuloksia voidaan hyödyntää pyrittäessä ennaltaehkäisemään työhyvinvoinnin negatiivisia ilmentymiä henkilöstön keskuudessa silloin, kun tarkoituksena on ottaa käyttöön uutta teknologiaa. Jatkotutkimusaiheiksi ehdotetaan teknologian muutosten aikaansaamaa työhyvinvoinnin mahdollisiin muutoksiin perehtymistä erilaisissa organisaatioympäristöissä sekä laajempaa tutkimusta teknologisten välineiden käytön vaikutuksista työhyvinvointiin pidemmällä aikavälillä.

Avainsanat: työhyvinvointi, digitalisaatio, teknologia, työn muutos, työnkuva, uupumus, stressi, työtyytyväisyys, työn- ja yksityiselämän tasapaino, teknologian hyväksyminen, sopeutuminen

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Abbreviations

ERP	Enterprise resource planning
ES	Enterprise system
ICT	Information and communication technology
IS	Information systems
JCM	Job characteristics model
JD-C	Job demand-control model
JDCS	Job demand-control-support model
JD-R	Job demands-resource model
PA	Public Administration
PC	Private consultancy

1 INTRODUCTION

1.1 Digitalising society and well-being at work

Today's extremely volatile environment is shaped by constant technological developments. Impressive telecommunications, drones and robots in the science fiction films of the 21st century seemed only visionary dreams, yet they presently are part of the ordinary life, which encapsulates the fast-paced, exponential timespan of technological developments. Digital leap and transformation of work into digital platforms are pivotal, global effects, which mainly result from constantly accelerated society and operations (Hartmut, 2014) but can also result from global health threats. The characteristics of work as well as the environment at workplaces are slowly transforming into a very different entity. Therefore, the questions of how technology transforms work, what implications does it have to individual well-being are some of the central issues in today's dynamic environment. Ultimately, even in digitalising society, organisational operations demand active participation of healthy employees, which highlights the importance of understanding the implications of digital transformation to well-being at work.

Digitalisation, also referred to as digital transformation, is the massive, on-going and profound technological transformation at a societal and industrial level through the implementation and utilisation of digital technology. This creates an impetus for organisations to execute major development and innovation projects in order to maintain their competitive advantage (Vial, 2019.) The variety of technologies that shape digitalisation is huge, ranging from mobile, analytics and cloud solutions to wider utilisation of artificial intelligence and robots in operations that formerly have demanded human interface, which underlines the concreteness of the phenomenon in every-day operations in organisations.

Although the society is currently facing rapid structural reformations as a result of digitalisation, the current technological revolution cannot be considered a completely novel phenomenon. Technological cataclysms have altered the working conditions and reshaped the work environment already since the emergence of mechanisation as a part of industrial revolution (Kaivo-Oja et al., 2017). Today the use of technology is a normal,

every-day activity at workplaces and practically all the crucial processes are dependent on technology. However, digitalisation will likely alter our whole societal labour market in the near future (Nokelainen et al., 2018), as it will also reconstruct work routines and practices through digital reformations within organisations. Since successful technological reformations also require active participation of all employees within organisation (e.g Schwertner, 2017), comprehensive strategy, resources and leadership are only a part of the complex puzzle organisations face during digitalisation. Unhealthy employees show less willingness to actively participate in new working cultures resulting from technological changes, which highlights the importance for gaining comprehensive understanding how elements of digitalisation influences well-being at work.

Research of well-being at work has a crucial role when examining the implications of new digital technology to individual well-being. A significant amount of academic research has emerged over the last decade regarding the utilisation of ICT (information and communication technology) tools and their implications for job design and well-being at work (e.g Day 2010; Ter Hoeven et al., 2016). However, the effects of other digital solutions, e.g enterprise systems (ES), on well-being at work are significantly less examined. Scholars suggest further research for gaining better understanding of the altered job design after the implementation of digital enterprise systems (Venkatesh et al., 2016), the individual differences in adaptability as well as the implications of ES to individual job satisfaction and stress (Morris & Venkatesh, 2010). Hence, there is a gap in both the IS and well-being at work literature regarding the altered job design resulting from new digital technologies and their implications for well-being at work, which calls for further exploration on how different digital solutions are perceived in terms of individual well-being at work.

Although studies have for long known that well-being at work is a phenomenon that can change, the most recent studies have conceptualised the dynamic nature of well-being (Sonnentag, 2015) and importance of time in aspects of well-being at work (Chen et al., 2011), which calls for reassessment in theoretical constructs (George & Jones, 2000). Still, the dynamic concept of well-being has yet been investigated significantly less although earlier literature has clearly considered well-being at work as being constructed by changes (e.g Karasek, 1979; Johnson & Hall, 1980; Long & Thean, 2011; Yadav & Khanna, 2014). Furthermore, the factors of adoption and acceptance of new technology

have been extensively studied in the past three decades, particularly in information systems (IS) literature (e.g Taherdoost, 2018). Their dynamic impact on well-being at work has been identified (Morris & Venkatesh, 2010) but yet not examined more in-depth in the literature (e.g Venkatesh, 2015). Several studies have also acknowledged the gap in understanding the moderating factors of individual's acceptance of technology tools (Hwang et al., 2016) as well as the post adoptive behaviours after new work characteristics and technologies have been successfully accepted (e.g Bala & Venkatesh et al., 2016). Therefore, there is a call for understanding more in-depth the dynamic nature of well-being through the adoption and acceptance of new technology as well as how specific individual differences are related to the acceptance of technology tools.

Moreover, the traditions of well-being at work as well as IS literature have for long been dominated by quantitative approaches, although there certainly has been an emergence of some qualitative studies in well-being at work literature (e.g Barnes, 2012; Rintala, 2005) as well as in studies related to technological changes (e.g Alvarez, 2008; Ens et al., 2018). However, both fields of research seemingly lack nearly entirely the qualitative narrative inquiry explorations, which focus on subjective interpretations on how given phenomena is experienced through a specific time span. Since qualitative studies provide crucial complementary knowledge and insights through individual interpretations and experiences regarding the relevant phenomena (Patton, 2015), arguably a more profound and in-depth understanding could be achieved by exploring phenomena through narrations amid statistical validations. Hence, this calls for further exploration of the phenomena through varied qualitative inquiries in order to gain more holistic comprehension of the given phenomena prevailing in both fields of research.

Building on these notions, there is an evident call for research regarding work transformation and altered job design resulting from digitalisation and its relationship to well-being at work. These elements act as the main impetus for conducting this study. Hence, this study seeks to provide unique insights by enhancing the understanding on how the elements of digitalisation (the implementation of digital enterprise system and the utilisation of ICT-tools) are interpreted in terms of well-being at work. The fundamentals of this research are twofold. First, technology has never had as powerful influence and as fast a pace as it has today, which reinforces the importance to understand its impact on human capital and the entire society. Secondly, as work is nowadays within

an information-flooded environment with continuous introductions of new digital solutions, it is crucial to augment our understanding of how alterations in job design reshape individuals' perceptions regarding their health and how the adoption and acceptance of new technology are experienced in terms of well-being at work.

1.2 Aim of the study

Using the social constructionist lens, the aim of this study is to explore through qualitative thematic narrative analysis how digitalisation transforms work and how it is perceived in terms of well-being at work. Introduction of new technology tools and systems, which are extremely central instances in today's digitalising society, cause significant work transformation, altering employees' job design and ultimately influence employees' well-being at work (e.g Day et al., 2010; Ter Hoeven et al., 2016; Hartmut, 2014). An additional contribution to the literature is attained by observing the phenomenon and its constructs through individuals' narrations. Specifically, this study focuses on subjective interpretations and understandings of the phenomena at distinct time spans. Therefore, the main research questions are as following:

R.Q How is digitalisation perceived in terms of work transformation and well-being at work?

The overall phenomenon was divided into following segments: introduction of new technology, transformation of work and altered job design, well-being at work and individual acceptance of new technology. Aspects of well-being are understood as dynamic through individuals' adoption and acceptance of the new technology, in which the adoption is considered a crucial antecedent for successful acceptance of new technology. Therefore, this study also focuses on exploring insights regarding individuals' perceptions how well-being at work is altered between the prior- and post-acceptance of new technology and what individual characteristics are related to it. Building on these premises, this study covers the following sub-questions:

1. What alterations of job design are identified and how are these perceived in terms of individual well-being at work?

2. How is well-being at work perceived to alter through the acceptance of new technology?

3. What individual differences are identified as antecedents of the acceptance of new technology and how do these shape individuals' personal understanding regarding the phenomenon?

These research questions are addressed by analysing 12 interviews from two organisation: public administrative (PA) and private consultancy (PC) organisations. The organisations had distinct digitalisation stages at the time of the interviews were conducted, thus the thematic elements of the interview material are rather versatile. Since the empirical data framed the scope of what elements of digitalisation were presented in this study, the central focus of this study is to analyse how the interviewees experience specific digital tools, i.e the implementation and utilisation of ICT tools and digital ES, through alterations in their job design, how they perceived them in terms of their well-being at work and how the interviewees' experiences of well-being altered through their acceptance of these tools. The study is executed inductively, thus no prior theories serve as a framework. However, the earlier literature is reviewed after the analysis, and theoretical framework is constructed to facilitate the understanding of the relationship between the relevant themes: digitalisation, work transformation, well-being at work and acceptance of new technology. This is performed since the final confirmatory stage of the analysis involves discussion of results with a comparison to earlier literature (Patton, 2015).

The central areas of focus in this study are work transformation and altered job design, well-being at work, adoption and acceptance of new technology and the dynamic nature of well-being at work. Work-life balance is an interlinked concept, meaning that well-being at work is also influenced by incidences and a state of well-being prevailing at the spare time (Kalliath & Brough, 2008; Sirgy & Lee, 2018), thus the elements related to new job design and their influence on employees' work-life balance are also considered. However, as this study focuses particularly on work-related well-being, the exploration and inclusion of holistic well-being that covers the activities outside work and their connection to an individual's overall well-being, is out of the scope of this study, although it will presumably influence results. The interaction of work-family interface is recognised in this study to the extent of work-life balance, but the analysis with a holistic

inclusion of all constituents of well-being at work, including further examination of spare time activities and family interface, would require further investigation.

1.3 Research process

The study followed a typical inquiry of the inductive qualitative research process (Patton, 2015), specifically a qualitative thematic narrative research inquiry (Riessmann, 2008) with social constructionist lens (Patton, 2015). The opportunity to conduct this study initiated in the late 2017 when the research topic of this study, the impact of digitalisation to well-being at work, was recommended to the author by the well-being at work research group at Tampere University in response to the author's request for possible areas of research regarding the current issues of well-being at work. Digitalisation and its impact on well-being was one of the themes covered in the interviews that were obtained in 2016 as part of one research project conducted by the research group and collaborators. The aim of the research project was to assist organisations to deepen their understanding of digitalisation, facilitate them in their development of digital solutions across their operations and aid them to utilise digitalisation as a part of their business strategies. Hence, the topic of this study was based on the actual demand within a research project for increasing knowledge regarding the critical and highly salient issue, which influences today's workplaces. The author also got a research assistant position working as a part of this research project, thus the research project offered an initiative for deepening the understanding of digitalisation and its implications for organisations, altered operations and job design as well as individual's emotions related to introduction of new technologies, which facilitated the understanding of the central themes of this study.

The factual progression of this study commenced in November 2018, when a limited but at the time sufficient theoretical background was covered in order to gain fundamental knowledge of the research phenomenon and its central concepts prior to proceeding to familiarising with the interview material. The limited theoretical synthesis was presented and handed in as an article analysis in December 2018. After presenting the research plan in the group seminar in the spring 2019, the initial familiarisation of the overall research material (46 interviews) was performed between spring-autumn 2019 for gaining a holistic understanding of the interview material and the variety in thematic elements. This included preliminary grouping and selection of possible organisations suitable for the

study, particularly based on the depth and scope of the crucial thematic elements covered in the interviews. After the final selection of organisations was confirmed, the interview material was read through with minor markings and analytic notes a few times in order to form an all-encompassing picture of the material. At this time, the interview material was not fractured, thus notes were made also to fragments out of the scope of this study for constructing a holistic view of the phenomenon in each organisation. The further analysis was commenced between November 2019–January 2020 utilising thematic narrative approaches (Riessmann, 2008) with some features of categorical content analysis (Patton, 2015). This also included marking the fragments completely irrelevant for this study. The fracturing was done with a highly considerate touch in order to avoid the omission of relevant fragments.

After the analysis was fully performed, written and construction of narratives performed, an extensive investigation of relevant theoretical background was performed. This consisted of comprehensive investigation and review of the relevant well-being at work and information systems literature. The well-being at work literature contributed to the investigation of both factors and aspects related to well-being at work. The review of IS literature contained examination of IS literature with the fields related to work-related well-being, digitalisation, work transformation, ICT tools, enterprise systems, as well as adoption and acceptance of new technology tools. Formation of the theoretical review constructed the fundamentals for this study since it constitutes the author's understanding of the phenomenon.

Ultimately, a reflective discussion of the results was formed in order to answer the initial research questions as well as to contrast the results to previous studies. Hence, despite the establishment of central themes were discovered through inductive analysis, the final confirmatory stage of the analysis involved discussion of results with a comparison to the earlier literature and the authenticity and appropriateness of the results (Patton, 2015). Finally, the evaluation of the study was conducted, which included a critical assessment of the reliability, validity and limitations of this study in order to provide legitimate limitations, managerial implications and suggestions for future research.

1.4 Key concepts

The following concepts are the central elements presented in this study. The theoretical proposition of this study utilises these concepts, which pins down the essentiality of introducing them prior to proceeding.

Well-being at work consists of healthy employees, and is defined as those who "have low levels of physical symptoms, stress, burnout, and negative mental health symptoms and who possess positive indicators of physical health, satisfaction, engagement, energy, professional efficacy, integrity and respect towards others, their environment and themselves" (Day & Nielsen, 2017, p. 296). The concept *well-being* comprises "the various life/non-work satisfactions enjoyed by individuals (i.e., satisfaction and/or dissatisfaction with social life, family life, recreation, spirituality, and so forth), work/job-related satisfactions (i.e., satisfaction and/or dissatisfaction with pay, promotion opportunities, the job itself, co-workers, and so forth), and general health". Health is seen "a sub-component of well-being and comprises the combination of such mental/psychological indicators as affect, frustration, and anxiety and such physical/physiological indicators as blood pressure, heart condition, and general physical health" (Danna & Griffin 1999, p. 359.) Hence, overall well-being is a holistic concept that consists of a set of interlinked factors, which highly relate to individual's well-being at work.

Work/job design, is defined as assigned tasks and responsibilities (Hackman & Oldham, 1980) or more specifically "the content and organisation of one's work tasks, activities, relationships, and responsibilities" (Parker, 2014, p. 662). Job design can also refer to broader factors, such as the processes and outcomes of how work is structured, organised, experienced and enacted (Grant et al., 2011, p. 418) as well as the content, activities and organisation of individual's work tasks, responsibilities and relationships (Parker, 2014, 662). A widely known concept used in job design literature is *job characteristics* that stems from the job characteristics model (JCM) by Hackman & Oldham, 1975). There is an overlapping use of both the concepts of job characteristics and job/work design in the earlier literature. Primarily, this study refers to work tasks and processes as *job design* but also the concepts work/job characteristics are used when referring to previous literature, respectively. The umbrella term for job design is "work organisation" that refers to "the

way work processes are structured and managed, such as job design, scheduling, management, organizational characteristics, and policies and procedures" (Dejoy et al., 2010, 140.)

Digital transformation, also referred to as *digitalisation* is the "the manifold sociotechnical phenomena and processes of adopting and using [digital] technologies in broader individual, organizational, and societal contexts" (Legner et al., 2017, p. 301), which transforms business and operations and increases the complexity of operational environment for organisations (Vial, 2019). From the organisational perspective, digitalisation is conceptualised as a radical change that transforms operational processes and business models (Henriette, 2015), which creates value for both the organisation and the customer (Morakanyane et al., 2017, p. 428). For clarifying the terminological confusion, the concept *digitisation* refers to "technical process of converting analog signals into a digital form, and ultimately into binary digits" (Legner et al., 2017, p. 301). The terms digitisation and digitalisation are still used interchangeably, although they refer to different aspects of technology changes (Schallmo et al., 2017). Due to the unsystematic utilisations of the concept digitalisation, various scholars have called attention to literature inconsistencies regarding its conceptualisation (Morakanyane et al., 2017; Vial, 2019). In this study, the implementation of digital enterprise systems (ES) and ICT-tools are regarded as factors of digitalisation.

Work transformation refers to the altered job design and environment, which usually result from economic, social, environmental and political shifts (Kalleberg, 2009) as well as from the emergence of new technologies. Work transformation involves rather significant restructuring of work and job design and it ultimately changes how people work (Anderson-Connolly et al., 2002). Anderson-Connolly et al. (2002) describe the restructuring of work as "employees are being asked to work in new ways, using new tools and technologies, while exercising more autonomy and responsibility, all in the interests of higher efficiency and productivity" (Anderson-Connolly et al. 2002, p. 390). Hence, transformation of work refers to the significant and diverse changes in organisations and ultimately in work practices (Vaast & Walsham, 2005). In this study, work transformation is used when describing the massive alterations in individuals' work tasks and practices as results of digitalisation.

Adoption of new technology refers to the ability to adopt new technology tools and *acceptance* refers to accepting new technology as a part of day-to-day routines (e.g Moore & Benbasat, 1991; Momani & Jamous, 2017). Some studies use the concept of adaptation for referring the adoption process of an individual. However, since adaptation is easily confused with definition proposed by Thomas & Bostrom (2010), who regard adaptation as "a process in which a team changes the way it uses one or more information and communications technology (ICT) for accomplishing its work" (p. 115), the concept of adoption and acceptance of new technology is used in this study for describing individual's ability to deploy new technology tools and for adapting to new work setting.

1.5 Structure of the report

This report is organised in five chapters. The following summaries present the content of each chapters.

Chapter 1 introduces the research agenda and the phenomenon, drawing an introductory view for the reader on the relevant issues and the research gap, which sets up the purpose of this study, its design and the process. This chapter also briefly defines the key concepts used throughout the study.

Chapter 2 is the overview of the relevant theoretical background, which provides a general literature review regarding the central themes, introducing more in-depth the most-recent literature of well-being at work and digitalisation. The purpose of this chapter is to present the causal relationship with digitalisation and well-being at work, which prepares the reader for understanding the meaning of the results.

Chapter 3 introduces the methodological choices made for this study, the thematic narrative research inquiry with assistance of categorical content analysis, which are utilised in this research. This chapter also explains comprehensively on how the data collection and analysis were executed, which offers the reader an in overall view of both the narrative research approach and data analysis process.

Chapter 4 displays the main results of this study. The main results are presented as four constructed narratives, each representing a specific group of conjunctive thematic

elements. After each narrative, the main thematic elements included in the narrative are discussed more in-depth with fragments of the interview material.

Chapter 5 is a discussion section, which provides interpretations and the concluding remarks regarding the central findings as well as reflecting these to the previous literature. This chapter also provides the main limitations of this study for proving the reliability of this study and ultimately offers some managerial implications.

2 WELL-BEING AT WORK AND DIGITALISATION

2.1 Well-being at work

2.1.1 Well-being at work and its importance

Due to the ever-growing interest in well-being and its implications for both mental and physical health, aspects of satisfaction and well-being at work have been studied by organisational and psychology scholars for nearly a century. Therefore, an extensive and highly quantitative literature is available for validating the various factors affecting well-being at work as well as its outcomes (e.g Fisher, 2014; Cotton & Hart, 2003.) An extensive use of quantitative approaches in the literature has probably evolved through the vast utilisation of evaluative instruments, such as surveys and questionnaires (e.g Aziri, 2011), for measuring the level of specific aspects of well-being at work as well as its influencing factors. Both factors that influence well-being at work as well as aspects of how individual well-being is embodied are well investigated since these have been addressed since the emergence of well-being at work literature (e.g Karasek, 1979; Johnson & Hall, 1980; Long & Thean, 2011; Yadav & Khanna, 2014) Although the aforementioned literature has clearly considered well-being at work as being constructed by changes in for instance job satisfaction and stress, a proper conceptualisation of the dynamics of well-being is only noted within the most recent decades, meaning that individual well-being (at work) can "change over time and also fluctuate within weeks, days, or even hours" (Sonnentag, 2015, p. 264). This implies that specific work-related factors may pose different effect on individual well-being at different moments in time.

A number of organisational scholars have argued that organisational research would benefit from studying human physiology as it explains the processes induced by the exposure to stress that lead to absenteeism and health care costs (Ganster & Rosen, 2013). Despite well-being at work having studied for long, only relatively recently scholars from organisational as well as human resource management sciences have acknowledged the importance of well-being at work in organisations. The growing interest in well-being at work is probably due to the ever-increasing pressures in the modern world that set an accumulating burden for those of working age, incurring stress, exhaustion and burnout,

causing ultimately significant negative consequences for the productivity and profitability of organisations (Kesti et al., 2017). An increasing amount of studies show the significant linkage between well-being at work and organisational performance (e.g Otala & Ahonen, 2005; Manka et al., 2012; Truss et al., 2013). For instance, healthy workplace with healthy employees has been discovered to have a positive and quite significant influence on performance and a long-term success of organisation (e.g Ahola et al., 2018; Hakanen, 2011). This is suggested being due to the leveraged productivity and performance among individuals of higher well-being in contrast to those with lower well-being (Warr & Nielsen, 2018). In fact, studies show an underlying agreement that quality of work has an influence on employees' motivation, satisfaction, well-being, performance and productivity (Yadav & Khanna, 2014).

From the global perspective, as a result of the national and global economic, social, environmental and political shifts occurring in recent decades, work experiences are increasingly more unstable and unpredictable from the perspective of an employee (Kalleberg, 2009), which inevitably negatively influences an individual's health and overall psychological well-being. In that sense, employee well-being can also be considered a strong ethical case for organisations (Guest, 2017). Hence, today the quality of work and well-being at work can be considered pivotal aspects in maintaining a healthy organisation, which has caused a slowly increasing interest among organisations in providing a workplace that enables employees to thrive and flourish. Therefore, well-being at work and healthy employees are seen as a core part of an effective human resource management strategy (Renee Baptiste, 2008).

2.1.2 Aspects of well-being at work

The positive aspects of well-being at work have been studied extensively over the past few decades, thus various concepts have been proposed for indicating positive effects of well-being at work. Concepts, such as work/job satisfaction (e.g Aziri, 2011), work engagement (Hakanen, 2006; Bakker et al. 2008; Kim et al., 2013) and work-related flow (see Csikszentmihalyi, 1997; Bakker, 2005), are used for acknowledging the positive indicators of well-being at work. Job satisfaction is generally defined as "a function of the perceived relationship between what one wants from one's job and what one perceives it as offering" (Locke, 1969 cited in Lund, 2003, p. 222). Work engagement is defined as

"a positive, fulfilling, work-related state of mind that is characterized by vigor, dedication, and absorption" (Schaufeli et al., 2002, p. 74), while flow is referred as an effortless yet passionate and such an intensive involvement in an activity that nothing else seems to matter (Csikszentmihalyi, 1997; Salanova et al., 2006; Bakker, 2005), thus both embody the positive states of an individual's work that enhance job satisfaction.

Job satisfaction is one of the oldest and perhaps most studied and well-known concepts in organisational research (Currivan, 1999), which is seen as one of the central constituents of an employee's well-being at work. Various instruments for assessing job satisfaction exist, although its conceptual foundation has received less attention (Van Saane et al., 2003). The influence of job satisfaction in an individual's overall well-being has been widely recognised (e.g Bowling et al., 2010; Aziri, 2011). Job satisfaction is a factor that can buffer against negative effects in the workplace, including occupational stress (Sullivan & Bhagat, 1992), turnover intention (Chen et al., 2011; Long & Thean, 2011) and can ultimately affect one's productivity (Aziri, 2011), thus the concept is seen as highly salient within organisations. Studies have also examined job satisfaction, its relationship between performance and its complexity with attitude, stress, age and gender as well as other organisational variables (Lund, 2003). Moreover, the relationship between job attitudes, job satisfaction and performance has been examined, proposing that job attitude is a significant moderator between job satisfaction and job performance (Schleicher et al., 2004), which indicates the importance of individual personal factors affecting job satisfaction. The dynamics of job satisfaction, i.e job satisfaction changes, is less investigated than static levels of job satisfaction and its constructs. Only recently the dynamics of job satisfaction have been more widely studied (Chen et al., 2011), thus the concept of job satisfaction is not seen as a static level but instead, more of a dynamic nature that is bound to change over time.

Another individually prevailing aspect of well-being is the balance between one's work and spare time; thus it is crucial to note that well-being at work is significantly influenced by the overall well-being and work-life balance of an individual. Although there seems to be various definitions of work-life balance, these comprise two key elements: engagement in multiple roles at work, spare time activities and minimal conflict between work and non-work roles (Sirgy & Lee, 2018). Hence, work-life balance covers any activities in the work and non-work domains, including non-family activities (Kalliath &

Brough, 2008). An unbalanced work-life, i.e work-life conflict, is seen as costly and dysfunctional, which can lead to major negative effects on an individual's work and home life as well as general well-being (e.g Allen et al., 2000; Demerouti et al., 2004), thus it is highly recognised that unbalanced work-family life can lead to reduced health and performance outcomes among employees as well as entire organisations (Kalliath & Brough, 2008). Balanced work-life also results in higher performance, increased job satisfaction and higher organisational commitment (e.g Allen et al., 2000). Moreover, scholars have also investigated the work-life enrichment, which implies that an improvement in the quality of life in one role can lead to the improvement in the other role, resulting positive individual, and organisational outcomes (Greenhaus & Powell, 2006) Therefore, work-life balance plays an important role in individual well-being, and it is highly interlinked with an individual's well-being at work.

Over the years, negative aspects of an individual's well-being and moreover well-being at work has been extensively examined, thus various concepts have been proposed for describing the different negative symptoms individuals may show. The concepts that refer to negative aspects of well-being at work include boredom (see Loukidou et al., 2009), stress (e.g Lazarus, 1995; Griffin & Clarke, 2011), burnout (Maslach et al., 2001; Maslach & Leiter, 2016;) as well as work exhaustion (Moore, 2000). Work exhaustion is used as a substituted concept for burnout as well as understood as a hyponym for burnout (Maslach et al., 2001)

One of the most studied concepts is stress, which is a major health concern that has a significant effect on an individual's psychological and physiological features, affecting person's work performance and well-being (Griffin & Clarke, 2011). Ganster and Rosen (2013) define work stress as "process by which workplace psychological experiences and demands (stressors) produce both short-term (strains) and long-term changes in mental and physical health" (p. 1088). The strains and stressors are the two distinct concepts stress is commonly divided in. An individual's responses to stress are commonly referred to as *strains,* whereas environmental factors that trigger the stress process are commonly referred to as *stressors* (Griffin & Clarke, 2011). Also, in the work stress literature, the concepts stressors (events and conditions causing subsequent reactions) and strains (psycho-, physiological and behavioural outcomes) are often differentiated from perceived stress (perception of stressors) (Bliese et al., 2017). Psychological and

physiological stressors have been well-studied among different science communities, including organisational studies, psychology and human resources literature. Throughout the years, various scholars have created different models to deepen the understanding of the stressors that affect the overall stress of a person. Hence, the theoretical field of work stress is extensive (Bliese et al., 2017). One of the classic stress models is job-demand control (JDC) model by Karasek (1979) and its derivatives, which has guided stress literature in epidemiology, psychology and management studies. JDC model focuses mainly on the (im)balance between perceived demand and control of work. JDC has established job control as a central feature in work stress literature (Ganster & Perrewé, 2011). Another influential and well-known stress model is Lazarus' (1984) transactional model, in which stress is seen as a dynamic interaction between the person and the environment. Lazarus proposes that stress is subjective and cognitively determined, which implies that a stressful situation for one individual may not be stressful for another. The term transaction stems from the idea that the person and the environment elements are subsumed to form a new relational meaning (Lazarus & Folkman, 1986, p. 293). Transactional model is a prominent approach to psychosocial stress but does not consider specific workplace characteristics and events that can be interpreted as stressors (Ganster & Perrewé, 2011). These factors are discussed in the section 2.2, which introduces the various factors affecting aspects of well-being at work. Stress models provide a useful insight by describing how stress is formed as well as which environmental factors generate, and which inhibit stress.

Finally, another concept worth elaboration is the concept of burnout, which is understood as a psychological syndrome developed as a result of a prolonged response to chronic interpersonal stressors on the job (Maslach et al., 2001; Maslach & Leiter, 2016). The three key dimensions of this state are "an overwhelming exhaustion, feelings of cynicism and detachment from the job, and a sense of ineffectiveness and lack of accomplishment." (Maslach et al., 2001, p. 399), thus burnout involves the subcomponents of "emotional/overwhelming exhaustion", "reduced professional efficacy" (Maslach et al., 2001; Maslach & Leiter, 2016) as well as "depersonalisation" that has been later on replaced by the concept "cynicism" when referring to work in general and not necessarily other people (Maslach & Leiter, 2016).

The assessment of the sole dimension of burnout, particularly the emotional exhaustion, is also commonly utilised on its own when investigating negative aspects of individual well-being at work. For instance, after examining emotional exhaustion as a sole variable, it has been identified as a predictor for job performance, turnover intentions and organisational commitment (Cropanzano et al., 2003) Emotional exhaustion is understood as a close resemblance of traditional stress reaction studied in occupational stress literature, thus it can be conceptualised as a type of strain resulting from stressors at work (Cropanzano et al., 2003). More recent studies use the concept of exhaustion also for defining individual's energy depletion (e.g Kattenbach et al., 2010). Hence, in the recent literature, work exhaustion is becoming a more distinct concept from burnout, which is reasonable as exhaustion can be considered a central variable in the burnout process (Cropanzano, 2003). Based on these conceptualisations presented in the literature, this study treats the concept of exhaustion as a distinct aspect of well-being at work along with stress and burnout.

To conclude, scholars have identified both positive and negative aspects of well-being at work, which represent the individual's psycho-physiological states in question. These aspects, examined in the literature, are presented in Table 1.

Table 1 Aspects of well-being at work

Aspects of well-being at work	
Negative	**Positive**
Boredom	Job satisfaction
Stress	Work engagement
Exhaustion	Flow
Burnout	Work-life balance

These aspects are the effects resulting from several different factors related to an individual's work. These factors, which inevitably affect the individual's well-being, are discussed in the next section.

2.2 Factors that affect well-being at work

2.2.1 Levels of different factors

For a long time, scholars have been interested in understanding which factors promote job satisfaction, work engagement and workflow, and which factors hinder well-being at work through boredom, stress, exhaustion and burnout. Therefore, throughout the years there has been extensive literature, dominated by quantitative approaches that have investigated, which particular factors influence individual well-being at work. However, since there are differences in prevailing workplace factors that promote job satisfaction and stress for a given individual and groups, there is still not a universal agreement on what constitutes good work and well-being at work (Fisher, 2014). Hence, a profuse amount of studies have developed frameworks to better understand the factors at work (e.g Bakker & Demerouti, 2014), individual (e.g Mills & Huebner, 1998), group (e.g Anitha, 2014), leadership (e.g Breevaart et al., 2016) and organisational (e.g Lund, 2003) level. The implications of each of these factors for well-being at work have been extensively studied over the past few decades by scholars in various areas of science, including organisational psychology and human resources management. Also, the influence of social level factors, such as a country's legal system and social welfare policies, on well-being at work is also identified (Day & Nielsen, 2017; Nielsen et al., 2018), although less studied.

In the well-being at work literature, the resources and stressors at each level have been mostly emphasised individually. However, Nielsen et al. (2018) have recently proposed a framework, which represents that sustainable workplaces in terms of well-being at work are those, in which resources (those that promote well-being) at individual (I), group (G), leader (L), organisational (O) and overarching (O) social (IGLOO) level interactively promote and ensure employees' well-being (see also Day & Nielsen, 2017). Hence, the framework of Nielsen et al. is particularly concentrating on the resources at different levels of the IGLOO-framework. Since extensive literature is also available for demands (those that hinder well-being) at different levels, arguably the IGLOO-model can also be utilised for understanding the levels that induce both demands and resources at workplace. Hence, a modified version of the IGLOO-model is proposed in this study for presenting

factors (both resources and demands) that influence well-being at work. These levels and their main characteristics are summarised in Table 2.

Table 2 Factors that affect individual well-being (adapted from IGLOO-model by Nielsen et al., 2018; Day & Nielsen, 2017)

Characteristics	Level
Job design	Work
Work-specific cognitive, affective and behavioural factors	Individual
Colleague support, work group climate	Group
Line managers behaviour, support	Leadership
HRM practices and policies	Organisation
Country legislation, social welfare policy	Overarching / social context

In the original IGLOO-model, job design is presented as a part of the organisational level factors. However, due to the centrality of job design and its implications for an individual's psychological well-being (e.g Hackman & Oldham, 1980; Grant et al., 2011; Demerouti et al., 2001; Bakker & Demerouti, 2014) in Table 2 the work level factor, i.e job design, is presented in its own row. Work, individual and group levels are next discussed in order to introduce the relevance of each of these factors to the construction of individual well-being at work. Due to the limited scope of this study, the important relationship of leadership (see Inceoglu et al., 2018), organisation (see Kowalski & Loretto, 2017) and social context (see Guest et al., 2010) to well-being at work are left out from this theoretical review.

2.2.2 Work level factors

The characteristics related to work tasks, i.e job design, and its impact on well-being at work have been widely studied and identified as the most salient factor influencing well-being at work. Work can influence an employee's well-being both positively or negatively, which highlights the importance of understanding the characteristics of tasks and their combinations that specifically promote or hinder well-being at work. One of the original and classic theories is the Job Demand-Control (JD-C) theory by Karasek (1979), who

identified the job characteristics in terms of its demands and decision latitude (low-high), which refers to the level of autonomy an employee has in his work, in order to understand the implications of the combinations of these two factors for an individual's work (dis)satisfaction. Karasek argued that mental strain depends on the interaction between demands and decision latitude an individual experiences in their work, thus theorising that higher level of strain occurs when job demands are high and autonomy is low, while coping behaviours can occur when both job demands and job autonomy are high.

Another well-known theory that gave rise to a wide amount of research regarding the design of high-quality jobs is the job characteristics model (JCM), introduced by Hackman & Oldham (1980), which proposed that specific job characteristics, particularly skill variety, task significance, task identity, autonomy and feedback from job, affect the individual's crucial psychological states and thus work motivation and work performance. Also work setting is shown to have an effect on well-being at work. For instance, the antecedents-consequences model proposed by Danna & Griffin (1999) featured work setting, mainly health and safety hazards, as one of the factors affecting employee well-being.

One of the very influential models, proposed by Demerouti, Bakker, Nachreiner and Saufeli (2001) is job demands-resources (JD-R) model, in which the characteristics of work can be classified into two categories: demands and resources. Demands are defined as "physical, psychological, social, or organizational aspects of the job that require sustained physical and/or psychological (cognitive and emotional) effort or skills and are therefore associated with certain physiological and/or psychological costs", whereas resources are "those physical, psychological, social, or organizational aspects of the job that are either/or a) functional in achieving work goals, b) reduce job demands and the associated physiological and psychological costs c) stimulate personal growth, learning, and development" (Bakker et al., 2007, p. 312) The later, more expanded version of the original model is the JD-R theory, presented in Figure 1, which takes into account the multiplicative effects on motivation and work stress (Bakker & Demerouti, 2014).
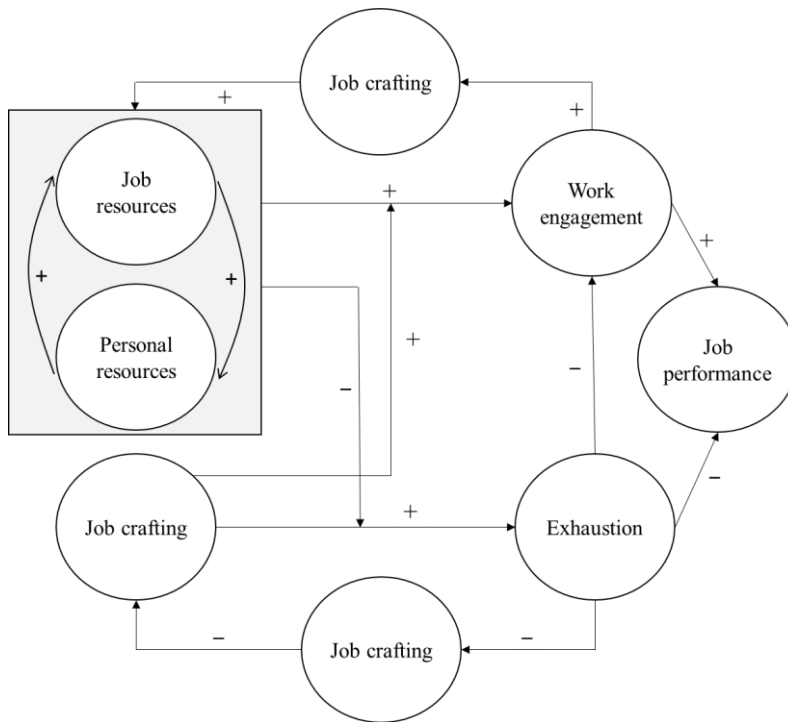
Figure 1 Job demands-resources model (Bakker & Demerouti, 2014)

The model represents the linkage between job and personal resources, the causal relationship of job demands and resources on exhaustion, work engagement and ultimately to job performance. Job demands and resources have multiplicative impact on well-being at work (Bakker & Demerouti, 2014). Job demands are recognised as crucial predictors for exhaustion, repetitive strain injury and psychosomatic health complaints (e.g Hakanen et al., 2006). Specifically, there is clear evidence that burnout is an effect of ill-health job demands (Hakanen et al., 2006), thus job demands are identified as a unique predictor for burnout (Bakker et al., 2003).

In contrast, job resources are pivotal due to their particularly positive impact on well-being (Bakker & Demerouti, 2014) since they are known for being predictors for motivation, work enjoyment and engagement (Bakker et al., 2008). Several studies have shown that job resources, such as autonomy, social support, performance feedback and opportunities for development have the ability to prevent negative effects on well-being at work (e.g Xanthopoulou et al., 2007b). Job resources can also alleviate the negative impact of job demands, such as reducing the risk of burnout (ibid.). Therefore, job resources are seen as crucial in sustaining employees' health, and hence individual performance and sustainable organisational citizenship. The importance of job resources is significant, particularly when job demands are high (Bakker & Demerouti, 2014) as job

resources are seen as a valuable asset for tackling the challenging times faced at work (Bakker et al., 2007). Hence, fostering job resources can inhibit the negative effects job demands account for. Since job resources are unique predictors of organisational commitment (Bakker et al., 2003), promotion of factors related to job resources provides an intrinsic value for organisations.

The model also introduces job crafting to foster a positive effect on well-being as well as to diminish the negative effect of job demands. The process of job crafting is defined as physical (number, form or scope of job tasks) and cognitive changes (how jobs are seen) made by individuals to their tasks (Bakker & Demerouti, 2014), which may include active designing of their jobs or choosing tasks (Parker & Ohly, 2008). The effects of job crafting depend on the organisation and are not essentially seen as either good or bad for an organisation (Wrzesniewski & Dutton, 2001). The essential will for job crafting performed by employees stems from the three individual needs: the need to take control over specific aspects of own work in order to avoid negative consequences, to express themselves and be accepted by others or the need to fulfill their basic need for connection to others (Wrzesniewski & Dutton, 2001). Job crafting has also been identified to be done by individuals to enhance healthy working conditions and to increase motivation (Petrou et al., 2012).

2.2.3 Individual level factors

The effect of individual factors in moderating well-being at work has emerged in recent literature. These factors include personality, demographic and other individual characteristics. Individual factors play a crucial part in affecting how individual level of well-being is at work and how one perceives job design (e.g Truxillo et al., 2012). Personality factors and their influence on work-related well-being as well as overall psychological well-being have been largely studied (Mäkikangas et al., 2013). Scholars have identified personality factors as predictors for job satisfaction (e.g Bruk-Lee et al., 2009) as well as stress (e.g Parkes, 1994) and burnout (e.g Mills & Huebner, 1998). For instance, an individual's personality as well as ability to cope and adapt to work conditions play a major role in one's mental and physical health outcomes. These factors also affect the selection of different jobs (Parkes, 1994). Most recent studies have also associated personal resources as crucial determinants of well-being at work (see the

linkage in Figure 1). An individual's personal resources have been widely recognised to impact how work is perceived and how it impacts one's well-being. For instance, personal resources are identified as positive self-evaluations, which promote resiliency (Hobfoll et al., 2003) in recovering from challenging work tasks. Positive self-evaluations are also shown to predict motivation, performance, goal setting, job and life satisfaction as well as other gratifying outcomes (Judge et al., 2004). One of the highly cited studies regarding the personal resources is the work by Xanthopoulou, Bakker, Demerouti and Schaufeli (2007a), which found that personal resources did not moderate the job demands and exhaustion, but acted as a mediator for job resources, thus indicating that the employees with personal resources show more confidence towards their capabilities. In addition, they are more optimistic about the future (ibid.).

Personal resources are also linked to how work characteristics are perceived, and they can also foster adaptation to work environments (Hobfoll, 2003). Hence, personal resources are seen as important factors in buffering against strains at work (Kalimo et al., 2002). There is also evidence that job resources foster the development of personal resources (Xanthopoulou et al., 2007b), which suggests that reasonably challenging, meaningful job tasks assist an individual's feelings of success and capabilities to cope future challenges. Although relatively limited literature is available for the linkage between personal resources and job demands (Bakker & Demerouti, 2014), some studies have examined the essence of personal resources in tackling job demands. For instance, Mayerl et al. (2017) investigated the buffering effects of personal resources against psychosocial job demands and found that despite personal resources improved the prediction of mental strain and health symptoms, they did not significantly moderate the psychosocial job demands. Still, there is some evidence of the utilisation of mindfulness as a personal resource against stress (Grover et al., 2017). Hence, personal resources seem to foster job resources as well as job resources can foster personal resources. However, personal resources act rather as a tool for improving the negative effects of job demands than tackling job demands in general, thus personal resources can provide an effective tool for fighting against negative aspects of well-being at work.

There is an emergence of studies investigating whether demographic factors, specifically gender and age, act as moderators of the effects on well-being at work. Although scholars have aimed to better understand the role of gender in well-being at work, there is still

contradicting evidence of the relationship between gender and job satisfaction (e.g Sousa-Poza & Sousa-Poza, 2000; Seifert & Umbach, 2008) as well as gender and work-related stress, which presumably is due to the intervening role of the other variables that influence well-being at work (Michael et al., 2009).

Until recently, one of the largely ignored key demographic factor is age, which is identified to affect individual well-being at work (Truxillo et al., 2012; Hertel & Zacher, 2015). Although the alterations in job design in general are widely recognised to have different effects on younger versus older employees (Griffiths, 1999), age was not considered a substantial variable affecting well-being at work until the most recent literature (Hertel & Zacher, 2015). Scholars Zacher & Schmitt (2016) reviewed the research regarding the role of age in well-being at work, and found the age can both moderate and mediate work characteristics and well-being. The bifold relationship of these three factors is illustrated in the framework of Zacher & Schmitt (2016) shown in Figure 2.
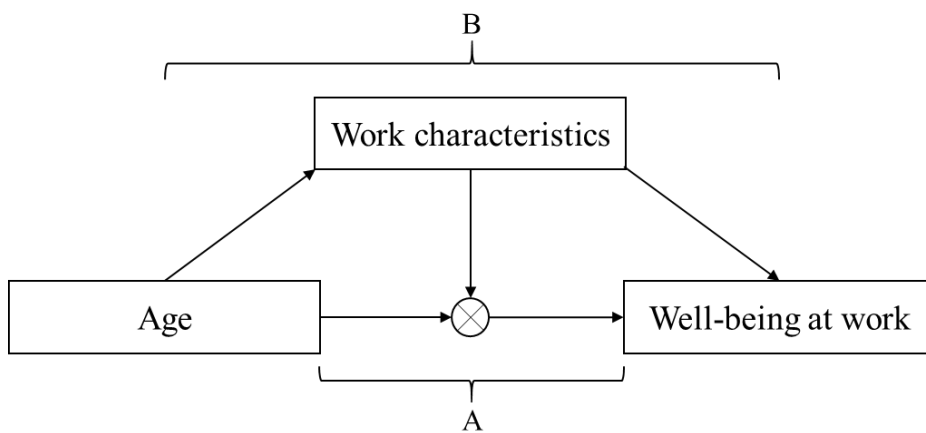
Figure 2 Conceptual framework of the relationship between age and well-being at work (adapted from Zacher & Schmitt, 2016)

In Figure 2, pathway A illustrates the interaction effects of age and work characteristics on well-being at work (referred to as occupational well-being in the original context, Zacher & Schmitt, 2016, p. 2), proposing that both age and work characteristics are moderators of well-being at work, together with other variables. Interaction effect here means that the impact the relationship between age and work characteristics have on well-being at work depends on the levels of the other influencing variables (illustrated as

a circle in the middle). Pathway B represents the role of work characteristics also as a mediator between age and well-being at work.

Most recent studies have identified that age differences moderate (Pathway A in Figure 2 p. 30) how individuals perceive characteristics related to their work, i.e their job design. Truxillo et al. (2012) proposed that the following work characteristics: autonomy, task significance, specialisation, social support and independence are more strongly related to positive aspects of well-being at work (engagement, job satisfaction or performance) for older employees. In contrast, an interaction outside the organisation, task variety and feedback are positively related to well-being at work for younger employees (Zacher & Schmitt, 2016). In addition, Truxillo et al. (2012) proposed that information processing, problem-solving and job complexity that require fluid intellectual abilities, could cause decreased performance, satisfaction and engagement for older employees. However, these characteristics can increase satisfaction and engagement of younger employees, if they are allowed to accumulate their work skills (ibid.). Job complexity, information processing, and problem-solving work characteristics can also lead to increased satisfaction and engagement for older employees, if they can apply their accumulated knowledge and skills for solving the tasks. The differences in task preferences was proposed to stem from the differences in information processing abilities that decrease with age and experimental knowledge that tends to be stable or increase with age (Kanfer & Ackermann, 2004)

Hence, the perception of work tasks by employees of different generations vary, which affects also well-being at work. Despite being studied relatively less, some studies have found that work characteristics can also act as a mediator between the associations of age and well-being at work (Pathway B in Figure 2, p. 30). For instance, time pressure and co-worker support are identified to mediate the relationship of age, job satisfaction and emotional exhaustion (Zacher et al., 2014). Therefore, according to the most recent studies, generational differences posit mainly indirectly to individual's well-being at work.

2.2.4 Group, leadership and organisational level factors

On top of the work and individual level factors, there is a considerable amount of studies regarding the group, leadership and organisational level factors that affect the constructs of an individual's well-being at work. Although an in-depth discussion of these factors exceeds the central scope of this study, the most central elements of these are worth mentioning due to their relation to work and individual level factors. At the group and leadership level, support has been identified as highly salient element in individual well-being at work constructs. Johnson and Hall (1988) applied a support element to Karasek's Job demands-control theory for showing the importance of support in individual psychological well-being. Johnson and Hall observed that employees with low level of social support reported highest level of strain in work environment with high job demands, thus support was identified as a moderator for job demands and strain. The later studies have identified several positive implications of support to individual well-being at work. For instance, according to meta-analytic investigation, the co-worker and supervisor support is found to have a negative relationship with job demands (Luchman & González-Morales, 2013), suggesting that support can be an element in tackling negative effects induced by job demands. The importance of supportive leadership methods and their positive impact on well-being at work is also widely recognised by other scholars (Rafferty & Griffin, 2006; Inceoglu et al., 2018). Also, team climate is found to be positively associated with work engagement and job resources (Albrecht, 2012), while low trust, poor relationships and low supportiveness reduce individual well-being (De Dreu et al., 2003).

Finally, the importance of interventions at organisational level are noted as significant elements for fostering individual well-being at work. These interventions include training opportunities for advancing individual's ability to handle successfully their work tasks as well as facilitating personal resources. Therefore, training is considered a cornerstone of HRM practices as it encourages the employees to acquire new skills, problem-solving abilities and technical knowledge (Bakker & Demerouti, 2014.) In contrast, organisational restructuring and unstable organisational environment can act as a stressor that may hinder an individual's well-being at work and increase the perceived job insecurity, which has detrimental effects on individual job attitudes and health (for review

on job insecurity, see Sverke et al., 2002). Hence, the social setting at work as well as organisational environment play a crucial part in individual well-being at work.

2.2.5 Summary: Relationship of the factors and aspects of well-being at work

In conclusion, the relationship of the factors affecting the aspects of well-being at work is shown in Figure 3. The constructs of well-being at work presented in Figure 3 illustrate the factors that are based on the IGLOO-model (Nielsen et al., 2018; Day & Nielsen, 2017) as well as the aspects of well-being at work. The factors include a distinct work level (job design) for highlighting the importance of tasks-related factors influencing individual well-being at work.

Factors affecting well-being at work
Social context
Organisation
Leadership
Group
Individual
Work

Aspects of well-being at work	
Negative	Positive
Boredom Stress Exhaustion Burnout	Job satisfaction Work engagement Flow Work-life balance
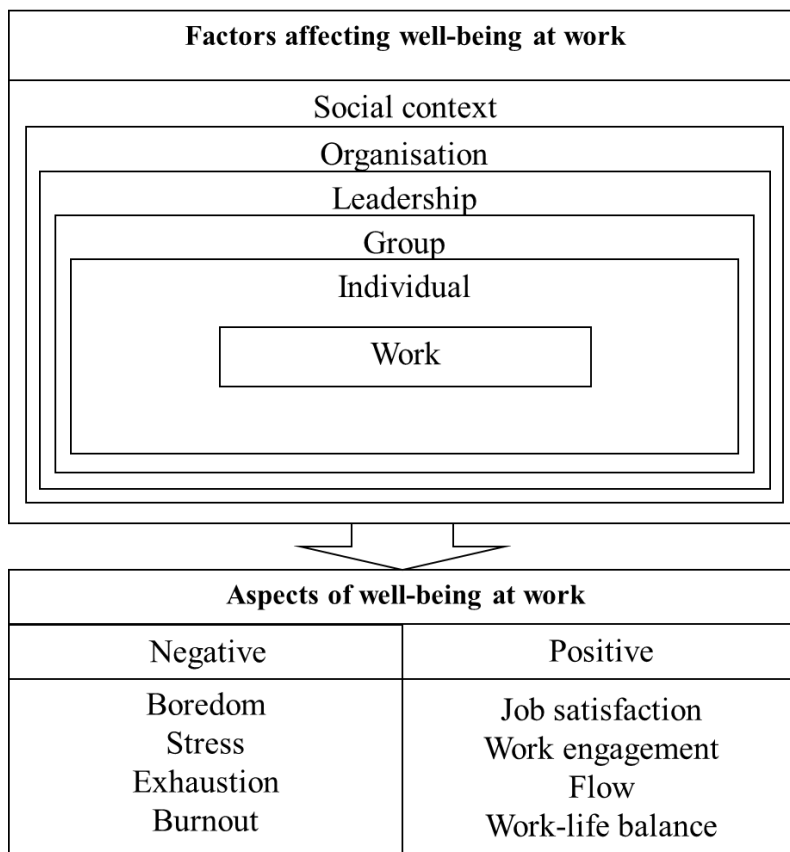
Figure 3 Summary of the constructs of well-being at work

At the bottom of Figure 3 is the summary of the main aspects of well-being at work, presented in section 2.1.2, which are the central consequences of the factors above. The causal relationship of these elements is commonly agreed by the scholars as a result of the extensive quantitative literature regarding well-being at work in various fields of research.

2.3 Digitalisation and work transformation

2.3.1 Digitalising society and work transformation from macro-perspective

Today's society is facing massive changes boosted by globalisation, altering industrial structures, political and demographic changes (Obschonka & Silbereisen, 2015), but most importantly, due to enormous technological changes through digitalisation (Aho-Oja, 2017). In the volatile and dynamic market environment there is an increasing pressure to speed up processes, which urges industries to implement significant technological advances to optimise their business performance. This phenomenon transforms industries' operations, shaping the environment towards a digitalised society, affecting all economic sectors, from the primary sector of natural resources to service sectors (Harteis, 2018). Simultaneously, governments set digitalisation as a strategic priority and implement large scale initiatives as the transformation is perceived as an opportunity to foster science, industry and ultimately, the whole society (Legner et al., 2017). These technological advancements range from the ubiquitous use of internet and computer technology to emerging technological changes. These changes include the extensive implementations of digital solutions in communication environments through sensors, wearables and artificial intelligence (Cascio & Montealegre, 2016) as well as ubiquitous robotics and IoT systems (see Kaivo-Oja, 2017). These emerging technologies can assist constructing hyperconnected smart environments. In fact, one of the crucial changes presented with digitalisation is that our reality becomes more blended and tied together by and through the information technology (Stolterman & Fors, 2004). Hence, the opportunities for both businesses as well as customers can almost be sensed as infinite within the constantly evolving digital environment.

Since an exponentially growing number of organisations are implementing digital solutions as a part of their daily operations in today's environment, digitalisation increasingly affects all types of professions and occupations in today's environment (e.g Harteis, 2018; Nokelainen et al., 2018; Kaivo-Oja et al., 2017). One of the major implications of this phenomenon is the transformation of workplaces and work practices (Vaast & Walsham, 2005). Regardless the sector, work environment is potentially subject to significant changes through digitalisation in the very near future (Harteis, 2018), if not already today. However, work transformation is not a new phenomenon, as the ways of

working have steadily changed throughout the history. Working conditions and the work environment have changed by the emergence of technology since mechanisation as a part of industrial revolution, which substituted manual labour with machines, creating also undesired disruptions in the labour market (Kaivo-Oja et al., 2017). Later, the advent of digital revolution (ibid.) can be considered a the most recent wave of work transformation as countries are slowly transforming into digitalised societies. The earliest digital technology developments, including ICT, have been observed to cause major changes in terms of job characteristics and the nature of work since the 1980s (Cascio, 1995), thus already for the past few decades there has been an emergence of work transformation resulting from digital technologies. It is suggested that digitalisation changes the whole labour market by eliminating certain occupations, while increasing the demand of a variety of new and existing professions, skills and capabilities (Nokelainen et al., 2018).

Kubicek et al. (2014) have observed that the organisational changes due to the increased competition have recently caused job intensification and job insecurity. Companies operating in today's dynamic environment face growing pressure to make faster decisions as well as develop intensified production and supply-chain processes. Simultaneously, they experience increasingly abrupt fluctuations in labour force demands. These organisational changes have reinforced the pressure among employees to increase their productivity (Smith, 1997; Kubicek et al., 2014). In addition, as a result of the erratic business environment, job precedence is not self-evident, thus the job insecurity experienced by employees is a phenomenon that is persistently becoming more common (Kubicek et al. 2014). It is estimated that the substitution of routine tasks through the implementation and utilisation of automatisation, robotisation and machine learning causes polarisation in the labour market, resulting in a demand for highly cognitive tasks while removing low cognitive tasks, thus creating increased demand for high-educated employees and a significant fall in demand for middle and non-educated employees (Michaels et al., 2014; Nokelainen et al., 2018). This shift may inevitably increase the job insecurity among employees in the future. Hence, while digitalisation allows endless opportunities for organisations to pursue options that formerly were impossible as well as generates new fields of professions, it also inevitably spawns questionable side effects in the labour market. The recognition of this conflict is the prerequisite for successful transformation into digitalised society.

2.3.2 Work transformation from micro-perspective

From the micro perspective, it is widely recognised that today's fast-paced technological development shapes the day-to-day routines and work tasks, while creating new types of skill requirements for individual job characteristics (e.g Day et al. 2010). There are various digital solutions the organisations are presently implementing, which ultimately alters individual job design. The most crucial digital solutions relevant for this study are the ICT-tools and enterprise systems (ES) also referred to as enterprise resource planning (ERP) systems (e.g Morris & Venkatesh, 2010; Bala & Venkatesh, 2013). Digital ES are often software packages, which are designed to integrate process flows and information of an organisation through a single software (Grant et al., 2002). Diversely, ICT-tools refer to common technological platforms used for sharing information e.g computers, internet, smartphones, tablets, email, social applications, virtual collaboration tools, sharing platforms etc, which are commonly used for day-to-day communication and project sharing. The implementation of digital ES or any advanced digital systems often cause relatively major change by transforming work, which fundamentally reshapes employees' job design (Mullarkey et al., 1997; Sykes et al., 2014; Morris & Venkatesh, 2010). Although ICT-tools can be considered more common implementations due to their familiarity to majority of employees in today's work setting, they are more likely to cause changes in working environment as well as job characteristics (e.g Day et al., 2010). Moreover, ICT tools may also provide completely new work settings through an increased use of virtual teams for projects (Gilson et al., 2015).

As technological changes reshape routines and transform work, they are likely to influence well-being at work. Carayon-Sainfort (1992, cited in Carayon & Karsh, 2000) argues that technology can have both direct and indirect impact on the quality of working life. This relationship is illustrated in Figure 4 (p. 37), which shows the socio-technical model for conceptualising technological change. The direct effect may refer to malfunctions and slowdowns of technology, which incurs frustration and increased workload, thus influencing directly the quality of working life. The indirect effect of the characteristics of technology on the quality of working life is mediated by job characteristics. For instance, the altered job characteristics may disallow an individual's control over the pace of work, which thus influences the quality of working life (Carayon

& Karsh, 2000.) As shown in the model, the process of technological change and technology itself can affect each of the three components as shown in the model (ibid.).

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                    ┌─────────────────────┐
                    │     Technology      │
                    └─────────────────────┘
                   ↙          ↓          ↘
    ┌──────────────────┬──────────────────┬──────────────────┐
    ↓                  ↓                  ↓

┌────────────────────┐ ┌──────────────────┐ ┌────────────────────┐
│ Technology         │ │ Job characteristics│ │ Quality of working │
│ characteristics    │ │                  │ │ life               │
└────────────────────┘ └──────────────────┘ └────────────────────┘
         ↖                    ↑                    ↗
              ┌───────────────────────────────┐
              │  Technological change process │
              └───────────────────────────────┘
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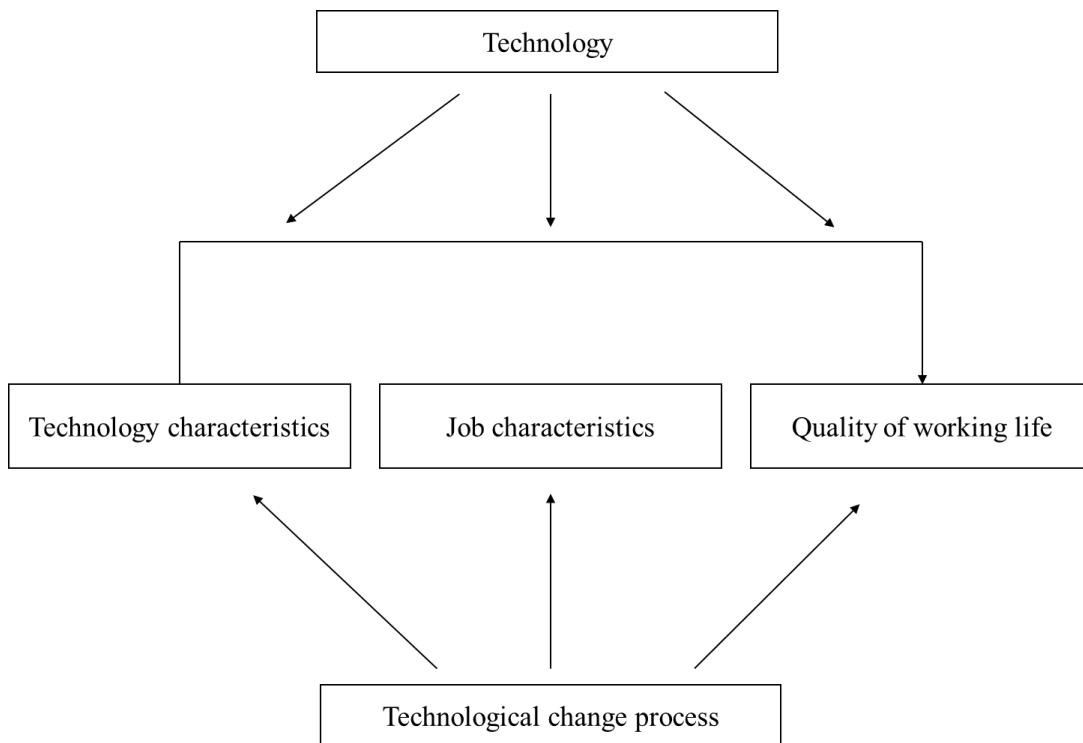
Figure 4 Socio-technical model for technological change (Carayon-Sainfort 1992, cited in Carayon & Karsh, 2000, p. 248).

Studies have quite comprehensively concluded that technological changes are often followed by social and organisational changes that inevitably influence the individuals' work tasks and ultimately their quality of working life (e.g Day et al. 2010, Hurtienne et al. 2014), which supports Carayon-Sainfort's (1992) socio-technical model of technological change. Specifically, the implementation of new digital technology, regardless whether it is a digital ES or ICT solution, eventually changes employees' job design and hence arguably influences individual well-being at work.

2.3.3 The impact of ICT-tools on well-being at work

The effects of the utilisation of ICT to well-being at work have been studied comprehensively and found to incur both positive and negative impact on well-being at work. Particularly, the aspects of exhaustion and stress through the use of ICT tools has been extensively studied in both information systems (e.g Ayyagari et al., 2011) and occupational stress literature (e.g Ninaus et al., 2015; Day et al., 2010). Scholars in both

fields of literature have identified various stressors that result from the usage of ICT tools. In general, negative effects of ICT on well-being at work has been studied more extensively in contrast to factors of ICT that clearly promote well-being at work, although various scholars have acknowledged the dual effects of ICT on individual well-being at work (e.g Ter Hoeven et al., 2014; Day et al., 2010; Barnes, 2012).

In IS literature, the negative effect the users experience with ICT tools in the organisational context is referred as *technostress* (Tarafdar et al., 2007). The antecedent stressors of technostress are particularly work overload and role ambiguity (Ayyagari et al., 2011). Work overload refers to the perception of having work that exceeds the individual's capability or skill level, while role ambiguity is the lack of information needed to perform tasks as well as the unpredictability of the consequences of individual role performance (Cooper, 2001 cited in Ayyagari et al., 2011). One of the clear negative characteristics of the ICT-tools is increased workload and its negative effect of well-being at work. Several studies have identified that an individual's work overload due to the use of excessive use of ICT-tools at work lead to decreased job satisfaction (e.g Yin et al., 2018). Some studies also show that ICT lowers the threshold for additional work (Hurtienne et al., 2014), which is also seen to increase perceived workload (Barnes, 2012). Some scholars have also noted the increased skill demands resulting from the implementation and updates of new ICT tools, which inevitably causes constant pressure for continuous learning (Nokelainen et al., 2018; Day et al., 2010; Hurtienne et al., 2014), This pressure may result in frustration and (techno)stress (e.g Day et al., 2010).

Various scholars have acknowledged the dual implications of the use of ICT tools for well-being at work. Scholars see the utilisation of ICT as a double-edged sword resulting in both assets as well as liabilities for employees (e.g Diaz et al., 2012; Ninaus et al., 2015). Day et al. (2010) reported in their review that particularly the availability, access to information, communication, monitoring and (lack of) control can act both as resources for promoting well-being as well as demands for increasing stress (see Day et al., 2010 for full review). Due to the dual implications and context dependence, the collective elimination of alleged stressors may not be the most practical solution as it can also eliminate crucial resources that promote well-being (Rintala & Suolanen, 2005).

One of the identified dual factors, constant availability, is a highly cited stressor (Hurtienne et al., 2014; Ninaus et al., 2015). Constant availability creates challenges in separating the work from spare time, which may lead to conflicts in successful detachment from work (Messenger & Gschwind, 2016). This lack of detachment can then lead to work-life conflict (Diaz et al., 2012) and ultimately to burnout (Hartmut, 2014). However, constant availability is also seen as a positive factor, as it facilitates communication processes and information exchanges among individuals (Ninaus et al., 2015). The accessibility in communication processes can also increase work engagement through the ease of access to one another (Ter Hoeven et al. 2016).

The access of information and its dual effect on well-being at work is also acknowledged by various studies. Scholars have identified that nowadays employees at work encounter endless amount of information (e.g Day et al., 2010). Due to the infinite amount of information available, individuals pose a risk of experiencing constant information flood, which is a major risk of stress and ultimately may lead to burnout (Hurtienne et al., 2014). Accessibility of information is also recognised to incur interruptions, which may cause additional work and frustration (ibid.) as well as work-related burnout (Ter Hoeven et al., 2016). However, it is long known that ICT offers an increased ability to gather and process information (Dewett & Jones, 2001), which can be considered an alleviating factor at work.

As Day et al. (2010) summarised, also (lack of) control has both positive and negative implications for well-being at work. For instance, a quantitative survey study by Hair et al. (2007) explored the locus of control through the utilisation of email and found that demand for fast responses and being constantly accessible through email may cause feelings of lacking control and results in stress among some employees. In addition, technology malfunctions, which are known to cause irritations and frustration (e.g Carayon-Harsh, 2000), are also suggested to cause feelings of lacking control and thus increase stress (Coovert & Thompson, 2003). However, there is extensive literature regarding the utilisation of ICT and increased control of an employee through the flexible working opportunities. Through the constant development of diverse ES, ICT and IT systems, the flexible working opportunities nowadays allow employees to accomplish tasks anywhere and anytime without temporal and spatial constraints (Jeske & Axtell, 2014). As opposed to time-restrictions, which are identified to be strongly related to

exhaustion (Kattenbach et al., 2010), ICT tools can increase time flexibility to organise work, thus promoting job satisfaction among employees (e.g Day et al., 2010; Breaugh & Farabee, 2012). This also indicates that ICT-tools could act as a job crafting tool (Bakker & Demerouti, 2014, see chapter 2.2.2) for designing work tasks, and thus promote individual job resources.

Flexible working through the use of ICT tools has also created a new working culture – remote work (also referred to as telecommuting or telework, see Messenger & Gschwind, 2016). Remote work is one of the extensively covered characteristics of work that has raised rather mixed results in terms of job performance, work-life balance and satisfaction (Felstead & Henseke, 2017). Remote work is found to increase the flexibility and autonomy of an employee with respect to the time and working environment. This additional freedom has been discovered to increase employees' work-life balance (Kossek et al., 2015; Ninaus et al., 2015.) Remote work is also suggested to decrease work-life conflicts and increase job satisfaction through the increased ability to deal with non-work responsibilities (Breaugh & Farabee, 2012). There is recent evidence that job characteristics in remote work setting play a more crucial role than the extent of remote working (Vander Elst et al., 2017). Working from home is identified to create a more intensified work setting. Therefore, it increases the risk of overload and exhaustion (Sirgy & Lee, 2018.) There is also evidence that technology-related stressors in remote work (work overload, invasion of privacy and role ambiguity) increase strain and thus reduce job satisfaction (Suh & Lee, 2017). Additionally, remote work through the utilisation of ICT solutions is also seen as an enabler for alienation and isolation (Barnes, 2012; Hartmut, 2014), depriving individuals of human contact (Barnes, 2012).

2.3.4 Impact of enterprise systems to well-being at work

ES implementations are often the largest and most demanding IS implementations. The strategies related to successful implementation of ES as well as its major impacts in organisations are extensively studied (Ali & Miller, 2017.) Although their implications for individuals' work are recognised in IS literature (Grabski et al., 2011), those are significantly less researched. The end users' satisfaction towards the software is identified as one of the central factors of both success and failure attributes of ES (see Ali & Miller, 2017 for review), but literature still lacks the comprehensive research focusing on the

individual during and after the implementation phase. Particularly, the impact of ERP to individual well-being at work is significantly less studied in contrast to ICT solutions, which may be because the emergence of ES implementations is still relatively new compared to ICT tools. The literature regarding ES and well-being at work is limited to a few studies, which itself is a major call for further investigation on how different digital solutions, other than ICT technologies, impact individual well-being at work. Some scholars have investigated changes in job characteristics and work tasks resulting from implementation of ES and its implications for employees. For instance, a longitudinal study conducted by the combination of interviews and surveys identified that allocation of resources by the new ES resulted in feelings of losing control, which in turn generated resistance among some employees (Alvarez, 2008). The loss of control is one of the central antecedents of stress (see Karasek, 1979), thus suggesting the implementation of ES could potentially create increased stress among individuals. Morris and Venkatesh (2010) explored the impact of ERP implementation to job characteristics and job satisfaction through a longitudinal survey study. They found that ES moderated the effects of autonomy, skill variety and feedback on job satisfaction, which suggests that ES alters the day-to-day work tasks and thus influences individual well-being at work. Also, Bala & Venkatesh (2013) examined the implementation of new ES through changes in job characteristics by conducting a longitudinal field study within two organisations, which consisted of training programs as well as collection of surveys. The scholars found that during the shakedown phase (immediately after the introduction of new ES) participants felt a major increase in job demands and decrease in job control, which resulted in a significant negative influence on job satisfaction (ibid). Hence, there is limited but clear evidence that implementation of ES inevitably affects individual work and ultimately well-being at work.

2.4 Adoption and acceptance of new technology

Since the last two decades the adoption and the acceptance of information technology (IT) in the workplace setting has received growing amount of attention due to an increased use of digital technology at work (Moore & Benbasat, 1991; Harrison et al., 1997). It is acknowledged that when a mandatory adoption of technology is required of an employee in order to increase productivity, an employee is more likely to utilise technology when attitude towards it is positive (Elias et al., 2012), as well as when an employee has

sufficient know-how and skills to use the required technology (Venkatesh, 2015). Employees' non-adoption of technology can be accompanied by lower job performance, job satisfaction and higher turnover rates (Sykes et al., 2014). Therefore, the acceptance of technology among employees is crucial for successful implementation and adoption.

Adoption and acceptance of new technology have been relatively widely studied in IS literature for the past few decades since it is a prerequisite for successful utilisation of new technology (Momami & Jamous, 2017). Since the introduction of technologies is not a novel phenomenon, a variety of theories and models have been developed to explain individual's adoption behaviour to new technologies in order to understand the factors that affect the acceptance of new technology (see Momani & Jamous, 2017; Taherdoost, 2018 or Oliveira & Martins, 2011 for review of models). IS scholars have long suggested that theories from social psychology can provide crucial foundation for technology adoption of individuals as well as organisations (e.g Swanson, 1982). Hence, the adoption and acceptance of technology has been increasingly theorised by utilising frameworks from social and psychological literature. For instance, several scholars have applied the theory of planned behaviour (TPB) as a lens for examining user beliefs and behaviour (Harrison et al., 1997) as well as investigated organisational attitude towards technology adoption (Au & Enderwick, 2000). One of the well-known models is technology acceptance model (TAM) proposed by Davis et al. (1989). The model comprises the core variables of user motivation, which are the perceived usefulness, ease of use and attitude towards technology. The perceived usefulness means whether an individual feels that technology enhances job performance, while the perceived ease of use refers to how free of effort the use of technology is perceived. Lastly, the attitude indicates the individual's personal affective reaction towards technology, which is influenced by the perceived ease of use and usefulness, thus it is the key mediator for the acceptance of technology (Davis et al., 1989). Although TAM has received criticism of its practical effectiveness (Chuttur, 2009) the popularity of TAM framework is respectable, as it has been extensively used, modified and applied with other frameworks in hundreds of studies (Marangunić & Granic, 2015). The modified application of TAM constructs has provided further understanding of the phenomenon in acceptance as well as the influence of various factors affecting the acceptance of technology, including personality factors (Devaraj et al., 2008) and demographic differences (Morris et al., 2005).

The more recent and successfully tested framework is a unified theory of acceptance of information technology (UTAUT) proposed by Venkatesh et al. (2003) illustrated in Figure 5. The constructs of UTAUT model are reported to be specifically central in the workplace setting, thus the more recent, updated UTAUT 2 model with some adjustments is proposed for consumer context (see Venkatesh et al., 2012).
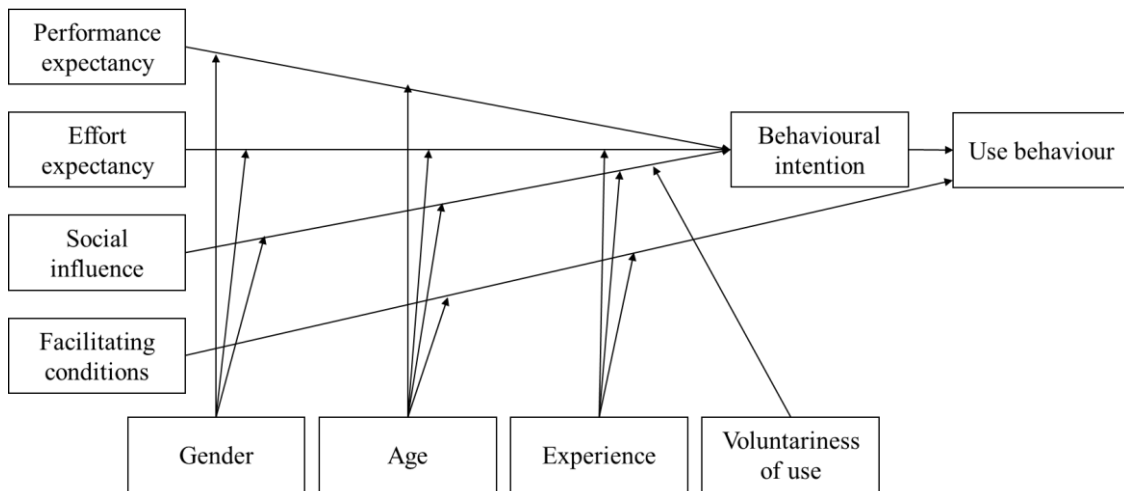
Figure 5 UTAUT model (Venkatesh et al., 2003)

There are four overlapping key elements of technology acceptance theories in the original UTAUT model. These are performance expectancy behaviour (the degree of benefits when using technology), effort expectancy (degree of ease of use), social influence (social expectations to use) and facilitating conditions (resource and support available) that influence an individual's behavioural intention and ultimately use behaviour. According to the model, the facilitating conditions are also the key determinants of an individual's technology use, along with behavioural intention. One of the distinct features of the UTAUT model is the inclusion of moderating individual difference variables, i.e demographic characteristics (age, gender), experience and voluntariness of use, which provide a more holistic framework to understand and predict technology acceptance (Venkatesh, 2015).

There is still a limited scope of study in technology examined regarding the acceptance of technology and its relationship with job satisfaction (Venkatesh et al., 2003; Venkatesh et al., 2016). However, there is some evidence of factors that influence the successful

adoption of technology and ultimately job satisfaction. For instance, during the adoption of new technology, job satisfaction is identified to be influenced by the ease of use of the technology as well as the training opportunities the organisation provides (Mariani et al., 2013). Also, workflow and software advice promote employees' job performance (Sykes et al., 2014), which can simultaneously lessen additional hassles and therefore increase employees' job satisfaction. This highlights the importance of organisational support, as well as the cruciality of individual competence and skills in successful adoption, which ultimately can lead to increased well-being at work.

In addition, age differences of employees are recognised to affect adoption and acceptance of technology and thus job satisfaction (Morris et al., 2005). Employees of older age are recognised to demand skill acquirement in order to interact with technology at work (Czaja et al., 1989), which is considered to be due to lack of exposure to computers during formal education (Ford et al., 1996). Hence, the lack of experience with digital tools can partly explain the evidence that age differences influence the adoption and acceptance of new technologies (Morris et al., 2005). The age group a person belongs in is known as a major factor influencing the attitude of an employee towards technology (Elias et al., 2012). Morris et al. (2005) also discovered that younger employees' adoption was influenced by attitude, while older employees' adoption was influenced by the social pressure and ease of implementing the new technology. Age is also found to moderate attitude towards technology, motivation and job satisfaction when technology is utilised in an organisation (Elias et al., 2012).

There are clear individual differences identified in the attitudes among employees towards technology. Younger, so called *digital native* generation, is rather positive towards technology, whereas older generation is more likely to have negative attitudes. (Day et al., 2010; Kubicek et al., 2014). Also, the perceived difficulty and benefits are identified to influence an individual's attitude towards adopting new tools (Au & Enderwick, 2000). However, studies show that the attitudes towards technology are in a constant dynamic process. It has been relatively long suggested that opposing attitudes towards technology can slowly become more acceptive, as technology integrates into the every-day work-life environment. (Day et al., 2010). Nevertheless, researchers suggest that the implementation of technology should be pursued slowly in order to ensure that employees have time to adapt to rearrangements and to altered job characteristics (e.g

Barnes 2012; Rintala 2005), although the time required for employees to adapt to technological changes may shorten in the future. Therefore, today's challenges caused by the significant technological changes may not be as pivotal in the future, as individuals are more acceptive towards new technology.

2.5 Synthesis of the theoretical background

The first part of the theoretical review, i.e. the sections 2.1 and 2.2, elaborated the concepts of well-being at work and discussed the central connection of the factors and aspects of well-being at work. The linkages between discussed concepts have been quantitatively validated by numerous scholars throughout the history of well-being at work literature. The second part of the theoretical review, i.e. the sections 2.3 and 2.4, discussed digitalisation and its implication to work and well-being at work, which form the fundamentals of this study.

The altered job design as a result of ICT tools and its impact on well-being at work has been extensively studied in both IS (Ayyagari et al., 2011) and well-being at work literature (e.g Ninaus et al., 2015; Day et al., 2010), yet there is only an emerging field of research that covers the implementation of ES and its impact on work and well-being at work (Morris & Venkatesh, 2010; Vekantesh, 2015). The utilisation of ICT and its dual impact on well-being at work is widely recognised (Day et al., 2010; Diaz et al., 2012; Rintala & Suolanen, 2005) and particularly the negative effects, i.e the clear stressors, of the use of ICT have been largely identified (e.g Tarafdar et al., 2007; Yin et al., 2018). Although the individual acceptance of technology has been investigated relatively widely in the IS literature (Momami & Jamous, 2017), there is still limited evidence of the interaction between new job demands through the implementation of new technology and an individual's personal resources. This reflects the limited knowledge in psychology and organisational literature on how personal resources (skills, resilience and attitude) influence the acceptance of new technology tools and ultimately well-being at work.

Figure 6 (p. 46) illustrates the central elements, arranged in a theoretical framework, which is a proposition of the relationship between the main elements discussed in the earlier sections of this theoretical review. These main elements are changes in job design as a result of technological changes, the aspects of well-being at work resulting from

altered job design and factors of technology adoption and acceptance. Changes in job design as a result of new technology incur various alterations in an individual's work, which, according to literature, can be categorised as clearly positive factors, dual factors and clearly negative factors (e.g Day et al., 2010). These altered characteristics of work impact individual well-being at work, thus leading to both negative and positive implications, depending on the characteristics of work in question. Finally, as shown in the Figure 6, individual adoption and acceptance of technology affects how new work tasks are adopted, which is also suggested to influence well-being at work.

Digital solutions – changes in job design			**Technology adoption and acceptance**
Clearly negative factors	Dual factors	Clearly positive factors	
Interruptions Work overload Information flood Skill demands Malfunctions Challenges in detachment from work Alienation	Increased autonomy Remote work Monitoring Constant availability	Faster interactions Flexibility Facilitated organisation of job Supporting element	Usefulness Ease of use Attitude Age Gender Training Motivation Time

Aspects of well-being at work	
Negative	Positive
Technostress Exhaustion Burnout	Job satisfaction Work-life balance Work engagement

Figure 6 Theoretical framework

For the purpose of this study, it is important to highlight the dominant methodological approaches utilised in both well-being at work and IS research literature. The traditions of well-being at work literature have for long been concentrated on quantitative approaches (Fisher, 2014; Cotton & Hart, 2003), which has been considered justifiable through the associations of measuring an individual's health at work through longitudinal surveys and questionnaires (e.g Aziri, 2011). Similarly, the traditions of IS literature are also naturally based on an extensive utilisation of quantitative approaches for understanding the technical aspects of technology (e.g Ali & Miller, 2017) as well as its implications for organisations, management and to an individual's work (e.g Dewett & Jones, 2000; Marangunić, N., & Granić, 2015; Hwang et al., 2016). Although quantitative traditions hold a clear dominance in both fields of research, there certainly is an emergence of qualitative approaches utilised in well-being at work literature, as well as

in studies related to technological changes (e.g Rintala & Suolanen, 2005; Barnes, 2012; Alvarez, 2008). These qualitative studies provide crucial complementary knowledge and insights through individual interpretations and experiences, which facilitate gaining more comprehensive understanding of the phenomena. Since the research field is nowadays seen much more complex, interdependent, dynamic, nuanced and textured than just a number of variables with causal relationships (Patton, 2015, p. 87), a more in-depth understanding could be increased by comprehension of the given phenomena derived from narratives. Therefore, both fields of literature would arguably significantly benefit from micro-perspective oriented and individual level focused qualitative narrative inquiry. Narrative inquiry would enhance the understanding through constructs of diverse interpretations associated to given phenomena that have already been identified through numbers, but hardly yet investigated in-depth through narrations of every-day life.

3 METHODOLOGY

3.1 Qualitative narrative inquiry

3.1.1 Social constructionism

Since the aim is to understand constructed and subjective interpretations of how work transformation resulting from digitalisation is perceived in terms of individual well-being, the research philosophy of this study is based on social constructionism, which built on the thesis of relativist ontology (Patton, 2015). Qualitative narrative inquiry has its origins in philosophical orientations of social constructionism, social constructivism and postmodernism (ibid.). In social constructionism, the reality is seen as socially constructed, dynamic and ambiguous. Social constructionism asserts that there is not a universal reality in an absolute essence, as it is perceived and defined interpersonally and intersubjectively through interactions in a network of relationships (Patton, 2015, p. 121–122). It is important to highlight the difference between social constructionism and social constructivism since these two terms are often used interchangeably due to their same ontological and epistemological roots (ibid.). Social constructivism refers to the "meaning making activity of the individual mind", whereas social constructionism also focuses on the "collective generation [and transmission] of meaning" (Crotty, 1998 p. 58, cited in Patton, 2015, p. 122). Hence, on top of considering an individual's own mind, social constructionism also emphasises the cultural and interpersonal aspect when building an essence of the phenomenon (Patton, 2015).

In contrast, postmodernism asserts that language is incapable of providing a direct window through which one could view reality, as language is constructed from the assumptions, worldview and culture the particular social group has constructed and is part of (Patton, 2015, p. 125). Both constructionism and postmodernism are relativistic in a sense that knowledge is viewed as relative to time and space (Patton 2015, p. 126); perspectives and memories people have, are bound to alter over time.

In qualitative research, a constructionist perspective has an essential virtue, which is rather distinct compared to the realist perspective. A realist would seek to describe singular reality of the specific context by identifying and validating causal mechanisms,

but a constructionist would aim to capture diverse understandings and multiple realities of experiences and definitions of a certain context (Patton, 2015, p. 123). Hence, social constructionism asserts that people experience and perceive the events in their own distinctive manner. These events are recalled with a distinct emotion at a specific time period, and narrative inquiry seeks to discover the different perceptions and interpretations of those experiences at that certain time span (Clandinin, 2007.) Since the research material contains both individuals' personal experiences as well as their views on other individuals' perspectives, the analysis also naturally asserts the collective and interpersonal aspects. Building on these premises, social constructionist lens was considered the most appropriate for this study.

3.1.2 Qualitative narrative approach

This study utilises qualitative narrative approach, specifically *thematic narrative inquiry*, for analysing how digitalisation transforms work and how interviewees perceived it in terms of well-being at work. On top of the typical, fragmented interview narrations, the obtained interview material also contained story-like narratives of events, and rather significant differences in individuals' perceptions. Hence, the research agenda called for a comprehensive approach, which considers the subjective and socially constructed points of view that would focus on conceptions of what and when something is happening. Qualitative narrative analysis, which belongs to the qualitative research inquiry, is increasingly yet still significantly less utilised method for analysing qualitative data, thus its characteristics are easily mixed with other qualitative methods (Riessmann, 2008). Therefore, next discussion explains slightly more in-depth what is meant by narratives as well as by the qualitative narrative inquiry.

Narratives are often stories honouring the lived experience as a source of important knowledge and understanding (Clandinin, 2013, cited in Patton 2015, p. 128). When referring to stories, scholars do not only mean a typical story with a plot. Instead, various types of data can be considered as narratives, including traditional interview material, which may not necessarily have a complete story resemblance to a story, such as a proper beginning, middle part and ending (Riessmann, 2008; Patton, 2015). Scholars argue that narratives can be nearly anything that reveal cultural and social patterns, such as autobiographies, archives, life stories (Clandinin, 2007), literary nonfiction, (Patton, 2015)

or for instance visual forms, such as photography, video diaries or paintings (Riessmann, 2008). However, it is important to note that narratives and stories are not considered synonyms. Stories are treated rather as data for referring to what has happened. On the contrary, narrative is the analysis or the interpretation of what has happened by placing it in within some context for some purpose (Patton, 2015.) Despite an increasingly wide spectrum of methodological literature available for narrative inquiry, there are still disagreements on what constitutes a narrative or a story (Riessmann, 2008).

Narratives and stories can naturally be explored and analysed by utilising range of methodologies, such as content, discourse, psychoanalytic, cultural, structural, literary, semiotic or feminist analyses (Denzin, 2000), thus narrative inquiry is a specific methodological choice for exploring narratives and stories. Qualitative narrative approaches cannot be described as completely uncommon as it has very similar features to other qualitative methods. Theorising across several cases with identifying common thematic elements across research participants' reported events, actions and emotions, is a common feature of an established qualitative research tradition with a long history in qualitative inquiry (Riessmann, 2008). However, narrative approach is utilised specifically when the aim is to discover what has happened or is happening, and what different elements and interpretations are associated in the event (Riessmann, 1993). The core questions in narrative inquiry include "How can this narrative (story) be interpreted to understand and illuminate the life and culture that created it?" or "What does this narrative or story reveal about the person and world from which it came?" (Patton, 2015, p. 128). In narrative research, scholars have widely used inductive research approach (Riessmann, 2008), which is not surprising as the narrative scholars typically aim to find new facets of the given phenomena the narrative methodology certainly supports. In narrative analysis, "prior theory serves as a resource for interpretation of spoken and written narratives" (Riessmann, 2008, p. 73) but it does not navigate the direction of the research. Scholars argue that narrative analysis is not the best method for testing a theory as it limits the full potential of the research material, thus in deductive research method some very interesting facets of narratives may be dismissed (Riessmann, 2008). It is also important to note that narrative work is increasingly organisationally embedded, which means that "the localised configurations of meaning and related narrative practices are mediated by organisation" (Gubrium & Holstein, 2009, p. 173). Since the interview

material utilised in this study is obtained from organisations, the organisational embeddedness surely forms a part of the essence of the narratives.

As the interview material of this study contains plenty of fragmented narrations, which include both story-like narrations as well as shattered lines of thoughts, it is important to discuss its adequacy for narrative analysis. Boje (2001, p. 1) introduces a concept of *antenarrative* that is "fragmented, non-linear, incoherent, collective, unplotted and pre-narrative speculation", which does not follow proper plot sequence and mediated coherence that is typically preferred in narrative theory (ibid. p. 3). The aspect of speculation is an important factor as antenarratives focus on sensemaking and may include what is happening, whereas typical narrative approach is about what has happened before (ibid. p. 3). Boje states that typical narratives with a proper plot sequence are problematic as perceptions are constantly experienced. Therefore, they are seen as being in progress and not necessarily considered finished events (ibid. p. 3), which highlights that narratives should not necessarily require the plot sequence feature. Narrative scholars Gubrium and Holstein (2009) also underline that there is no definite answer for what a good narrative for narrative analysis is, but instead the main concern is to recognise what is narratively adequate in the given circumstances. Therefore, narrative researchers should rather excogitate narratives from the perspective of their situated utility, thus whether they serve their purpose in offering contingencies and relevancies of the research purpose (Riessmann, 2008; Clandinin, 2007). According to these premises, the interview material is considered adequate for conducting qualitative narrative analysis, since the central focus is to analyse both story-like narratives as well as non-linear narrations. Also, since the central methodological focus in narrative approach is the nature of interpretation (Patton 2015), which also encapsulates the central focus of the analysis, the qualitative narrative analysis was considered an appropriate method for this study.

3.1.3 Thematic narrative analysis

Thematic narrative approach for the analysis was selected since the aim is to understand the content of the interview material, i.e to increase the knowledge on how the interviewees perceive the digitalisation in terms of the individual well-being at work. The most common form of narrative approach, thematic narrative analysis, is used when the focus of analysis is in "what" has been written or said in the research material, thus the

focus lies exclusively on the content (Riessmann, 2008). It is important to note that although thematic narrative analysis is very similar to grounded theory or qualitative content analysis methodology in qualitative research literature, the significant difference is that the narrative scholars tend to keep the narrative (the "story") intact by theorising from individual cases rather than from component themes across the cases (Riessmann, 2008, p. 53). This method offers an opportunity to analyse central themes derived from the interview material by highlighting each interviewee's own perceptions and experiences of how digitalisation has affected the well-being at work of the employees, as well as their own personal well-being at work. As this research is conducted by utilising thematic narrative analysis, in which the main focus is to understand "what is happening", a limited focus is given on the linguistic features and the communicative relationship of the narrator and listener. However, the material is analysed by utilising a widely accepted and common narrative research tradition, that is, the individual stories are preserved and grouped (Riessmann, 2008). This means that relevant stories are not fractured but instead, they are treated as a whole when forming an essence of the narratives, their interpretations and the connections to the central themes of this study (see Table 4 in chapter 3.3, p. 60 for exemplary transcript). The empirical data is constructed based on the identified relevant stories and narrations contained in the interview material.

There are some limitations when narrative analysis is executed to interview material that does not include detailed notes of the interviewer-interviewee relationship or if the interview style has caused data fragmentation. The main limitation of the thematic narrative analysis is that "[s]tories are presented as if they dropped from the sky, with interview excerpts contextualized only in relation to [the research purpose]" (Riessmann, 2008, p. 62.) Although Riessmann agrees that thematic narrative analysis is a competent approach for concentrating only on the content, Riessmann highlights the importance of acknowledging that detailed notes of the linguistic features (pauses, word emphasis, emotion induced in the speech etc.) as well as the narrator-listener relationship form a crucial part of the overall setting and the outcome of the interview. Still, for instance, narrative scholars Ewick and Silbey (2003) used segments of interview texts in thematic narrative analysis. Scholars who use thematic narrative approaches are not generally interested in the form of the narrative, only its thematic meanings and "point". Hence, focusing on the particular linguistic features a speaker selects or on the speaker-listener relationship is not relevant, as the main focus is on the act and its moral reported in the

narrative. Therefore, readers learn a limited amount of the narrators, only in relation to the interpretive schema of the research question (Riessmann, 2008.)

Finally, since this study relies on social constructionist perspective, the analysis does not consider the realist factors of the provided narratives, i.e it is not relevant in the interest of the analysis to compare and critically scrutinise the factual reliability of the information provided by the interviewees. The evidence-based factuality of narratives when executing a narrative analysis is sometimes even considered as being "beside the point" because "Narrative scholars would generally agree that a narrative is not simply a factual report of events, but instead one articulation told from a point of view that seeks to persuade others to see the events in a similar way." (Riessmann, 2008, p. 187). An investigator interprets the implications of the past events or perspectives, thus verifying the facts is less important than aiming to understand the meaning of the narratives for individuals and groups (Riessmann, 2008). As Norman Denzin (2000, p. xii-xiii) states: "Narratives do not establish the truth of … such events, nor does narrative reflect the truth of experience. Narratives create the very events they reflect upon. In this sense, narratives are reflections *on*-not *of*-the world as it is known.". In conclusion, although the interview material of this study consisted of a great deal of thoughts that the interviewees presented more as assumptions and speculations, it was not seen as relevant for the sake of the interpretation to verify the validity of the given information (e.g the "real" levels of the aspects of well-being at work across the organisation).

3.2 Data collection and reduction

The interview material used in this research is a transcribed material that had been collected as a part of a larger research project. In total, nearly 50 middle-manager personnel of each organisation were interviewed in the research project with regards to the themes of digitalisation, well-being at work, culture and leadership and development of services (see Appendix 1 for interview questions). It is very crucial to note that the interviewees were asked to describe their perceptions of well-being at work and work transformation in terms of the prevailing organisational level, thus the interviewees did not present only their own personal experiences but described also their assumptions, feelings and interpretations of how they viewed the personnel to experience the situation. Additionally, the stage of the digitalisation process each organisation has is dynamic, thus

the interviewees' experiences and perspectives are very likely to be different today, which however is not highly relevant, as the aim of this study is to interpret the experiences and emotions faced particularly during the time the interviews were executed.

Due to the high number of interviews, data sampling and reduction were performed in order to obtain an adequate size of the interview material for this study. Additionally, as well-being at work was merely one theme covered in the interviews, the relevant data suitable for this study had to be ensured prior analysis. For example, themes related to, culture and leadership and development of services, which were covered in the interviews, were out of the scope of this study. The primary sampling and reduction process for the interview material was executed by considering the following four aspects: implementation of digital solutions, digitalisation stages, utilisation of also other digital tools than ICT and the relevancy and depth of the interviews. The primarily utilised sampling strategy was an open-ended inductive theory sampling and reduction, in which the identified concepts and fundamentals "become the basis for subsequent sampling" (Patton, 2015, p. 269). Through familiarising with the interview material, it was identified crucial to consider digitalisation stages as well as the utilisation of digital solutions of organisations in order to obtain relevant data for the analysis. In addition, since the aim was to select diverse interview material, comparison-focused sampling was performed (Patton, 2015). Ultimately, since the depth of the interviews forms the basis of the narrative inquiry (Clandinin, 2007; Riessmann, 2008), the richness of interviews was naturally considered highly salient in order to construct a comprehensive analysis.

The first set of sampling and reduction was performed in order to dismiss organisations that had not implemented (or at least this was not outlined in the interview material) digital tools. It was considered a primary criterion for the sake of the study to select organisations that had already implemented some digital solutions as a part of their operations and that utilisation of these solutions was a part of their core strategy.

The second phase of sampling and reduction included identifying organisations' digitalisation stages in order to select organisation with distinct digitalisation stages in order to obtain versatile and interesting interview material. Hence, comparison-focused sampling was performed (Patton, 2015, p. 267). Diverse interview material allowed a more comprehensive analysis. Also, the stage of digitalisation an organisation was

experiencing appeared to affect interviewees' perceptions. Therefore, the aim was to examine the sector the organisations operate, the level of each organisation's digitalisation process in terms of their business model, technology implementations, operations and the overall level of digitalisation.

The third phase of sampling and reduction consisted of identifying those organisations that had utilised other digital solutions rather than only ICT-tools. For the comprehensiveness of the study and in order to provide additional contribution to the literature, the aim was to select at least one organisation that had implemented some digital solutions other than ICT tools, since ICT-tools and their implications for well-being at work are relatively widely studied (see chapter 2.3.3). Therefore, prior to moving onto the next phase of reduction, those organisations that had implemented digital tools other than ICT tools were marked for facilitating the final selection.

Lastly, although most importantly, the aim was to select organisations with interview material that would fulfil the requirements in terms of relevancy and depth of narrations. Hence, the fourth phase of sampling and reduction was executed in order to ensure the data relevance for the analysis. Interview material for the narrative analysis can be collected based on the "richness of the interview in terms of the length and degree of detail". This type of sampling and reduction procedure can be done because the principal goal is not to generalise the findings but to interpret the meanings and the functions of the stories (Ewick and Silbey, 2003, p. 1338.) Hence, the interview material of each organisation that were chosen in the third sampling was scanned in order to see whether the interview material of the organisation contained sufficient amount of relevant content regarding the main research themes: digitalisation and well-being at work. the interview questions remained the same throughout the interviews, the penultimate material had a rather significant variety in terms of themes the interviewees had raised. For instance, some interviewees of a certain organisation kept switching the conversation back to the customer perspective, even during questions concerning the employee well-being. Therefore, those organisations with interviews that had similar issues in terms of the content relevance, were ultimately considered not adequate for this particular study. However, it is crucial to note that these interviews could have been used to analyse how changing the subject from well-being at work to customer perspective describe the company's employee well-being strategy (or lack of). As the aim of this study was to

analyse what has been said in the interview (as done in thematic narrative analysis) this direction of research was out of scope of this study.

After the data sampling and reduction phases of all interview material was completed, the material of two organisations operating in administration and consulting sectors were ultimately chosen for the analysis. The chosen organisations were private consultancy (PC) organisation and public administrative (PA) organisation, which were identified as the most proactive organisations in terms of digitalisation with respect to the original interview material. However, these organisations still had clearly distinct stages of digitalisation, which enabled more versatile interview material. Needless to mention, the chosen organisations had in-depth narrations regarding the relevant themes with regards to the analysis. PC organisation is a relatively small private sector organisation that has been very active with digitalisation for over 10 years. The organisation has utilised digital opportunities as a part of its business strategy for a very long time and is considered as a forerunner in terms of digitalisation. In contrast, PA organisation is a relatively large, conservative and structurally hierarchic public sector organisation that has been executing significant technological shifts over the past 10 years. The organisation has formerly been very traditional and old-fashioned in terms of its internal processes but has now integrated digitalisation as one of its central, long-term strategies. The distinctive organisational structures, size and digitalisation stages provided basis for comprehensive analysis, insights and interpretations.

One additional, more in-depth scanning was performed for the chosen interview material for assessing the relevance of each individual interview. When the scanning was performed, it was noted that the interviewees consistently associated well-being at work with questions related to work transformation and demands for training, thus they discussed all these themes in conjunction. These themes were ultimately also marked as adequate for analysis. Hence, the interviews that did not necessarily have lengthy discussions related to well-being yet had well-established narrations under the questions of work transformation or demands for training, were also chosen for the analysis. During this final in-depth phase of scanning, another assessment of interview richness was performed. As a result, one interview of the other PA organisation was dismissed due to the brief discussions of the central topics, which was likely due to the interviewees' short work experience within the organisation.

Table 3 shows the basic details of the selected research material, including the number of interviews from each organisation, the number of transcribed pages (font Times New Roman size 11) and relevant pages after the reading assessments were conducted (see chapter 3.3, p. 58).

Table 3 Interview material

Interviewees		Position	No. transcribed pages	No. relevant pages
O1 Consulting	I1	Director	7	4
	I2	Expert	10	5
	I3	Executive	8	7
	I4	Expert	9	5
	I5	Executive	14	7
O2 Administration	I1	Director	14	6
	I2	Manager	10	5
	I3	Director	9	5
	I4	Manager	8	5
	I5	Manager	11	6
	I6	Manager	10	7
	I7	Expert	8	6
	Total	12	105	68

As Table 3 shows, nearly all interviewees were management positioned at the time the interviews were conducted. The majority of the interviewees mainly discussed their views and assumptions on how personnel in the organisation in general had felt about technological changes, although several interviewees also revealed their own experiences and perceptions. The perceptions regarding other employees or personnel in general were seen as an advantage during the analysis, as it was noted that interviewees felt more at ease to express challenges experienced by other people, in this case subordinates, employees or colleagues, in contrast to themselves. However, some interviewees openly shared their own challenges with technology tools. As the aim of the research was not to assess the factuality of the data, but instead to understand how digitalisation was perceived and interpreted through alterations in job design and well-being at work, it was not essential to assess whether these assumptions were valid, since these were still socially constructed and subjectively real perceptions by the interviewees.

3.3 Data analysis

The research was executed inductively, thus no prior theories served as a framework, although prior knowledge of the researcher regarding the central themes had some influence on the direction the research took. However, once central themes were established through inductive analysis, the final confirmatory stage of the analysis involved discussion of results with a comparison to the earlier literature and the authenticity and appropriateness of the results, which (Patton, 2015).

The final interview material chosen for this research was assessed several times during the course of the analysis in order to build a deep understanding of the material. The summary of the stages in analysis is shown in Figure 7. In brief, the course of the analysis included five pivotal stages: familiarisation of the interview material, identification of the relevant segments, thematic narrative analysis with an aid of categorical content analysis performed to the identified segments, construction of narratives based on the central thematic elements and discussion.
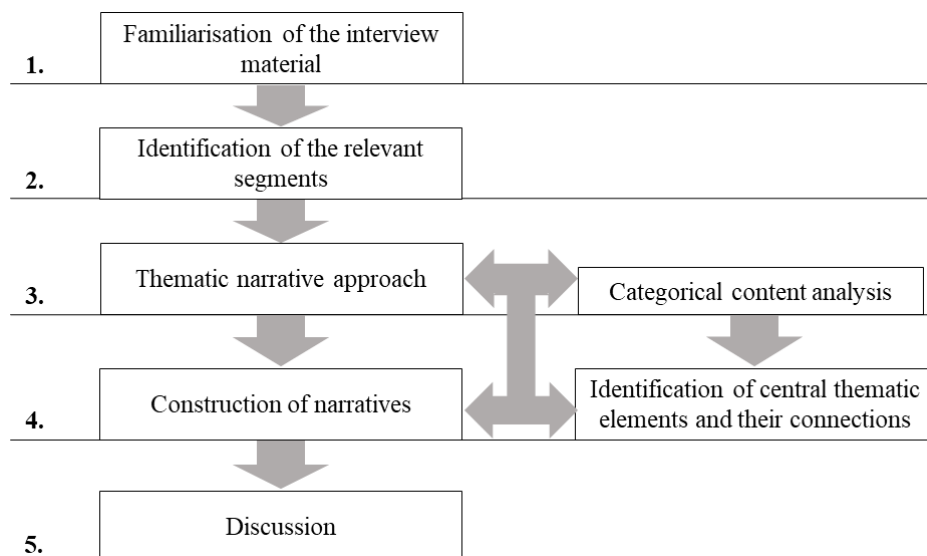
Figure 7 Summary of the data analysis process

The first analytical assessment was performed to familiarise the researcher with the material, which included taking notes and exploring broad thematic elements. It is important to note at this point of the assessment the interview material still contained completely irrelevant sections (see Table 3 No. transcribed pages, p. 57), i.e the sections that handled topics out of scope of this study, which were not removed as it was noted

that many of these segments contained also relevant fragments regarding the analysis. The second assessment of material consisted of firstly identifying and marking the relevant narrations in interviews, which referred to as digitalisation, work transformation, new job design and well-being at work.

The boundaries of stories in narrative analysis can be challenging and highly interpretative (Riessmann, 2008). Therefore, in this case the boundaries of each narration were considered to be the overall response of an interview i.e between the beginning of the response until the end of the response. Throughout the analysis, also segments that were responses to questions out of the scope of the study were considered as relevant if an interviewee had narrated about relevant themes in it. Hence, some of the segments inevitably included narrow parts of other themes of the interview as well, such as narrations on leadership or customer related activities. However, for the sake of the narrative purpose, the identified segments were not fractured by removing these "irrelevant" parts within the segments, but instead, they were treated as a crucial part when forming an essence of the narratives, their interpretations and the connections to the central themes of this study. Narrative scholars strive to preserve every sequence (within the relevant segments) as well as the wealth of the detail in lengthy sequences (Riessmann, 2008), since it is considered a crucial step in forming an essence regarding the phenomenon and its connectedness to other themes.

The segments of relevant narrations were coded with a colour symbol depending on the theme and the standpoint of view (positive, negative or general narration of the topic). Some of the relevant themes and their connections had been identified already when performing the scanning in data reduction, including that interviewees consistently associated well-being at work with questions related to work transformation and demands for training. Hence, it was clear that for instance training demands were linked to the central themes. Sections with themes that were considered as irrelevant to this research (e.g culture, leadership and development of services) were marked as irrelevant and ultimately dismissed from the analysis. Table 3 (p. 57) illustrates the approximate number of pages left for the analysis after dismissals of irrelevant segments was executed. It is important to note that with respect to the thematic narrative approach, concrete dismissal of irrelevant pages was performed only when analysis was almost at its very end in order to ensure that no relevant segments of the narrative constructs had accidentally been

removed. These dismissed segments were interviewees' responses to interviewer's question that did not have any narrations regarding the relevant themes.

The third assessment of reading comprised of making more extensive notes and marking the segments with a short synopsis in order to facilitate the identification of recurring thematic elements. The marking regime was adapted (with minor modifications) from the examples introduced by Riessmann (2008) and is exemplary transcripts, illustrated in Table 4.

Table 4 Transcript of the thematic narrative analysis

Excerpt of the interviewee's narrative	Thematic narrative analysis
We had around ten, maybe fifteen days in our company per year when we aim to have a meeting together and those days maybe six or seven are those we meet face-to-face. The rest are such meetings that we work a whole day together online. Yeah I remember for example when, I think it was four or five years ago when we initiated those days, so it was like, a little bit nervousness and like how is it done and all those feelings and what will go wrong and all those similar stuff. So isn't it so funny how it has become a routine and how we can utilise it so well. And yes, I guess I think that it wasn't that many years ago, wasn't it, when we started to have customer meetings online and back then there also initially existed a barrier. And now it has become part of our everyday. And yeah If you think of organisation's internal world, so yeah it practically means that as we are based in four different cities, so yes the majority of our work is that either you stay at home or you go to the office but you still sit down headset on your head and only the meetings just shift. So that it kind of how it is in practice. And it has become possible, you don't necessarily have to travel. You can see that it even has its advantages in internal meetings when for example in an online meeting you focus on that thing what's on your screen. So it is even more efficient. And of course it means that we make our job very carefully transparent by using our intranet tools, like what projects we have and who is part of what and so on. So yeah the creation of the team climate, like if it before was, surely people travelled more so I guess it was at a good level but nowadays it works out so much more easily.	Work transformation: face-to-face meetings substituted by virtual meetings Initial emotions: confusion, tension, scepticism Adoption and acceptance: becoming routine. Application to customer interaction: Similar case of adoption Outcome to work design: less traveling and more, flexibility, productivity, transparency, convenience, facilitated creation of community

The marking was done with respect to the central and distinctive element of narrative research inquiry, that is, with a high focus on paying attention to the individual characteristics of the narrators as well as preserving the sequences of the relevant narrations within the storyline in order to sustain the wealth of the detail (e.g Riessmann, 2008; Ewick & Silbey, 2003). Hence, the relevant segments were categorised with paying

a close attention to who had expressed the narrative (Riessmann, 2008) in order to form an overall understanding of individuals' differences in perceptions and to maintain focus what each interviewee narrated. The individual characteristics of narrators refer to the age group each narrator belonged to and their individual skills and experience with technology tools, which were identified as highly reflective of each thematic element. The individual characteristics were partly deduced, since interviewees did not disclose their exact age in the interviews nor necessarily their history of experience or set of (or lack of) skills with technology tools. However, the differences in characteristics were able to be deduced through the content of the narrations, since interviewees openly shared for instance their issues with technology due to being old or their ability to adopt new tools due to extensive IT-experience.

The marked synopses were categorised in order to find relevant sub-themes and recurrent elements. Method of categorisation featured the typologies of categorical content analysis (Patton, 2015). The main themes, introduction of new technology, work transformation, alterations in job design and aspects of well-being at work, identified during the second assessment of reading served as a preliminary theoretical framework for the analysis. These assisted the categorisation of sub-themes and their similarities and differences. The sub-themes were edited and re-merged various times in order to form a profound yet articulated general view of the phenomenon. Table 5 summarises each themes and sub-themes utilised during the course of the analysis.

Table 5 Central themes identified in the analysis

Themes	Sub-themes
Digitalisation	ES
	ICT
Work transformation	Automation
	Digitisation
	Utilisation of digital tools
New job design	Advantages
	Challenges
	Skills-related
	Work-life related
Aspects of well-being at work	Positive effects on of well-being
	Negative effects on of well-being
Acceptance of technology	Acceptance of new tools
	Adaptation to changes
	Individual differences

Hence, the general views of both organisations were established from the categorisation of synopses and the relevant narrative segments that were fractured in a limited manner during the analysis process. The overall findings of the organisations were analysed separately and then evaluated with cross-comparison in order to identify some of the connecting, contrasting and transitioning thematic elements. In cross-comparison, the objective is to identify similarities and differences (see Patton, 205, p. 123) of the interview material.

The thematic narratives were then constructed for illustrating the central findings of the interview material. Construction of thematic narratives was performed. Purpose of this is to summarise typical elements of the interview material (Eskola & Suoranta, 2008). Since this study does not explore gender-related differences, narratives were made as gender neutral in order to eliminate gender-related assumptions. Narratives were constructed to present the most significant work transformations and job design alterations the interviewees had experienced as a result of digitalisation. Narratives illustrate how they interpreted these changes in terms of individual well-being at work. The narratives also elaborate the dynamics of interviewees perceptions in terms of well-being at work through the acceptance of new technology. Hence, the main purpose of these narratives is to facilitate the reader's understanding, while increasing the attachment to the phenomena of how digitalisation transforms individuals' job design, and how it is experienced through the dynamics of well-being at work.

In addition, selected interviewees' narrations were chosen for highlighting the convergent and divergent understandings and interpretations. Fragments of interviews are translations as original interviews were conducted in Finnish. The translations are as accurate and direct as possible for maintaining the linguistic congruence (see Appendix 2 for original interview fragments in Finnish). Also, it is worth noting that when elaborating the fragments, there are referrals of relatively higher and older values of individuals' age, respectively, thus individuals are labelled as "older/younger employees/interviewees" for descriptive purposes. Although there is not a generally accepted cut-off age for young and old, in organisations "older" individuals are usually referred to as those of either over 40, 45 or 50 years old (Peeters et al., 2008). The exact ages of the interviewees were not known, but a rough estimation was possible to be made

based on the content of the interview material of each interviewee. It was also unclear as to which age range the interviewees referred to as when they described "older employees". Nevertheless, since the exact age range was not considered highly relevant in this study, the obscurity of the age range was not seen as a limitation in terms of the reliability of this study. Ultimately, central findings were interpreted with a comparison to earlier theories in order to deepen the understanding as well as to assess the consistency with the previous literature for reliability and validity purposes.

4 NARRATIVES ABOUT NEW TECHNOLOGY AND WELL-BEING AT WORK

4.1 Constructed narratives

This chapter presents four constructed thematic narratives derived from the interview material, which illustrate interviewees' experiences of work transformation as a result of digitalisation, and the perceptions during the acceptance of new technology. The narratives are fictional, each describing a combination of central thematic elements and their connections. They do not exemplify any individual interviewee nor represent how employees at certain organisation generally behave. Narratives contain combinations of specific elements, phrases and details that were articulated by individual interviewees, which were included for veracity purposes.

Table 6 illustrates the main elements of digitalisation and work transformation the results are based on. The first two narratives are about the implementation and utilisation of new ES and the latter two are about the implementation and utilisation of ICT-tools.

Table 6 Elements of digitalisation and work transformation

Element of digitalisation	Work transformation
ES	Digitisation
	Utilisation of ES
	Automation
ICT	Digital communication
	Teleconferencing
	Virtual collaboration

The first two narratives represent the central thematic elements of PA organisation: the work transformation as a result of the introduction of new ES and how it was perceived in terms of well-being at work. After the introduction of these narratives, the central thematic elements of ES are presented with selected fragments of interview material. Since interviewees of both organisations discussed the utilisation of ICT-tools and how those were perceived in terms of well-being at work, two latter narratives introduce the combination of elements of both organisations. After the introduction of two latter narratives, central thematic elements related to ICT-tools are discussed more in-depth. The dynamic nature of well-being through the adoption and acceptance of new

technology, the individual differences (age and skills) appear in all narratives, thus these elements are discussed in a separate chapter 4.4 prior conclusion.

4.2 Enterprise systems

4.2.1 Narratives of Charlie and Sage

Narrative of Charlie introduces how the new ES was described to alter employees' job design and how it was interpreted in terms of well-being at work. The central thematic elements of Charlie's narrative are work transformation after the introduction of new ES, digitisation, new expectations for skills and know-how, exhaustion, stress, job satisfaction and age differences in acceptance of new technology.

Narrative of Charlie

Charlie is a 59-year-old employee of a notable conservative organisation. Charlie has served the same organisation since graduating from university and is proudly looking forward to retiring from the same organisation she once started as a summer trainee.

It took nearly 4 years for Charlie to fully accept the first wave of the organisation's technological change, digitisation, which shook the whole working environment. Formerly, Charlie's days used to go by solving customer claims, which contained customer details of Charlie's hometown, and archiving them to folders in the shelves. All confidential customer details of the hometown were archived in folders and were organised in alphabetical order on the shelves in the stockroom next to Charlie's personal office, easily at hand when needed. Although at times Charlie did feel a bit weary of handling piles of dusty binders and paper documents, Charlie enjoyed the familiarity of all work tasks since those constituted a safe working environment.

After the new enterprise system was implemented, digitisation progressed and Charlie could see how the amount of piles in the stockroom slowly diminished and depleted, which made Charlie to feel uncertain and troubled – the changes

were simply quite a lot to swallow. Charlie admitted the online system organised all customer information quite well and the online archiving provided substantially more convenience, but Charlie faced enormous difficulties in learning to use new digital archiving systems as Charlie had strived to avoid any technology tools at all cost since the introduction of the first desktop computers. Charlie's job design was altered, and Charlie felt constantly exhausted from trying to understand all the features, tricks and clicks the software consisted of. Charlie also felt insecure of having to solve completely unfamiliar customer claims from other locations. Charlie was glad the organisation provided several common training sessions.

Gradually, with practice as well as precious support and encouragement of Charlie's long-term manager, Charlie felt more and more confident with the software, which reduced feelings of scepticism and exhaustion and increased the positive attitude towards the technological advancements.

Now, after 4 years, Charlie feels amused of the initial feelings as Charlie now appreciates the advantages software has brought in the organisation, and to Charlie's own work. At times Charlie and the fellow employees reminisce the good old times, when work was more concrete as completed binders were able to be moved aside and archived. Still, they ultimately end up laughing of not wanting to riffle through thousands of pages from those dusty piles of binders. Also, they all feel very relieved for having avoided layoffs because of the system. "Maybe at the end this change was necessary after all", they note accordingly.

Sage's story introduces how automation was perceived in terms alterations in job design and well-being at work. The central thematic elements of this narrative are work transformation as a result of automation, new expectations for know-how, job insecurity, exhaustion, stress, job satisfaction and skill differences in acceptance of technology tools.

Narrative of Sage

Sage is a 48-year-old employee, known for infallible skills for maintaining routines, trustworthiness and an adamant work ethics. Sage has specialised in

basic customer claims and data entry since graduating from vocational school nearly 30 years ago. For Sage, familiar and perfunctory tasks evoke feelings of safety and tranquillity, whereas any sudden and unpredictable changes are abhorrent and intimidating.

Sage still recalls the day 5 years ago in the traditional annual event when the new enterprise system "Ripe" was introduced to their department by the executive committee. The new enterprise system was reported to utilise something called artificial intelligence, and it was presented as a tool to fully automate a range of familiar tasks. Although software was presented as a huge helping hand, an auxiliary tool for employees' own work, Sage felt contradicting emotions. The capacity the software was able to process was astonishing, yet the software system itself sounded ominous and intimidating. Sage instantly came up with several arguments of how the software cannot function in certain situations, also contemplating whether Sage could still solve basic customer claims until retirement.

Sage overheard in the next row some employees from IT-department whispering in excitement and curiosity about the new software. They rejoiced the easiness and cheered for a future extinction of "stupid routine work that are made for monkeys". "How can they feel so at ease and happy?", Sage wondered. "Software is said to complete tasks in nano seconds, same tasks that I have spent ages to complete. Automation will eventually replace my work." The more Sage pondered the possible outcomes, the more exhausted and stressed Sage felt.

After the automation was finally implemented, the first few months were rather stressful at work. "This is the 15th complex customer claim in a row and not a single simple one between", Sage exhaustedly pondered one day while coping with the new software. Sage felt pressured and very incompetent. Sage realised that work had transformed into something completely different and Sage felt doubtful of her competences to cope with new characteristics. "I have solved basic customer claims and made simple data entry all my career. What if I am not capable to do this work anymore?" Sage considered.

During the performance appraisal, Sage felt baffled when the manager encouraged Sage to attend new internal training sessions, which were tailored for employees in a need of a bit of assistance with adopting new tools.

Now, after six months of training, Sage feels comfortable with the software and understands the benefits it brings to work. Working feels more enjoyable and Sage has started to trust technology tools. Sage's manager recommended the other day that Sage could attend further education, which Sage would need in order to gain more interpretative skills for handling complex claims. Sage realised Sage could finally complete an academic degree Sage had always wanted to do.

4.2.2 Digitisation

Digitisation, which was the central theme in Charlie's narrative, caused enormous alterations in Charlie's job design as work was transformed from handling paper documents into handling digital documents in an ES. The significance of digitisation and its implications for work was articulated by all interviewees of the PA organisation. Digitisation, which is considered a subset of overall digitalisation process, was presented as a significant and relatively recent technological leap within the PA organisation, which highlights the organisation as relatively old-fashioned and conservatively positioned. Interviewees mentioned several times the transformation to digital format, highlighting it as a significant and initial digitalisation process, as for instance, addressed by one interviewee:

> [Digitality] is seen the most in that massive, I mean masses of paper documents we want into digital [format]. It's that what emerged first when everyone started to talk about digitalisation, so okay this is it what we have to [do].[1] (O2I6)

This indicates that digitisation has been an initial digitalisation wave the employees have experienced. It was also identified a relatively recent technological shift as revealed in the following quotes of the interviewees:

Couple of years ago we still had that way that […] all of our customers'
documents were really just papers in our office.[2] (O2I4)

10 years ago, we were living in a world were […] back then everything was
handled on paper.[3] (O2I1)

As illustrated in Charlie's narrative, the former procedures had included handling
voluminous amounts of paper documents and binders in both internal and external
operations in day-to-day basis. All customer information was manually saved in physical
folders, available only in distinct locations as noted by the following interviewees:

And when the customer called, that's […] when that call had to be directed
to that specific office were those documents were being kept, since the other
locations couldn't transparently access to them. […] And then it meant, that
[…] those locations had to have persons who handle those matters.[4] (O2I4)

Back then before all of our things were digitalised, that's when we had to
work in that same location where those documents came to.[5] (O2I3)

Interviewees articulated the paper documenting as inconvenient and extremely inefficient.
Interviewees recalled that activities concerning a specific customer, e.g checking the
specific customer's information, was possible only in the location in which the customer's
information was stored. As a result of implementing software systems, interviewees
reported that all documents were transferred into digital format. Instead of physical
folders, documents were saved in an online environment. As a result, the central
perceptions of this transformation are highlighted in the following quotes:

Nowadays […] all of our customers' documents, they are digitised and the
pictures of them are accessible regardless of location. So things here have
changed the way that work can be done and customers can be served
anywhere, so we're independent of the location like so.[6] (O2I4)

We've transitioned to work more and more online and those paper documents won't be forwarded by mail to different offices anymore and so on. This type of work is going to be eliminated and partially already has.[7] (O2I2)

Interviewees felt that digitisation had provided geographical independency, more transparency in operations and eliminated mailing of documents, which were identified as positive effects in terms of the well-being at work. Digitisation has resonated in the employees' quality of working life by providing faster and more effective work as well as eliminated the need for finding or saving data in physical folders. Therefore, digitisation is seen to increase employees' job satisfaction through more effective and hassle-free job design. This was also reflected in Charlie's narrative by not needing to riffle through thousands of pages. The following quotes of interviewees' narrations present typical examples of employees' overall positive and relieved tone regarding digitisation:

Before we worked pretty much in like a folder-world, which was only [accessible] to some [employees] and they were located in a certain place. But now everything here is transparent[8] (O2H6)

If you think about it, back then it used to be like monstrous piles of paper on your desk. Already then it felt agonising, like really, we actually hoard these dusty papers. So now when all those files are transferred in an online work queue [system], so for us internally, for me as an employee, it's like yay wonderful, those papers are now gone.[9] (O2I6)

Before like, we might have had to move truckloads [of documents] from place a to place b, where more staff were available, so that they could have taken care of the masses of paper we had.[10] (O2I6)

[Referring to effects on well-being at work] Let's say it this way, going paperless, elimination of paperwork. I have found it, and I find it truly positive.[11] (O2I2)

Former procedures were felt as inconvenient and laborious. Hence, the elimination of processing paper documents and introduction of digital solutions were highlighted as positive developments for more facilitated job design, thus increasing the quality of working life.

However, the interviewees disclosed that employees have felt contradictory emotions as a result of transition to online documentation, thus transformation from using physical paper folders to online forms has also caused conflicting reactions. This was presented in Charlie's narrative as Charlie and the fellow colleagues were longing for former traditions and more concrete work. Some interviewees described that the elimination of paperwork had caused rather contradictory emotions specifically among employees, who had been working with paper documents for decades. Initially, the changes towards digital environment had felt overwhelming and stressful, although employees had shown to understand the purpose of the change. The following narration presents an example how one interviewee has viewed the contradictory emotions employees had felt after digitisation:

> Surely you hear a lot that people find it difficult that before their work was more concrete in a way, that they used to have a stack of folders that have been handled, which were in a way concretely moved aside and task accomplishment has felt more concrete from the perspective of an employee. But nowadays as a result of digitalisation this just like this normal work has been transferred online so you do it at the computer, stuff comes from work queues so those are done from there. And it's not experienced as concrete, people tell it like that's not perceived as concrete accomplishment or sort of getting one thing done[12] (O2I7)

Handling paper documents and physical binders has been associated with concreteness, which in turn has been linked to daily accomplishments during work shift. Some interviewees perceived that employees have felt the current digital work does not provide the sense of concrete accomplishments in contrast to formerly pursued paperwork tasks, which has been perceived as difficult and challenging. However, the same interviewee continues their narration as:

But then again when you have a conversation about it, well, "how was work let's say ten or twenty years ago and what has progressed and changed?" and so on. Then no one is really looking for going [laughing] back to the old world, when those papers where handled and things were calculated by hand and like so. So yeah then again when you think further, it has definitely brought overall positive effects on working.[13] (O2I7)

Interviewees perceived that former processes are ultimately identified as inconvenient among employees. These contradictory emotions were illustrated in Charlie's narrative. Charlie's conflicting thoughts and conversation with colleagues highlight rather irrational yet seemingly completely natural reactions when new technology is implemented. According to interviewees' understanding, employees had ultimately shown acceptance towards new, more effective procedures. Employees contradictory emotions albeit the new more convenient work setting indicates that the conflicting emotions are faced when work has been radically transformed as a result of the introduction of new technology. Therefore, the conflicting emotions related to new procedures both indicate the on-going acceptance of new characteristics of work, as well as the process of letting go of the past job design.

4.2.3 Utilisation of ES

Narrative of both Charlie and Sage presented challenges and conflicting emotions through the implementation and initial utilisation of new digital ES for completing day-to-day tasks. The introduction of new ES and their implications for job design and well-being at work were addressed by all interviewees of the PA organisation. One very distinctive feature the PA organisation has accomplished through digitalisation are the more efficient resource and demand allocation processes through ES, which were the most frequently addressed work transforming elements described by all interviewees. In the new system all work tasks were sorted in a common digital pool, available for employees regardless the location, which was outlined to be in significant contrast to old job design that had consisted of solving issues at the local office, handling masses of paper documents. The common digital pool was described as an effective ES that has provided several organisational advantages, including solving the issue of abrupt employee shortages in some locations, thus relieving the burden of work from employees in certain locations

while allocating tasks to locations of less work. For instance, this change was articulated by one interviewee followingly:

> We are able to distribute the burden of resources depending on where we have free resources […] When an officer becomes vacant, they take the first task from the work queue and start to work on it. It doesn't matter anymore whether the employee is in Lapland, Espoo, Hanko or Kajaani. They take the first one and start to do their job from there, so this work that used to be location dependent is now possible to do from anywhere […] Before the rush was in Espoo and people in Ivalo were twiddling their thumbs wondering why they don't have any work to do.[14] (O2I3)

The common pool assorts and allocates the tasks by the date, and employees receive the task that is next in order regardless the geographical location of the employee or origin of the customer's claim. As represented in Charlie's narrative, Charlie felt insecure of having to solve completely unfamiliar customer tasks from other locations, which highlights the initial difficulty for taking over new job design. This was interpreted as a significant transformation, since employees formerly handled mainly the claims of their home location. Interviewees perceived the unfamiliar customer claims have increased the emotions of insecurity towards employees' own work. This insecurity was understood as an antecedent for exhaustion and stress. The implications for employees' work was noted in the following quote by one interviewee as:

> Before we might have had for example, when you think about some small town, so you knew the customer base and you knew how those specific [customer's matters] had been handled and what type of things come up […] so now that is not necessarily happening anymore, so you just get tasks from all over the [country] […] You'll lose the familiarity and what was before part of the job and you'll lose the home advantage from there then, so that is a huge change, and that certainly caused for an employee some insecurity in doing work.[15] (O2I6)

As represented in narratives, both Sage and Charlie felt highly stressed due to new job design despite overall work processes being more effective. Specifically, Sage felt

stressed about not being able to craft their job more suitable for themselves since the work allocation system determined the next tasks. The issue of Sage's is an apt example of the negative perceptions the interviewees described with regards to the new system. Interviewees viewed that the changes in job design as a result of the new ES had among some employees caused reactions related to stress after the system had been implemented. Employees were formerly able to choose the tasks they wanted to take on, which offered the employee a control of choosing simple tasks from the binder when they had felt exhausted, as articulated by one interviewee:

> Before it was much easier to pick, so […] you kind of had an ability to pick which stack you go and get from the file cabinet and what perhaps [the file] you take from the pile or what [task] you pick from the masses of paper but now it is not like that anymore but instead you'll get the next task first in first out -style and you don't know what tasks you'll get. So that has brought such thing that you cannot anticipate what type of work shift you'll get.[16] (O2I6)

Amongst solving more complicated customer issues that had demanded more interpretative skills and know-how, interviewees narrated that employees were formerly also able to pick simple tasks in between, which had acted as a balancing, almost like a recovering factor during the work shift. This was possible as employees were able to see the complexities of the available tasks prior to picking the next claim. Hence, employees were able to choose the upcoming task based on its difficulty before deciphering. As now the common pool now assorts and allocates the tasks by the date, employees may have to solve loads of complicated and challenging tasks in a row, which interviewees described as an element of exhaustion during work shift.

In contrast, ES was also described to offer several advantages in terms of the quality of working life. This was illustrated in Charlie's narrative, as Charlie and the colleagues showed relief since they had avoided layoffs as a result of ES. Some interviewees accentuated that as a result of ES, the organisation can secure work positions of employees living for instance in rural areas, in which offices would otherwise had shut down and employees been laid off. As the work queue system is run in an online environment and it allocates tasks regardless of the geographical factors, it was described to balance out surplus of incomplete tasks in locations where employees face haste and

stress. Simultaneously, the system is providing more working opportunities for employees in remote offices that have less work, and therefore would have faced a risk of being laid off. Hence, the introduction of a digital solution was perceived as an efficient work opportunity. In addition, the solution was deemed to influence well-being at work positively due to the reduction in job insecurity by the avoiding co-operations negotiations. Nevertheless, the employees in the rural offices were assumed to be inclined to face new type of pressure as a result of more intense work, which can be defined as an antecedent for exhaustion.

Some interviewees also highlighted that the organisation is now able to utilise wider recruiting opportunities, since geographical distances are not an obstacle to finding the best person for the position. For instance, this was noted by one interviewee: "Our people, our officers, who are around Finland, we had been able to choose the best from them"[17](O2I4). Simultaneously, interviewees also identified the geographical independence the ES provides to work-life balance, as presented in the following exemplars:

> We've got electric work queues that help us to utilise our whole human resources around Finland and to transfer work depending on where we have workforce. And it has helped us generally […] that we haven't had the need to transfer people anywhere.[18] (O2I1)

> This has made possible that we can kind of recruit, we want some expert somewhere to do something [so] we can recruit them anywhere from Finland. And simultaneously the customer can be taken care of from there. That person does not have to move to another city.[19] (O2I4)

While the ES was viewed as an enabler for better recruitment opportunities, it was also perceived as an enabler of better career opportunities for employees, especially for those, who live in an area that otherwise would have limited career opportunities. Hence, interviewees deemed ES as a significantly positive factor in terms of employees' work-life balance, thus their well-being at work.

4.2.4 Automation

Narrative of Sage presented work transformation as a result of automation and Sage's emotions regarding the new job design. Automation was identified as one of the central elements of digitalisation presented in the PA organisation, which has altered the nature of various work tasks, and hence changed employees job design. Although the organisation has formerly been positioned as relatively conservative, the rate of automation when interviews had been conducted, was described as extremely high, as noted by one interviewee:

> Our level of automation is, depending on the division, but approximately over 80 percent. Essentially this, our house, could operate without anyone. That's what digitality is in my opinion.[20] (O2I3)

This instantiates digitalisation as a central factor in the organisation's strategy. At the time interviews were conducted the organisation was undertaking a significant automation deployment covering all repetitive manual tasks, including basic customer claims and data entry processes in order to streamline operations. This process had already eliminated nearly all routine work. For instance, one interviewee described the on-going work transformation as:

> There's plenty of the kind of job that is still done by an officer and that way, although those have been processed by the computers, but anyway done by officers and done manually, so a lot of those'll be automated through this new [software system] […] So surely it'll change what officers do then.[21] (O2I7)

As illustrated in Sage's narrative, all relatively easy work tasks were automated, which transformed Sage's job design into something completely different, and provoked new expectations for skills and know-how. The transformation of work the interviewees outlined in various cases were described to eliminate the rest of the manual and monotonous routine work. This elimination left only highly cognitive interpretative work tasks for employees, which resulted in new expectations for expertise and know-how. Specifically, the expectations of skills and know-how were addressed being due to the

remaining challenging work tasks that still need human interpretation. This was outlined by one interviewee as:

Such routine work is almost completely programmed. Your growth of expertise has been highlighted, so you'll no longer manage if you can save a document to the system, but instead you need to be able to handle that substance.[22] (O2I3)

As Sage in the narrative noticed, some other employees felt excitement for automation and the elimination of repetitive tasks, which highlights the individual differences in how automation was perceived within an organisation. Some interviewees felt this transition as positive in terms of employees' well-being at work, since it enabled more meaningful work opportunities. These interviewees highlighted the monotonous, repetitive manual work as a factor for frustration and exhaustion, whereas more meaningful and challenging work tasks were viewed to increase employees' job satisfaction. For instance, one interviewee outlined as:

Yeah it increases well-being at work that you get to do those challenging, those tasks of your level and not have to do something that a school student could manage on a charity day[23] (O2I5)

Hence, some interviewees perceived automation as an element that increases employees' motivation by allowing more time to complete meaningful work, which was viewed to induce positive effects on well-being at work.

Handling the claims that demand constantly high cognitive skills and critical thinking was also identified to burden employees in contrast to former procedures, which included less cognitive tasks. This was illustrated in Sage's narrative as Sage felt highly stressed due to new work tasks. Hence, new job design was presumed being more exhaustive, as for instance, narrated by one interviewee:

Those questions that come up from there are not easy anymore […] I imagine it is tiring if you cannot get a pause of breath while working but instead its constant difficult decision making.[24] (O2I6)

In addition, as presented in Sage's narrative, the automation had resulted in increased demands for an academic degree due to the high-cognitive skills new job design require from employees. Some interviewees outlined that new job characteristics require an academic degree due to the complexity of the tasks. Sage's positive reception to this presents one way to react. However, as interviewees highlighted, the heterogeneity of employees results in various reactions, which depend on individual differences. Hence, a few interviewees noted that some employees may not be considered adequate for the position. The following narration of one interviewee encapsulates this issue:

> The people we can recruit have to be already high educated generally so that they could be capable to do those tasks. Surely it puzzles that not everyone who works here are high-educated […] But here those kind of jobs are quite rapidly reduced especially now when this new software is coming, in which we can set rules for automation more easily so there'll be more and more tasks that need cogitation […] and there are people who may not be able to do that[25] (O2I6)

These interviewees viewed that as technology advances, the employees who lack the new interpretative skill requirements are inclined to be laid off in the future. This demand for additional skills was noted to inevitably increase the feelings of job insecurity among employees. The risk of redundancy was clarified to specifically concern employees with limited skills and competences, who are therefore not considered qualified to pursue more interpretative tasks. A few interviewees stressed the heterogeneity of employees and felt that automation was interpreted as negative in terms of well-being at work among those who enjoy routine-tasks and who lack competences and skills for more interpretative work.

Hence, automation is understood to incur both positive and negative effect on well-being at work, which is deemed to depend on the individual's ability to adopt new more challenging job design. Stress and negative emotions towards automation as well as job insecurity were noted to be a concern for employees who do not have and do not wish to adapt and to develop their skills, whereas those employees who enjoy performing more challenging tasks were believed to be likely to perceive automation as a positive

opportunity. These factors encapsulate that individual factors are understood to have a major role in the way how automation appears to affect well-being at work.

4.2.5 Summary of the central themes regarding ES

Table 7 presents the central findings related to introduction of new ES, which has enabled implementations of digitisation and automation within the PA organisation. These technological changes have resulted in major transformations of work and new job design. These changes were understood to be centrally related to individual well-being at work. Digitisation was perceived as a rather significant digital leap within the organisation, which instantiates that the organisation's operations have formerly been relatively old-fashioned. The average age within the PA organisation was reported as relatively old, which was viewed to reflect employees' reactions and receptions towards new technology. This is explained more in depth later in the chapter 4.4, which discusses the factors of adoption and acceptance of technology.

Table 7 Summary of the central themes regarding the ES

Element of digitalisation	Work transformation	New job design	Positive aspect of well-being at work	Negative aspect of well-being at work
Enterprise systems (ES)	Digitisation	More convenience and effectiveness	Job satisfaction	
		Accomplishments less concrete		Stress
	Utilisation of the systems	Interpretative work	Job satisfaction	Exhaustion
		Expectations for new skills and know-how		Stress
		Better career opportunities	Work-life balance	
	Automation	Elimination of low-skilled routine work	Job satisfaction	Exhaustion
		More interpretative work		Stress
		Increased demand for high-skilled cognitive knowledge		

4.3 ICT tools

4.3.1 Narratives of Max and Jo

The narrative of Max describes how interviewees perceived the introduction and utilisation of ICT-tools. The narrative presents the following central themes: work transformation and altered job design as a result of utilising ICT-tools, flexible working, challenges of detachment from work, constant availability, information flood, exhaustion, team climate, job satisfaction and skill differences in acceptance of technology tools.

Narrative of Max

Max is a 37-year-old IT-expert, specialised in data mining and artificial neural networks, currently working in an organisation that has utilised digital solutions in both internal and external processes since the launch of the business. Max constantly follows digital trends to foster the future-oriented visions and aspirations. At times an infinite amount of global information feels overwhelming as Max seeks new digital solutions to facilitate and speed up the organisation's processes.

Max remembers how Max and the fellow team members gave high fives in the meeting room a decade ago when they got to know that the specialists from customer relations team finally agreed to pilot virtual working environment for collaboration. For Max, online working solutions seemed like the tiniest possible antagonist within the obscure, yet fascinating digital jungle the whole society was already in, but instead more like an opportunity for more flexible working opportunities.

Despite Max's and IT-colleagues' upfront enthusiasm, the palpable tension and extremely awkward atmosphere during the first online meeting filled the digital room. Serious expressions reminded Max the earnest pictures of his great-grandfather and the family in the early 20th century when the family had been photographed for the first time, which soon made Max ponder that maybe technology tools do seem a bit intimidating when presented for the

first time. Initial nervousness towards digital tools seemed to distract and temporarily push away the potential these tools could offer.

As Max was virtually guiding the frustrated colleague to set up an online presentation while the rest of the team waited with serious faces on, Max discovered that despite Max's personal enthusiasm it may take a while for the virtual meeting room to become as effective as face-to-face interactions.

Now, after a decade, Max is having a virtual meeting with the colleagues while driving to meet one of their most important customers. The virtual meeting is filled with laughter and Max casually reminds the colleagues to not constantly drift the topic back to their get-together last weekend. One of the colleagues suddenly brings up the topic of feeling overloaded with responses the colleague must provide to their international customer very late in the evenings. These late responses make challenging for the colleague to set offline before going to sleep. They all empathise and agree that as a result of technological development and endless amount of information, their work has become such an integrated part of their everyday life that detachment from work seems harder than ever before.

Narrative of Jo introduces the central themes of how interviewees perceived the introduction of virtual collaboration tools and remote working opportunities. The central thematic elements are stress, exhaustion, flexible working, transparency, alienation, job satisfaction work-life balance and age differences in the acceptance of new technology.

Narrative of Jo

Jo is a 30-year-old family-oriented partner and a parent of three children, who works as a customer relations expert in a well-known, small enterprise. Jo's work has always been relatively flexible and independent. Controlling and organising work autonomously suits Jo's needs well as Jo strives to maintain important customer relationships, and constantly seeks new engaging co-operation opportunities.

A few years ago, before the virtual collaboration tools were introduced, a great chunk of Jo's work was spent in a car or a train, en route to meet Jo's co-operation partners. Behind Jo's unflinching smile and energetic presence there was a tint of exhaustion, which was covered by Jo's impressive politeness. Jo often felt so drained and exhausted on the journey back home, Jo was increasingly worried that the drained look would at some point influence customer relationships. Those days when Jo was not travelling, the busy office with constant interruptions did not accommodate Jo's hopes for temporary slowdown and silence.

Jo's wish was literally granted when the organisation implemented virtual collaboration tools, which emancipated Jo from the chains of excessive travelling. Jo was able to work in pyjamas, next to the fireplace and enjoy a sip of morning coffee while preparing material for an important external teleconference. Jo felt able to concentrate more intensively, since no one came and knocked on Jo's home office door for a quick chat.

The additional, valuable time Jo gained from traveling less was spent recovering or enjoying quality time with the family. However, working remotely also caused some unexpected challenges Jo was not prepared for. Jo was informed that Jo and another colleague had accidentally contacted the same potential customer, and both had made an offer with different specs, which had caused additional hassle. Jo and his team soon realised that active online interaction was one of the very essential building blocks for sustaining transparency in this new virtual era within their organisation.

A year after the implementation, Jo felt significantly less stressed as Jo felt that the work-life balance had increased enormously. At times Jo felt isolated and socially disconnected working alone at home during the days. Online meetings with tiny frames of faces on the computer screen did not feel the same as face-to-face interactions. "Luckily tomorrow's monthly meeting is still held at the office", Jo contemplated whilst also thinking that despite all the challenges and isolation, amalgamation of work with family time felt more accessible than ever before.

4.3.2 Utilisation of ICT tools

The narratives of Max and Joe illustrate enormous transformation of work and how the implementation and utilisation of ICT is experienced within the two organisations. In addition, they depict how the new tools ultimately altered both job design and working environment. ICT tools were identified as elements of digitalisation that had completely transformed job design and working environment within both the PC and the PA organisations. All interviewees of the PC organisation frequently mentioned the utilisation of different ICT tools in the interviews and accounted them crucial in basic day-to-day operations. Several interviewees of the PA organisation also mentioned the ICT tools, but only some of the interviewees noted the utilisation of these tools as central elements in digitalisation. This indicates that other elements of digitalisation (digitisation and automation as a result of ES) were perceived to be more pivotal elements within the organisation.

It is important to specify that the narrations regarding the utilisation of ICT-tools by the interviewees of the PA organisation were mostly their personal experiences and perspectives. These were in contrast to their narrations of other aspects of digitalisation, which contained interpretations and perceptions on how the employees and their subordinates perceived work transformation. This was presumably because the interviewees had personal experiences and strong emotions related to altered work as a result of ICT tools. The narrations of the PC organisation's interviewees were mainly about their personal experiences with ICT tools with minor observations regarding their colleagues. The altered job design as a result of the use of ICT tools was addressed as rather significant in terms of well-being at work in both organisations.

The increased use of ICT tools for internal communication was highlighted by the interviewees of both organisations, and it was described as a central work transforming element. Interviewees of the PA organisation mainly discussed the use of email and teleconferencing applications, although few interviewees mentioned the recent implementation of sharing platforms for more streamlined communication and project sharing. The implementation of virtual collaboration tools was described as relatively new in the PA organisation. For instance, an interviewee of this organisation noted:

> We have the internal intra, which we only recently, last year, got in SharePoint-platform, and it has enabled in a totally different way that you can use it as a commonly shared work space, but I mean we're still gradually learning all those opportunities it has there.[26] (O2I6)

In contrast, all interviewees of the PC organisation mentioned an extensive utilisation of digital communication tools as well as virtual collaboration platforms in the majority of their internal and external operations. The use of virtual collaboration and online environment tools were described as regular day-to-day activities, and several interviewees emphasised the lack of use of some older ICT solutions, including emails. This significant change was for instance noted by one interviewee: "We never send emails, and everything is happening via this real time collaborative environment"[27] (O1I1). Hence, the level of digitalisation in terms of the utilisation of ICT is relatively different in these organisations, particularly, the level of digitality of the PC organisation appears significantly higher compared to the PA organisation.

Interviewees of both organisations reported transformed job design through the utilisation of ICT tools. Interviewees described both advantages as well as challenges of altered job design in terms of well-being at work. The clear advantages identified by the interviewees of both organisations were more flexible working opportunities and increased transparency. Interviewees of the PC organisation also reported gaining better team climate through the utilisation of ICT-tools. Nevertheless, interviewees of both organisations perceived the pressure of being constantly available to be challenge in utilising ICT tools. Furthermore, interviewees of the PC organisation also identified information flood, detachment from work, transparency issues, overload and alienation as a result of remote work as challenges in terms of well-being at work. These are discussed more in-depth in the following sections.

4.3.3 Transparency

In the narrative of Max, increased utilisation of ICT tools provided more transparent communications in the team, which induced a better team climate. In contrast, the narrative of Jo presented how the utilisation of ICT tools posed issues in transparency,

which caused additional hassle to Jo and the colleague. Therefore, ICT tools were viewed as both enablers and inhibitors of transparency.

Interviewees of both organisations outlined that ICT tools provide a more effective and transparent working environment. Having such an environment was deemed to reduce hassle and inconvenience, and therefore to increase the quality of working life. This is highlighted by one interviewee of the PC organisation as:

> Our every [interaction], every activity is transparent. Everything happens in real time. I'd be in any part of the world, I would still know precisely what's happening. I can contribute to everything what's going on.[28] (O1I1)

In the narrative of Max, the colleagues had relatively informal and relaxed conversation via ICT tools, which highlights that enhanced team climate was attained regardless the location. Nearly all interviewees of the PC organisation highlighted having a more open organisational culture and better team climate, which were enabled by the transparent virtual working environment. Virtual working environment was seen as a significant aid, since employees did not meet each other face-to-face very often. The interviewees described that digital platforms have increased the feeling of togetherness and belonging in a community since employees are able to be more in touch. One interviewee highlighted the importance of digital channels for maintaining the feeling of togetherness and team climate as:

> When this organisation is geographically dispersed, it's truly important that there's [digital] channels for handling also other things than only serious matters, [such as] for creating togetherness and it's very important that whether it's this kind of amusement and having fun and humour or just serious matters or something in between. […] Yes, I see it as important.[29] (O1I3)

However, as presented in the narrative of Jo how Jo faced additional hassle and frustration due to transparency issues with the colleagues, transparency was not always perceived to be fully attained through the utilisation of ICT tools. A few interviewees of the PC organisation addressed transparency issues due to the use of digital interaction in contrast

to face-to-face communication. Those interviewees observed that the issues were due to individual differences in the willingness to share information and becoming transparent, as noted by one interviewee:

> There's always an ongoing debate about how intensely transparently each person is working.[30] (O1I5)

The lack of transparency and the additional hassle were viewed as a factor of strain, as one interviewee described:

> Still there'll be these kind of boring situations like "Oh have you also contacted them? I saw that [person] and I didn't know" and like so. Then again, I think that it always affects well-being, like those are the things that strain easily, affect people's mood negatively, those unnecessary hassles.[31] (O1I3)

Interviewees emphasised that due to geographical dispersion and remote work, other employees are not always fully aware of everyone's activities, which had caused unnecessary hassle and double work. Interviewees recalled that they did not formerly have similar transparency issues when employees had more face-to-face meetings. Since double work and unnecessarily hassle due to transparency issues were deemed to negatively reflect on the team climate as well as individual mood, they were perceived to have a negative effect on individual well-being at work.

4.3.4 Flexible working

Flexible working, which was outlined to significantly transform individuals' work, was a central theme in the narrative of Jo. In this narrative, flexible working induced a significantly positive impact on Jo's work and ultimately to Jo's well-being by travelling less as well as being able to schedule work better. Nearly all of the interviewees who addressed the use of ICT tools, highlighted also more flexible working opportunities. These opportunities were identified as highly positive effects of digitalisation. The interviewees of the PC organisation described their work as geographically dispersed with excessive travelling, which was reported as a significant factor for employees' exhaustion.

This initial work setting was illustrated in the narrative of Jo, in which Jo felt extremely exhausted and close to having a burnout due to travelling and working at the customer interface. Travelling was clearly viewed as a negative factor in terms of interviewees' well-being at work.

Interviewees of the PC organisation outlined an increased use of teleconferencing in internal operations as well as customer interactions in order to reduce the amount of travelling. All interviewees of the PC organisation showed strong positive emotions towards flexible working and varietal working opportunities due it reducing the need for travelling, thus increasing the time for recovery. This was demonstrated in Jo's narrative: Jo finally had time to recover from work after teleconferencing and remote work was implemented as a part of the organisation's daily operations. The following quotes summarise how interviewees of the PC organisation described work transformation:

> The amount of our internal [face-to-face] collaboration days have been decreased […] We started by ourselves to throw wrench in the works thinking what is the point of this that we always see each other face-to-face when we travel anyway, so we still, while being exhausted, gather up somewhere in the middle of the traffic jam. Let's rather do it this way that you can stay at home and have your woolen socks on those days.[32] (O1I3)

> All meetings, not all but most of the meetings, is currently held as virtual meetings and you don't have to travel to the spot.[33] (O1I3)

Also, the interviewees of the PA organisation addressed more flexible work opportunities, which have reduced the necessity to travel to meetings and alleviated the amalgamation of work and spare time. For example, one interviewee of the PA organisation summarised:

> It's not that long time ago, maybe four or five years ago, everything happened between the walls. There was no remote work, [that] was not allowed to do, it was prohibited. Meetings were held physically, people travelled. Now everything is online.[34] (O2I3)

Remote work was addressed by nearly all interviewees of both organisations in a highly unified manner. Therefore it is clearly central in terms of work transformation through the implementation of ICT tools. All interviewees of the PC organisation and those interviewees of the PA organisation who noted ICT tools, felt that remote work had a significant positive influence on their well-being at work. The interviewees of the PA organisation reported the benefits of remote work and it was perceived as a significant positive factor for increasing job satisfaction and motivation. Flexible working opportunities, including remote work, were noted to offer opportunities for designing and scheduling one's own work as well as choosing one's working environment, according to individual preferences. These elements were seen as optimisation of effectiveness and productivity. For instance, one interviewee of the PC organisation noted:

> Work can be done anywhere. It is, it is probably that I was this morning, I didn't come to the office but instead I went to the café and it was a factor that increased my well-being at work. And […] I read the newspaper and I did tiny bit of intensive work there[35] (O1I4)

As presented in Jo's narrative, remote work also enabled better amalgamation of work and spare time, which induced a positive effect on Jo's work-family balance. Remote work was noted to provide better optimisation of work-life balance by allowing flexible ways to schedule work and spare time errands. It was perceived to be a highly salient element of increased overall job satisfaction. For example, one interviewee of the PA organisation narrated the impact of digital tools to well-being as follows:

> [Refers to ICT tools] It has enabled that you can do remote work. I see it like, I mean for me it, I see it something like that those people are so much more satisfied, that you can be more flexible with the family-life or with some other than work-life that when you perhaps do it, yeah when you start working or whether you start it with your pyjamas on, so how do you do it. Then you have breaks and continue. Such other life, the pacing of the other life has become easier as an employee, when you think about this digitalisation in terms of our job[36] (O2I6)

Also, interviewees of the PC organisation viewed remote work as a significant aid for individuals with families. Remote work was highlighted to provide better work-life balance through decreased amount of hassle, exhaustion and additional challenges with scheduling. For example, one interviewee of the PC organisation exemplifies this:

> We for example have one consultant who has been hardcore to travel and it has been a very big challenge for her and like so with small children, so they said that they currently do significantly more, over than a half of their customer work by utilising digital tools[37] (O1I3)

Interviewees' perceptions of flexible work opportunities in terms of balancing work and life activities underscore the salience of flexibility in work-life balance. Moreover, this flexibility was also interpreted as a construct of better health and well-being at work.

However, in Jo's narrative extensive remote working also incurred feelings of isolation and being socially disconnected, which highlights the reported conflicting outcomes of excessive utilisation of ICT without physical interaction with people. Some interviewees noted that flexible working also resulted in less face-to-face interaction, which was identified as a challenge for well-being at work. Lack of face-to-face social interaction and its implications for well-being at work due to the lack of physical social context was identified by some interviewees of both organisations. These interviewees highlighted the importance of face-to-face interaction in between the utilisation of ICT tools and perceived the extensive use of digital tools without physical interaction as detrimental. Interviewees stressed this challenge when referring to flexible working opportunities and remote work. For example, this is noted by one interviewee of the PC organisation: "We have identified by ourselves for example that if you do work from home for long, for several days without having social interaction, so it also is very tough in terms of your well-being"[38] (O1I3).

Jo's anticipation for the physically held monthly meeting highlights individuals' need for having physical social interaction between the utilisation of ICT tools. Interviewees of the PC organisation disclosed that some meetings per year are still held as physical meetings in order to sustain the face-to-face social interaction. For example, this is stressed by one interviewee of the PC organisation:

But we have still understood that [teleconferences] are not the same thing nevertheless compared to face-to-face meetings. It is equally important that we see each other and that there'd be this kind of social interaction and so-called physical interaction[39] (O1I3)

A few interviewees of the PA organisation also addressed that expertise and support available only through digital channels have resulted in feelings of insecurity among some employees, specifically among individuals of older age, who were viewed as less used to digital interaction. For instance, this is remarked in the following narration:

[Refers to ICT tools] [They] kind of experience insecurity with it, that when you have used to have for example your best support in the local office [...] Now the expert is instead [in different location], so then you don't know them. It may be that you don't even see them every year but then you'd need to be in touch with them, so this has especially to our more seasoned people, it has been like a threshold[40] (O2I4)

Face-to-face interactions were not felt as fully substitutable by digital interactions since they were felt as crucial for increasing companionship and safety. However, individual's ability to adopt and accept new working culture was addressed by several interviewees. For instance, one interviewee of the PA organisation questioned the need for face-to-face interaction, which encapsulates the central conception related acceptance of new job design and working culture:

This is already getting into this that do we really need these offices. It is a bit like now people put on the break a bit as they still need to see their colleagues but is it really necessary?[41] (O2I3)

Although the utilisation of flexible working opportunities was perceived as highly positive in terms of individual well-being at work, face-to-face interaction was viewed as equally crucial for diminishing alienation and for sustaining the feelings of togetherness.

4.3.5 Information flood and constant availability

Information flood and constant availability were themes illustrated in the narrative of Max. Interviewees of both organisations identified the pressure for constant availability as a result of the utilisation of ICT tools and accelerated processes. Accelerated processes and ability to communicate anytime and anywhere were perceived to increase pressure for faster responses. This novel pressure was noted to cause exhaustion and irritation. For example, as indicated in the following quotes of one interviewee from the PA organisation:

> The downside of this is something that has been present for a long time. This cycle has increased, even here at our place. Before if you sent an email, the expectation was that you will respond within the same day or maybe the next day. Now if the response is not received within half an hour people are straight away in touch: "Didn't you notice it?"[42] (O2I3)

> This speed has increased […] When I think about the time when I started, when the most advanced tool was a fax, so then you might have had that […] one thing took several weeks. Now if it is not taken care of within an hour it will be a totally horrible disaster[43] (O2I3)

> Accelerated and constant operations were also perceived as considerably stressful due to the ability to respond at any time of the day, as noted by the same interviewee: "[Organisation] is running 44/7 so it is pretty stressful for the kind of person who makes sure that they take care of their job"[44] (O2I3)

As illustrated in the narrative of Max, one of the colleagues disclosed feeling overloaded with responses to messages very late in the evening, which highlights the negative effect the interviewees identified as a result of utilisation of ICT tools. All interviewees of the PC organisation and one interviewee of the PA organisation reported that online platforms as well as other digital tools provide ability but also pressure to be constantly available, which hampers going offline and thus complicates detachment from work. For instance, one interviewee of the PA organisation noted: "Only few are such though bones who hit offline and then they won't even look until the next morning"[45] (O2H3)

Some interviewees of both organisations stressed that being constantly connected via digital tools induce symptoms related to stress and burnout. For instance, one interviewee of the PC organisation pinpointed the link between extensive use of ICT tools and exhaustion due to overload: "We have an opportunity to effectively connect to everything, but then you need to have some ability to do smart choices because otherwise it will go into an overload"[46] (O1I2). Also, another interviewee of the PA organisation concluded: "These should facilitate these. It feels like you are always at work, however. Kind of adverse effects this has"[47] (O2I3).

In addition, some interviewees, specifically from the PC organisation, identified continuous information flood occurring in internal communication platforms as well as generally in today's digital society. Platforms were perceived at times exhausting, since interviewees felt the need to be constantly updated. Information flood was also viewed as a significant complicating factor for detachment from work during spare time. For instance, one interviewee communicates these challenges as follows:

> People have a hard time being on a holiday when they know that everything is behind a couple of clicks so "what happens there, and can I stay out from there?" And then again, us who work with customers when a lot of things happen virtually so days become easily long, when you try to swim along the flow of how much has happened during one day[48] (O1I1)

As illustrated in the narrative of Max, the colleagues agreed on having difficulties detaching from work due to information flood and the pressure of being constantly available, which highlights the negative effects that ICT tools were experienced to cause regarding individuals' well-being. The demand as well as pressure for being constantly available due to the accelerated environment was reported to challenge individual self-management capabilities, thus complicating detachment from work. This was noted by one interviewee of the PC organisation: "This amount of technology and all these possibilities so yeah it will make the challenge of self-management really, truly big like when am I at work and when am I out of work"[49] (O1I5).

Those Interviewees of the PC organisation who reported an extensive utilisation of virtual collaboration tools in both internal and external operations, identified that ICT tools

inevitably blurs the line between work and spare time and therefore creates challenges for detachment from work. Hence, instead of the work shift and other free-time activities being separate elements in a person's typical day, work was rather perceived as an integral part that was embedded within other aspects of life. This was also viewed as a positive factor regarding well-being at work if self-managed successfully. Otherwise, the agile embedding of work into life outside the office hours was reported to result in major difficulties in detachment from work and can lead to exhaustion.

4.3.6 Summary of the central themes regarding ICT tools

The summary of central findings related to ICT tools is presented in Table 8. The main work transformations have been an increase in the use of digital communication tools, teleconferencing and virtual environments for communication purposes, which have reshaped job design in both organisations. Although interviewees' overall reception and attitude towards ICT were highly positive, interviewees highlighted some significant negative factors resulting from the utilisation of ICT tools that they deemed to influence their individual well-being at work. Hence, interviewees of both organisations experienced the dual implications of ICT for well-being. Majority of the interviewees felt that ICT tools have all in all offered significant benefits to employees' quality of work life, thus increasing individual well-being at work.

Table 8 Summary of central findings regarding the ICT tools

Element of digitalisation	Work transformation	New job design	Positive aspect on well-being at work	Negative aspect on well-being at work
ICT-tools	Digital communication Teleconferencing Virtual collaboration	Flexible working opportunities Remote work Better team climate More transparency	Job satisfaction Work-life balance	
		Information flood Pressure for constant availability Challenge in detachment of work Issues of transparency Less face-to-face interaction Alienation		Frustration Exhaustion Stress

4.4 Dynamic nature of well-being – Adoption and acceptance of new technology

The dynamic nature of job satisfaction and overall well-being at work resulting from technological change was discovered through thematic narrative analysis, which highlighted the centrality of individual acceptance time. The implementations of digital tools and systems were not seen as straightforward processes in neither of the organisations, as described in the following exemplary quotes:

> It certainly isn't that we would only have a full house of early adopters here, but instead we have just regular folks, I mean those who indeed need some time to digest new things[50] (O1I5)

> We have people here who react with excitement to changes and then we have people who are passive, those who wait and see how masses move and then we have those who stand in the opposite shore until the end, so we have a whole spectrum here[51] (O2I5)

The adoption and acceptance were the themes that emerged from the interviews organically, that is, interviewees were not asked about adoption nor the process of acceptance when new digital technology tools had been introduced. Several interviewees started intuitively narrating the acceptance journey when they were asked about how they had experienced elements of digitalisation and their implications for well-being at work. Interviewees interpreted that successful adoption and acceptance are the central elements altering individual well-being at work through time when the elements of digitalisation were experienced within organisation.

When interviewees described the implementation of new technology and their perceptions on how it has affected well-being at work, interviewees narrated both their own experiences as well as their interpretations of employees' journeys and on how well-being at work has altered through the acceptance process of digital tools. Several interviewees mentioned observing how some individuals have been longing for former traditions, while others narrated their personal experiences of facing initial difficulties and scepticism with new technology tools, which initially had affected their well-being

negatively. Afterwards, when new digital tools had been successfully adopted and accepted, and the new job design was viewed as more familiar, interviewees narrated experiences related to more positive aspects of well-being at work. This particular acceptance process was illustrated in the narratives of both Charlie and Sage. For instance, the following exemplary narration excerpts from both organisations highlight these aspects:

> Yes I do remember when, I think it was four or five years ago when we initiated those [teleconferencing days], so it was like, a little bit nervousness and like how is it done and all those similar [feelings] and what will go wrong and all those similar stuff. So isn't it so funny how it has become a routine and how we can utilise it so much and […] not that many years ago when we started to have customer meetings online and back then there also initially existed a barrier and now it has become very rapidly an everyday work[52] (O1I5)

> [Responses to the question regarding the effects of digitalisation on well-being at work] Yes it certainly affects it. Let's say that three years ago we joined to this world of enterprise systems […] So back then we cut out paperwork and all monitoring is done at computers and back then I was thinking how is this going to work, are we actually even getting people to join or where am I going to hear rattle of "not capable, cannot do it" […] When I now afterwards think it all went very well[53] (O2I1)

In contrast, the narratives of Max and Jo demonstrated a faster adoption of new tools, which required less time for acceptance. Interviewees identified that individual characteristics, particularly the age and skill differences, were central factors affecting individual ability to adopt and accept new digital tools. The interview material was also analysed by considering the differences in interviewees' individual characteristics (age and IT skills) based on the information disclosed by the interviewees. The age and skills differences were identified to influence how the interviewees themselves perceived digital tools and the implementations of new technologies. The effects of these differences in characteristics are explored in the following sub-chapters.

4.4.1 Age differences

Age differences were stressed by all interviewees of the PA organisation and by most interviewees of the PC organisation. Interviewees' own age group also appeared to affect how interviewees of both organisations viewed new digital tools, as well as how they narrated other individuals' experiences of new technology tools. The narratives of particularly Charlie and Jo illustrate the contrast in how older employees versus younger employees were perceived to adopt new technology.

Majority of the PA organisation's interviewees addressed the relatively old personnel within their organisation. All interviewees of the PA organisation, some on several occasions, described the issues faced by the older employees regarding the utilisation digital technology. For instance, one interviewee described the challenge as follows:

> Surely here's this equation that quite many of our staff is well aged, so average age is turning over fifty. That's the way it is that those people have slight challenges to keep up with this progress.[54] (O2I3)

Those interviewees, who were of older age, showed a strong empathy towards adoption issues of other older employees and reflected their personal encounters with digital tools in order to portray sympathy towards the challenges faced by older employees. Interviewees noted that the adoption differences between the younger versus the older employees are due to the older employees' lack of experience with digital tools in contrast to the younger employees. For instance, this is shown in the following exemplary quotes by interviewees from both organisations:

> I have got in my working life [to use computer] only when I was something like over thirty years old so the threshold and easiness to learn is something else.[55] (O2I1)

> I know that my kinds who are becoming an adult so they think these are quite basic stuff but I'm that age so I remember that I have been working a big part of my work-life without these tools so it is a little bit of different experience[56] (O1I2)

Older employees were also identified to demand more time to accept technological changes, as noted by one interviewee of the PA organisation: We of course have those people who are a bit older and all changes takes a little bit longer to digest[57] (O2H5). Interviewees also viewed that older employees are more inclined to show initial resistance towards new technology, as narrated in the following quote by another interviewee of the PA organisation:

> We got the personal laptops then and those people were then, they were something like 55-years old some of them and they wanted then that they are not going to use those computers at all and they thought they could continue doing things with paper until 64-years old. That's not going to happen.[58] (O2H4)

Interviewees described the older employees had at times shown initial resistance towards altered job design regardless of the inconvenience of the older job design, which indicates that negative emotions felt by older people appear to be due to the lack of overall acceptance of digital tools. The lack of acceptance was considered a challenge that may hinder employees' own productivity, causing frustration and ultimately leading to emotions of ineptness. However, several interviewees narrated how they did not see the resistance and negative emotions towards technology tools permanent, but instead likely to alter as the familiarity with the digital tools increases. Interviewees believed that majority of the older employees are ultimately acceptive towards new technology as long as some acceptance time is provided. Hence, the frustrating emotions with technology tools and the perceived negative effects on well-being at work were interpreted to be temporary. For instance, one interviewee emphasised this by disclosing their own initial emotions with teleconferences via ICT-tools:

> Yeah, I do remember that I said that I am not going to have any Lync meetings that you can keep your meetings, and it took less than a half year when we had relatively big meetings with Lync and it works fine[59] (O2I1)

The older employees' process of acceptance was identified as a central factor for reducing the risk of negative effects on well-being. Several interviewees of the PA organisation described the measures that had been taken in order to ensure older employees' successful

adoption of basic ICT tools as well as more complex ES. For instance, one interviewee in a managerial position depicted:

> Yeah in my department there were those over sixty years old experts who had never taken their computer off the dock so now we have to put the computer to a bag even for a night and then set it online in the morning, so that's where we started from[60] (O2I1)

Hence, challenges with digital tools faced by older employees were not perceived to be permanent obstacles. Instead, older age groups were identified to require more time, support and leadership measures in order to ensure successful adoption of new digital tools.

4.4.2 Individual differences in skills

As with age differences, individual differences in skills were viewed to reflect the ability to adopt new digital tools. The narratives of Charlie and Sage illustrate how lack of skills was viewed to pose challenges for acceptance, whereas narratives of Max and Jo present how sufficient skills were perceived to facilitate the agile adoption of new digital tools. Also, the interviewees' own individual differences in skills affected how they narrated digital tools and technological changes. Interviewees identified that employees with strong IT-background, sufficient skills and attitude adopt new digital tools more naturally in contrast to employees who do not have the required skills when new technology is implemented. Some interviewees also viewed that IT-skills are related to individual productivity. Lack of skills were perceived to be a challenge in terms of well-being at work due to the difficulties and ineptness felt by the employees who do not possess required skills and know-how. Interviewees also noted that employees without sufficient skills and competences were perceived to suffer from continuous changes and updates related to new technology. Interviewees suggested that those employees who do not have the sufficient skills, were reported to feel more intimidated and stressed when new tools were introduced. For example, one interviewee suggested:

> I do guess that we have those people who clearly have a humanistic education and psychology background so they may not have [skills] so the digitality can

contain this little troll in like how are these being learnt to use and adopted and "am I going to survive or am I going to be able to become digital?[61] (O1I2)

Symptoms of exhaustion were seen to mainly occur among individuals who do not have the capacity to learn the skills needed. For instance, as one interviewee of the PA organisation narrated:

> We had this moment when we felt that world was in control, but now it all has fallen apart in our hands due to this mobile aspect. Yeah it may cause like exhaustion for people to like "have a know-how for everything". The group of people, who don't have capability and opportunity, it will certainly cause un-well-being at work there.[62] (O2I3)

Interviewees, specifically those who had an IT-background, had previous experience with digital tools or had been a part in the development of ES, felt technological developments as purely positive transformations. Interviewees who had a strong IT-background showed strong positive attitude towards new tools and suggested that majority of employees are ultimately adaptive to new job design. Those interviewees emphasised that technology provides more meaningful and challenging work opportunities for everyone, which was seen as a positive outcome. Some interviewees with IT-skills also perceived the repetitive tasks as stressors and supposed that other individuals would also perceive more challenging work tasks as positive in terms of work motivation and job satisfaction. For instance, as one interviewee of the PA organisation described:

> The phone service here is huge as well so that is only like a monkey job. So, if someone could [do it] for us we could concentrate only on the content and counting and interpretation related to the information, not just hit the info in. So yeah it definitely increases work motivation[63] (O2I5)

Interviewees with IT-background also showed more positive attitude towards tackling new tools, as for instance noted by one interviewee:

> I have after all been in the IT-sector before, although those times when I was programming, those skills have nothing to do with skills that are needed now.

But maybe I have this type of attitude that I can survive with these gadgets[64] (O1I2)

However, several interviewees stated that majority of employees have adopted new digital tools well through training and support regardless of the initial resistance, scepticism and lack of skills. This suggests that even though new digital tools may initially cause confusion and stress, individuals could ultimately through training and support show acceptance towards new technology.

4.4.3 Summary of adoption and acceptance of new technology

Adoption and acceptance of technology were some of the themes to which interviewees referred to various times referred to when they narrated about well-being at work. Interviewees identified that both age and individual skills reflected how technological changes were perceived. Interviewees' own individual age and skills also appeared to affect how the interviewees perceived technological changes and altered job design in general.

Each thematic narrative represented the unique journeys of acceptance illustrating the central elements related to the acceptance process described in the interview material. The narratives represented how these two factors, age and skills, were interpreted to reflect the individual adoption and acceptance of new technology. Table 9 (p. 101) shows the individual characteristics of each narrative character, the character's ability to adopt and accept new tools and the dynamic aspects of well-being. Since the narratives are based on the interview material, the purpose of Table 9 is to aid the reader's understanding regarding the adoption and acceptance of new technology and the dynamic nature of well-being at work the interviewees narrated. Individuals with older age and/or less skills were described to face initial frustration and stress. However, after successful adoption was completed, those individuals were perceived to demonstrate acceptance towards new technology and job design, which had resulted in increased job satisfaction.

Table 9 Individual factors and acceptance of technology

Character of the narrative	Individual characteristics	Adoption and acceptance of technology	Aspect of well-being
Charlie	Older age	Slow adopter: Demands time and support for acceptance	Initial job exhaustion. Afterwards increased job satisfaction.
Sage	Less educated negative attitude	Slow adopter: Demands time and support for acceptance	Initial scepticism, job insecurity, exhaustion. Afterwards increased job satisfaction
Max	IT-background, positive attitude	Fast adopter: Agile acceptance	Instantly increased job satisfaction. Risk of stress and exhaustion.
Jo	Younger age	Fast adopter: Agile acceptance	Instantly better work-life balance. Risk of stress and exhaustion.

Hence, the alterations of well-being at work were identified to prevail among those individuals who lack the skills needed and who are of older age. In contrast, those individuals who possessed the required skills, had a positive attitude and/or were of younger age, and were viewed as agile adopters of new technology. The nature of well-being at work among fast-adopters was not interpreted as dynamic as with slow-adopters. However, interviewees noted risks of new job design to well-being at work to concern also fast adopters. These risks were overload due to extensive use of digital tools or alienation due to extensive remote work, which both were interpreted as antecedents of stress and exhaustion. The identified risks indicate that technology tools have the potential to incur negative aspects of well-being at work through time, regardless of the age and skills an individual has.

4.5 Conclusion of the findings

The results represent how the elements of digitalisation are constructed in practice at individual level. The results show through individuals' interpretations how technology shapes work and how these changes are perceived in terms of well-being at work. The research material, which was analysed utilising qualitative thematic narrative approach through a social constructionist lens, enhanced the understanding of how digitalisation was regarded in terms of well-being at work within two distinct organisations. Digitalisation was described to alter job design and it was viewed to affect individuals' well-being at work in various ways.

Interviewees of these two organisations experienced work transformation through different types of alterations in job design. The operations of the public administration organisation (PA) were reported as relatively old-fashioned. Hence, interviewees felt the introduction of new ES, digitisation, automation and the utilisation of ICT tools as major transformations of work, which had altered job design throughout the organisation. In contrast, the private-sector small consultancy (PC) organisation was characterised as more digital-oriented, thus interviewees narrated the alterations of job design through the utilisation of rather advanced virtual collaboration ICT tools.

The perceptions regarding the new job design resulting from the implementation of new ES in the PA organisation ranged from pure scepticism and exhaustion to eagerness and enthusiasm. These differences in perceptions were identified to be largely dependent on individual differences. Digitisation was felt as a positive change that creates more effectiveness, and moreover increases employees' job satisfaction. However, it was also associated with stress due to less concrete task accomplishments. ES was also perceived as a positive element in terms of work-life balance, since the software enabled better career opportunities as well as location independency. Automation had resulted in more interpretative work, which was viewed both as an opportunity for more meaningful work, but also as an antecedent for exhaustion and job insecurity due to increased skill demands. In addition, automation was described to eliminate low-skilled routine work, which was viewed both as an opportunity for more meaningful work, mainly among those with sufficient skills and know-how, but also as an antecedent for increased stress, exhaustion and job insecurity among those who were perceived to lack the required skills.

The implementation of ICT was perceived to induce both positive and negative aspects of well-being at work. The interviewees of the PC organisation enjoyed an increase in transparency through online interactions, but simultaneously felt an increased strain and frustration through additional hassle due to individual preferences regarding the extent of transparency with information sharing. ICT tools were also perceived as enablers for better team climate, a factor that was viewed as an important predecessor for job satisfaction. Interviewees of both organisations deemed flexible working opportunities enabled by the utilisation of ICT tools a highly positive factor. These new opportunities were perceived to increase job satisfaction as well as work-life balance. However, some interviewees pinpointed the risk for alienation through excessive use of ICT tools without face-to-face social interaction, which highlights that the sense of physical social support was considered important for individual health at work. Interviewees of both organisations noted ICT tools to be occasionally stressful and exhausting due to infinite information flood and the pressure for being constantly available. These issues were perceived to complicate the detachment from work and recovery.

Figure 8 illustrates how interviewees perceived the elements of digitalisation in terms of well-being at work and how they narrated the relationships of each thematic elements.
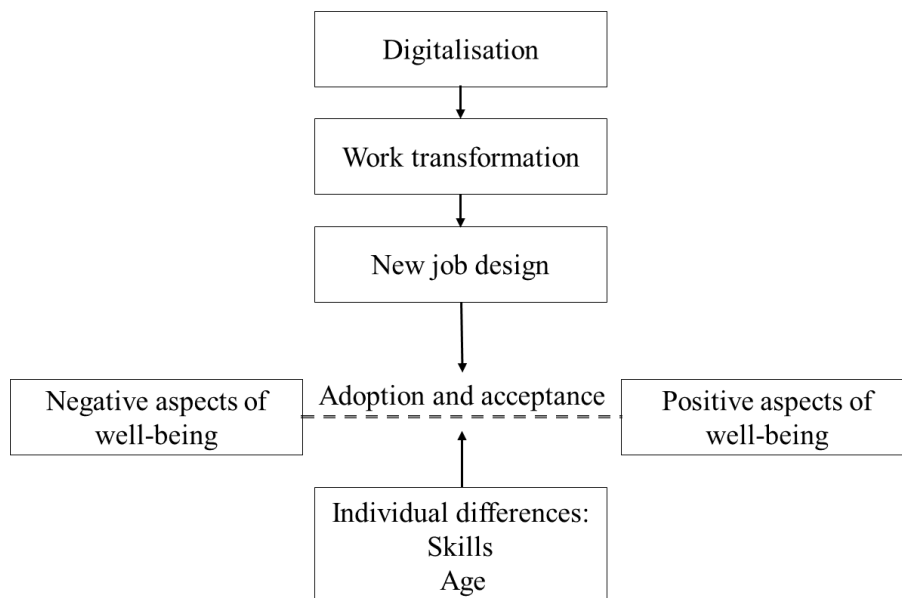
Figure 8 Relationship of the main elements

As Figure 8 illustrates, interviewees did not view the digitality itself as a direct predecessor affecting well-being at work, but rather as the origin of work transformation and alterations in job design. The dynamic nature of well-being at work emerged organically from the interviewees' narrations through their perceptions of adoption and acceptance journeys of new digital tools. The acceptance journeys with dynamic aspects of well-being were specifically associated to individuals of older age and/or limited IT-skills. Among individuals with less IT-skills, the initial emotions of frustration and stress with digital tools were later relinquished after more positive encounters with digital tools. After overcoming the initial difficulties, the usage of ICT tool was deemed to lead to increased job satisfaction through more effective work.

In contrast, individuals with adequate skills and know-how were viewed as faster adopters who accept new digital tools sooner and have a more positive attitude towards new tools. These individuals were described as having more positive experiences with new tools and reached the point of an increased job satisfaction and work-life balance through more effective and flexible work sooner. However, fast adopters were also seen to have a risk of facing negative aspects of well-being if utilisation was too excessive and without physical social interaction. Therefore, the narrations highlighted the dynamic nature of well-being at work, which was understood to be subject to alterations through time.

5 DISCUSSION

5.1 Theoretical contribution

The purpose of this study was to elaborate on the information of how digitalisation was perceived in terms of work transformation and well-being at work. Hence, the main research question in this study was:

R.Q How is digitalisation perceived in terms of work transformation and well-being at work?

It is well-known that digitalisation essentially reshapes job design (e.g Schwartzmuller, 2018; Nokelainen et al., 2018; Kaivo-Oja, 2017), and these alterations in job design are known to impact individual well-being at work (Korunka & Hoonakker, 2014). Therefore, in order to identify factors related to digitalisation that were associated with well-being at work, the overall phenomenon was divided into the following segments: introduction of new technology, transformation of job design, the perceptions related to aspects of well-being at work as a result of new job design and individuals' adoption and acceptance of new technology. Hence, this study explored the altered job design resulting from digitalisation, and how it was perceived in terms dynamics of well-being.

In order to approach this main research question, this study utilised an alternative and still relatively uncommon methodological inquiry in organisational and business studies: qualitative thematic narrative approach (Riessmann, 2008; Clandinin, 2007). Although technological development and its effect on well-being at work is today widely studied (e.g Day et al., 2010; Korunka & Hoonaker, 2014; Morris & Venkatesh, 2010; Mariani et al., 2013), a large amount of literature in this particular research field has used quantitative approaches (e.g Hurtienne et al., 2014). This highlighted the demand for investigation of field utilising alternative methodological inquiry in order to gain more comprehensive understanding of the phenomenon at an individual level. The results were presented with constructed thematic narratives of four characters, which aided in providing novel understanding of how job design and ultimately well-being at work is altered after the implementation of new digital solutions. These narratives comprised an

explicit and structured overview of the interviewees' perceptions of digitalisation as a phenomenon. Therefore, the central themes enrich the existing perspectives on work transformation and well-being by offering more in-depth insights of how these two significant elements were associated and related to one another.

In order to respond to the main research question, it is essential to cover the sub-questions, which aided in the discussion of how digitalisation was perceived in terms of work transformation and well-being at work. Hence, the next sub-question for this study were as follows:

1. What alterations of job design are identified and how are these perceived in terms of individual well-being at work?

The central elements of digitalisation the interviewees described were twofold: the implementations of digital ES in the PA organisation and the implementation of ICT-tools in both the PA and PC organisations. Hence, this study examined the transformation of work as a result of two distinct digital technology implementations. The results provided further knowledge responding a call for varietal information on how various digital systems affect job design in different work contexts (Bala & Venkatesh, 2013). Aligned with previous literature (Morris & Venkatesh, 2010; Ali & Miller, 2017) the implementation of digital ES had resulted in massive transformations of work tasks and work routines. Hence, employees' overall job design in the PA organisations had been altered. Consistent with previous research (Michaels et al., 2014; Nokelainen et al., 2018 Day et al., 2010; Hurtienne et al., 2014), the altered job design through the ES and automation was described to incur new expectations for high-cognitive know-how and interpretative skills, and elimination of low-skilled repetitive work tasks. These contrasting outcomes seem indeed common in today's workplaces.

Interviewees reported inevitable job insecurity as a result of automation, which is aligned with the previous literature (Kubicek et al., 2014). Some interviewees deemed that those employees who preferred repetitive tasks and disliked more interpretative work, will likely to be laid off in the future. Those employees were identified to feel emotions of job insecurity, indicating that they probably are aware of the possible elimination of low-skilled work tasks in the future. The emotions of job insecurity decrease employees'

motivation and attitude (Sverke et al., 2002), thus those employees had likely experienced decreased work performance, which may result in a negative organisational outcome. Results also related to the theory of job crafting (Wrzesniewski & Dutton, 2001; Bakker & Demerouti, 2014) and its effect on well-being a work. Prior to the implementation of digital ES, interviewees perceived that employees were able to choose their tasks, thus redesign their work shift, i.e craft their job. This type of job crafting was seen to diminish exhaustion and increase job satisfaction as it appeared to increase employees' job resources. Due to the altered job design as a result of the implementation of digital ES, employees were not able to choose the upcoming tasks, which was reported to increase job demands and exhaustion. Hence, new job design provided less opportunities for job crafting, which was perceived to increase exhaustion and stress among employees, suggesting that the implementation of new technology may simultaneously eliminate crucial job resources (e.g Bakker & Demerouti, 2014). However, the ES was considered to provide better career opportunities while simultaneously eliminating the pressure for having to move to another city for career advancement. These opportunities were interpreted as a positive element in terms of work-life balance, aligned with previous literature (e.g Breaugh & Faragee, 2012),

With respect to the implementation and utilisation of ICT tools in both organisations, the results provided very consistent support for the previous literature regarding the flexible work and its influence on job satisfaction (e.g Breaugh & Farabee, 2012; Hurtienne et al., 2014; Suh & Lee, 2017) as well as stress and overload (Hurtienne et al., 2014). Flexible work was interpreted to provide an increase in job satisfaction and work-life balance through a better team climate. However, it simultaneously was identified as a potential cause of overload, stress and burnout due to increased challenges of detaching from work and pressure for being constantly available. Despite the mixed results regarding the relationship between remote work and work-life balance in the literature (Sullivan, 2012; Felstead & Henseke, 2017), the aspect of work-life balance was perceived as highly enhanced through remote working opportunities. This indicates that the constructs of work-life balance are highly context dependent. However, the risk of alienation and demand for physical social interaction was emphasised by several interviewees, which suggests that despite the advantages of constant digital interaction, there is still a call for face-to-face interaction in the workplace. However, as some interviewees noted, perhaps

the cruciality of social interactions at work is diminished through more extensive utilisation and successful acceptance of new digital tools among personnel.

Also, highly consistent with previous literature (Day et al., 2010; Diaz et al., 2012; Ninaus et al., 2015; Ter Hoeven et al., 2016) some characteristics of new job design through the utilisation of ICT were felt to induce both positive and negative aspects of well-being at work, thus indicating the dual effects of ICT tools. Hence, as noted by some studies (e.g Rintala, 2005) the elimination of the characteristics that cause stress and exhaustion was considered infeasible, since they may also incur positive aspects of well-being at work, such as job satisfaction. Earlier literature has outlined the importance of job resources in preventing the negative consequences related to job demands (Xanthopoulou, 2007b; Bakker & Demerouti, 2014). Therefore, promoting job resources may be a possible future remedy for compensating the negative job demands the ICT tools may entail.

The thematic narrative analysis unveiled the unique acceptance journeys with digital technology tools, in which the acceptance time acted as a timeline for the interviewees' narratives. The adoption and acceptance of new technology and the alterations of the interviewees' perceptions regarding well-being at work emerged organically from the interview material. Therefore, the acceptance of new technology was further examined in order to better understand its constructs as well as the dynamic nature of well-being it implied. Hence, the following research questions were ultimately utilised as a part of the analysis:

2. How is well-being at work perceived to alter through the acceptance of new technology?

3. What individual differences are identified as antecedents of the acceptance of new technology and how do these shape individuals' personal understanding regarding the phenomenon?

Organisational scholars have proposed to develop more dynamic theories by taking into consideration the role of time as it changes the ontological meaning and description of the theoretical constructs (George & Jones, 2000). In addition, the most recent literature has conceptualised the dynamics of well-being at work (Sonnentag, 2015) since individual level of perceived well-being at work is universally agreed to change within a

given time frame due to various factors (e.g Karasek, 1979; Johnson & Hall, 1980; Long & Thean, 2011; Yadav & Khanna, 2014). The inclusion of acceptance provided insights into the connections between digitalisation and well-being at work. The narrative approach served as a medium to facilitate the understanding of how digitalisation had led to different views on well-being at work among individuals in the long run versus initial introduction. In addition, the narrative approach also enhanced the understanding of specific individual characteristics that were related to the individual's acceptance process. Time often plays crucial role in the strength of the relationship of the measures (Mitchell & James, 2001). In this case, the time for acceptance was perceived to be a central factor between the introduction of new technology and different aspects of well-being at work. Perceived well-being at work was noted to alter among certain groups of individuals through the adoption and acceptance time. Hence the level of well-being at work through technological changes was observed as dynamic as opposed to static, which enabled a more comprehensive view of the phenomenon.

The following conclusions were made regarding the adoption and acceptance of new technology. Aligned with suggestions of other scholars (Morris & Venkatesh, 2010), interviewees perceptions of their personal well-being at work as well as their views on other individuals' well-being at work were found to alter throughout the acceptance of new technology. Therefore, the first conclusion is that implementation of new technology was understood to result dynamic effect on individual well-being at work.

The second conclusion is that individual differences, particularly age and skill differences, appeared to affect the successfulness of the adoption and acceptance of technology and eventually the individual well-being at work. Interviewees identified age and skills as distinct individual characteristics, which they perceived as antecedents of agile acceptance of new digital solutions. It was noted that these individual differences also shaped the interviewees' personal understanding of how they viewed their personal ability to accept new technologies as well as how they interpreted employees' general perceptions regarding technology tools.

Supported by earlier literature of age differences in acceptance (e.g Morris & Venkatesh, 2005; Elias et al., 2012) differences in age was perceived to be a central element, which seemed to be related to the individual's own attitude and acceptance towards new

technology. Older employees were interpreted to face more stress and exhaustion when new technologies were implemented, whereas younger employees were understood as agile adopters of new technology tools. Also, as previous literature regards the experience and skills with digital tools to influence the adoption of technology (e.g Venkatesh, 2015), interviewees viewed IT-skills as a central facilitator aiding the individual acceptance of new tools. Those individuals with a lack of skills were associated to having initial stress and exhaustion due to perceived complexity of the new tools. Ultimately, specifically with proper training, education, support and acceptance time, the lack of skills was viewed as possible to be overcome. Hence, the majority of interviewees interpreted the lack of skills to be only a temporary hindrance. After successful acceptance of the technology, the individual who initially may have had experienced stress, can later on enjoy higher job satisfaction, as supported by previous literature (Morris & Venkatesh, 2010; Venkatesh, 2015).

In contrast, those with sufficient skills were viewed as faster adopters. As with age differences, those individuals who disclosed having excellent IT-skills also perceived technological changes as positive and supposed other individuals to have similar perceptions. However, an extensive utilisation of technology and remote work without face-to-face interaction were identified as potential causes of overload and alienation, thus possible antecedents of stress and exhaustion. These were noted as risks even after the successful acceptance of new technology and regardless of the age and skills the individual has.

To summarise the theoretical contribution, this study contributes to earlier literature by enriching the existing knowledge regarding how individuals perceive digitalisation in terms of well-being at work. The qualitative narrative inquiry provided a valuable support and more in-depth insights to the earlier literature by revealing how individuals actually perceive new job design resulting from technological change in terms of individual well-being at work. In addition, the thematic narrative analysis with social constructionist lens offered highly valuable insights for understanding the phenomenon by highlighting the centrality of the dynamics of individual well-being and the importance of individual differences in interpretations of technological changes.

5.2 Managerial implications

The results of this study enhance the understanding of how personnel within organisations perceive the elements of digitalisation, i.e. new enterprise systems and ICT-tools in terms of their well-being at work. The results suggest that digitalisation, due to its work transforming characteristics, results in both positive and negative perceptions in terms of well-being at work. Hence, the results can be considered valuable information for organisations that plan to execute implementations of new digital solutions. Since the results represent particularly challenging aspects of well-being at work resulting from digitalisation, the study can be utilised prior to implementation of new technology in order to gain perspective on how personnel may react to alterations in job design.

According to this study, negative perceptions towards new digital solutions appear to be initially inevitable among some employees due to the heterogeneity of individuals. However, the results suggest that individuals can ultimately be acceptive to changes as long as they gain sufficient skills to use the new digital tools and have enough time to adopt and accept the new solutions. Hence, the importance of organisational interventions, including training and support as well as providing time for acceptance are salient measures for increasing the success rate of an implementation of new technology. Therefore, the results of this study offer valuable insights for trainers, managers and human resource professionals regarding the relationship of digitalisation and well-being at work, which can be utilised as informative assistance in various sets of procedures. A comprehensive understanding of the phenomenon as well as its plausible implications are as important as precautionary interventions. This way, after a new technology has been implemented within an organisation, the risk of prolonged presence of the negative aspects of well-being at work, such as stress and exhaustion, can be diminished.

5.3 Evaluation of the study

The traditional, quantitatively understood validity and reliability tests are naturally inadequate for evaluating a study that has utilised qualitative inquiry (Eskola & Suoranta, 2008), thus proper measures derived from the qualitative methodological literature are utilised for the evaluation of the validity and reliability of this study.

The concordance between theoretical and conceptual definitions of a study should be assessed in order to evaluate, whether this study utilised conceptual and theoretical definitions as well as methodological selections in a harmonious manner (Eskola & Suoranta, 2008). The interview material for this study was received, thus methodological choices for the study had to be performed based on the content and structural aspects of the available interview material. Deducted research inquiry was not considered an adequate method, since the aim was to understand multiple inter-relationships that were organically derived from the interview material. Therefore, the methodological choices were made completely based on the interview material. Ultimately, since interviews contained descriptive narrations with emergences of recurrent thematic elements, a thematic narrative inquiry with assisting features of categorical content analysis, was considered the most suitable method for the analysis. However, it is crucial to note that the conceptual definitions as well as the identification and categorisation of central elements guided the analysis and the reporting of findings.

The significance of the data should be assessed to evaluate the appropriate context in order to determine the context sensitivity from broad to inquiry focus content (Patton, 2015). The central theme of this study is extremely topical and globally observable, since organisations are currently performing massive leaps of digitalisation that inevitably affect individual well-being at work. Therefore, the cultural and location context can be considered to serve the purpose for this study.

Data examined in this study should also be assessed in terms of the sampling strategy and saturation (Patton, 2015, p. 271). The given data was originally scanned by utilising an open-ended inductive theory sampling and reduction. This sampling method revealed the context depth and concepts of the interview narrations derived from the organisations that formed a basis for the selection in subsequent sampling. In addition, a comparison-focused sampling was performed (Patton, 2015) as well as sampling considering the suitability of interviews for narrative analysis in terms of depth and richness (Clandinin, 2007; Riessmann, 2008). Only a rough maximum number of interviewees was determined in advance, which enabled rather unobstructed chance to select a sufficient number of interviewees for the analysis. Building on these premises, the sampling strategies executed can be considered sufficient in terms of validity. When preliminary analysis was performed, it was noted that the interview material of both organisations reached very

close to a saturation level, with acceptable consistency. If the scope of the study had been larger, perhaps another set of interviews could have been selected for the analysis. However, this study is a dissertation level research, thus the data chosen for this specific master's thesis study can be considered highly adequate.

The inquiry focus context should be assessed (Patton, 2015) due to the importance of the question layout in the obtained interview material, which directed the focus of the study. The formulation of the questions that were originally utilised in the received interview material (see Appendix 1) is assessed, since it inevitably affected the research inquiry. Although interviewees narrated also personal experiences, the formulation of the questions in the interview material had directed the responder to narrate also the assumptions and perceptions regarding other persons, which consequently directed the focus of the analysis. Hence, the presented assumptions and perceptions were observed from the social constructionist perspective with careful consideration of what knowledge arena the inquiry question had derived (Patton, 2015). Ultimately, the narrations, which mainly comprised of assumptions and perceptions of other people's agenda, were considered to provide further advantage through the relatively open and honest responses. Hence, the question layout, although it directed to focus of the research inquiry into a unique direction, was not considered invalid for conducting this study. Conversely, it was deemed to provide added value to the research inquiry.

Finally, the confirmability of this study should be evaluated in order to assess whether the interpretations of the author are supported by other studies (Eskola & Suoranta, 2008). The results of this study were highly consistent with previous literature in the relevant fields of research. Even the inductively derived theme of dynamic nature of well-being through the acceptance of technology was supported by the previous literature, which shall prove the confirmability of this study as high. However, it is important to frame the limitations in qualitative inquiry as well as the modest scope of the interview. Due to these aspects, the results of this study can be suggested only as perceptions of a given group of people at a specific time span, in contrast to a sample that would yield generalisable results.

5.4 Suggestions for future research

There is still a limited amount of studies available regarding the work transformation as a result of digitalisation, which calls for further investigation on how different digital solutions alter job design and thus influence individual well-being at work, particularly in different sectors and within different organisational and work contexts. As most of the research within both well-being at work as well as IS literature is dominated by quantitative approaches, there is a clear demand for elaborating knowledge through qualitative inquiry. Since the investigation of this study was limited to two organisations, for instance a qualitative research with larger data material, perhaps from organisations with quantitatively validated distinctive digitality stages, could provide beneficial advantage for enhancing the understanding of the phenomenon in different work environments. Also, a qualitative approach for understanding how other emerging elements of digitalisation are experienced in terms of well-being at work, such as virtual reality team solutions, would provide important theory-building perspective for quantitative studies.

Past research suggests the salience of the dynamic nature of well-being at work (e.g Sonnentag, 2015; Chen et al., 2011), which is supported by the results of this study. Hence, future research should examine further how well-being at work is altered throughout the acceptance of new technology within different digital solution contexts. The dynamics of well-being could be explored even far after the successful acceptance of new technology. For instance, the alienation through excessive remote work is recognised (e.g Barnes, 2012) as also noted in this study. However, it is yet unknown whether individuals will later on pose an ability to adapt to having less physical social interaction, and hence decrease the risk of having negative implications for well-being at work. Despite the importance of individuals' ability to adapt to new working culture and job design, this field of study is still significantly less investigated. Therefore, this study will offer a point of departure for understanding the dynamic nature of well-being at work through the acceptance of new technology. The dynamic constructs of well-being at work could also be studied in other environments that confront significant changes in work. Indeed, the static nature of how specific factors are understood to influence well-being at work clearly does not provide enough knowledge of the phenomena workplaces face in today's rapidly evolving environment.

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Appendix 1: Original interview questions

Questions have been translated from Finnish to English.

Digitalisation
1. What does digitalisation mean in the organisation you work for?
2. Does the organisation you work for offer digital services? What kind of services?
3. Does the organisation you work utilise digitality other ways than providing services?
4. Is digitalisation part of the organisation's strategy?
5. What type of effects does digitalisation have on the organisation you work for?
6. What type of effects of digitalisation will be expected in the future? What challenges/opportunities?
7. What type of effects in the sector in general?
8. What in your opinion advances the development of digital business in the organisation you work for?
9. What inhibits/ acts as a bottleneck in the development of digital business?

Well-being at work
1. In what ways has digitality changed work in the organisation you work for?
2. What type of effects does digitalisation have on the well-being of personnel?
3. What type of training- and education demands have emerged among personnel as a result of digitalisation?
4. How would you describe the well-being at work in the organisation you work for and factors that affect it?

Culture and leadership
1. What type of leadership is appreciated in the organisation you work for?
2. From where do the new ideas stem from nowadays? How do they originate?
3. How does the management support carrying out new ideas?
4. What factors influence (positively or negatively) carrying out new ideas?
5. How common are the co-creative leadership activities?
6. How does the personnel in the organisation you work for react to changes/new things?

Development of services
1. What services do you offer to your customers?
2. What benefits do the customers get when they use your services?
3. Do you know why do the customers choose specifically your service?
4. In what ways do you enhance customer understanding?
5. How often do you contact your customers? In what ways?
6. How have your recent services originated?
7. Who takes part in developing activities?
8. How do the customers participate creating services and in developing them?
9. What kind of roles do the customers have in production of services?

Conclusion
1. How do you perceive the discussed concepts, i.e. leadership, well-being at work, customer centrality, innovation and digitalisation, being linked in the organisation you work for?
2. How do you see the future of the organisation you work for?
3. What are the biggest challenges, what about opportunities?
4. Would you like to add something essential?

Appendix 2: Original interview citations in Finnish

[1][digitaalisuus] näkyy kaikkein isoimmiten sinä valtavana, siis nykyisin vielä paperimassana, jota me halutaan sähköseen [muotoon]. Se on se, mikä meillä [nousi esiin] ensimmäisenä, kun kaikki alko puhumaan digitalisaatiosta, et okei tää on se, mitä meidän tarvitsee [tehdä].

[2]Muutama vuosi sitten meillä oli vielä sillä tavalla, että meillä […] kaikki asiakkaiden
paperit oli oikeesti papereita meidän toimistossa.

[3]10 vuotta sitten, elettiin vielä silloin, maailmassa jossa […] kaikki tehtiin. silloin tehtiin
paperilla.

[4]Ja sitte ku asiakas soitti, niin […] sillon se soitto piti mennä siihen yksikköön, siihen toimistoon jossa ne paperit oli, koska muualla ei ollu näkyvyyttä sinne. […] Ja sillon se tarkotti, että […] niissä lokaatioissa pitää olla ihmisiä jotka tekee niitä asioita.

[5]Sillon ennen kun nää kaikki oli digitalisoituna nää meiän asiat, niin mehän jouduttiin tekee niitä töitä siellä pisteessä mihin ne paperit tuli.

[6]Nykyään meillä […] kaikki ne asiakkaitten paperit, ne digitoidaan ja niistä kuvat on saatavilla missä tahansa. Elikä meillä on muuttunu sillä tavalla, että töitä voi tehdä ja asiakkaita voi palvella mistä tahansa, eli ollaan lokaatioriippumattomia sillä tavalla.

[7]Ollaan siirrytty entistä enemmän verkkoon työskentelemään. Ja niitä paperisia dokumentteja ei välitetä enää eteenpäin, postin kautta, eri toimistoihin ja niinedespäin. Täntyyppinen työ on häviämässä, ja osittain jo hävinnytkin.

[8]Aiemmin me oltiin aika semmosessa kansiomaailmassa, johon oli vaan yksittäisille [työntekijöille pääsy] ja ne oli tietyssä paikassa. Mutta nyt meil on kaikki läpinäkyvää.

[9]Jos miettii, et se oli sillon semmosta hirveitä paperikasoja jotka oli siinä pöydällä. Silloin jo tuntu tuskaselta, et ihan oikeesti, et me kerätään tämmösiä pölyäviä papereita. Niin se, että nyt se kaikki kulkee meillä työjonojen kautta tuolla sähkösesti, niin se on sisäisesti meille, mulle työntekijänä, että jes ihanaa, että nyt ne paperit on pois sieltä.

[10]Aikasemmin sillai, et me saatettiin joutuu rekkalasteja ajamaan jostain paikasta a paikkaan b, jossa oli enemmän työntekijöitä vapaana, että pystyivät tekemään sitä paperimassaa mikä oli.
[11][Viittaa työhyvinvoinnin positiivisiin vaikutuksiin] Sanotaan näin, että semmonen, kohti paperittomuutta, paperitöiden, häviäminen. Se on ollu, ja musta se on nimenomaan positiivista.

[12][K]yllähän sellasta kuulee paljon, että ihmiset kokee hankaluutena sen, että tavallaan aikasemmin työ on ollu semmmosta konkreettisempaa, et on ollu tietty rivistö mappeja, jotka on käsitelty ja jotka on sitte ikään ku ihan konkreettisesti saanut siirtää sivuun, ja on ikään kun tullut konkreettisemmin valmista sen yhden yksittäisen työntekijän kannalta. Kun taas nyttemmin sitte, kun digitalisaation myötä tää ihan tää perustyö on menny tuonne verkkoon, että tehdään tuolta koneelta, tulee työjonoissa tavaraa ja sitä sitten siitä tehdään pois. Ja se ei niin konkreettisesti sitte, näin ihmiset kertoo, et se ei niin konkreettisena valmiiks saamisena tai tälläsenä yhden asian loppuun saattamisena sitten näyttäydy ihmisille.

[13]Mutta sitte taas toisaalta, ku lähtee käymään keskusteluu siitä, et no, minkälaista se työ oli sitten vaikka kymmenen tai kakskyt vuotta sitten ja mikä on kehittyny ja muuttunu ja näin, niin ei sitte kuitenkaan oikeesti kaivata sinne [naurahtaa] vanhaan maailmaan, kun niitä papereita plärättiin ja käsin laskettiin ja näin edespäin. Et kyl sitte kuitenki, ku pitemmällä tähtäimellä ajattelee, niin varmasti se, siihen työn tekemiseen on kaiken kaikkiaan kuitenki tuonu positiivisia vaikutuksia.

[14]Me pystytään sitä resurssikuormaa jakamaan sen mukaisesti, et missä on vapaata resurssia. […] virkailija kun vapautuu, se kattoo työjonosta ylimpänä olevan tehtävän ja rupee sitä hoitaan. Ei sil oo enää väliä, onko se Lapissa, Espoossa, Hangossa, Kajaanissa. Se ottaa sen ensimmäisen ja rupee tekee sitä dunia siitä, että tää tämmönen paikkaan sidottu työ on nyt, tai mahdollista tehä mistä vaan sitä dunia. […] Ennenhän se oli se ruuhka Espoossa ja ivalolaiset pyöritteli peukaloita ja ihmetteli, että ku ei oo mitään hommia.

[15]Aikasemmin meillä saatto olla vaikka, jos miettii joku pieni paikkakunta, niin sä tunsit sen asiakaskunnan jo ja sä tiesit, miten sitä oli aikasemmin sitä [asiakkaan asioita] hoidettu ja minkä tyyppisiä asioita siellä tulee esiin. […] niin nyt sitä ei välttämättä enää oo, et sulta tulee vaan ympäri [maata] niitä tehtäviä. […] Sä menetät sen tuttuuden, mikä siinä oli siinä tehtävässä ja sen semmosen kotiseutuedun siitä sitte, et se on iso muutos. et siit tuli työntekijälle semmosta varmasti epävarmuutta siihen tekemiseen.

[16]Aikasemmin se oli paljon helpommin valittavissa, et […] se oli sillä tavalla sun valittavissa, et minkä mapin sä käyt esimerkiks arkistokaapista hakemassa ja minkä ehkä [kansion]sä otat sieltä pinosta tai minkä [tehtävän]sä valitset sieltä papereiden joukosta, mut enää se ei oo niin, vaan se tulee sieltä suoraan sulle se seuraava tapaus, et sielt tulee first in first out -tyyppisesti se, ja sä et tiedä, mitä sieltä tulee, et se on tuonu semmosta, et sä et voi ennakoida enää, et minkä tyyppinen työpäivä sulle tulee eteen.

[17] meidän ihmisiä, virkailijoita, jotka on ympäri Suomea, me ollaan voitu valita ne parhaat.

[18]Meil on sähköiset työjonot, jolla me pystytään käyttään meidän koko, Suomessa oleva henkilöstömme hyödyks ja siirtämään töitä sen mukaan, sinne missä on tekijät. Ja se on auttanu meitä yleensä tässä, […] et meidän ei oo tarvinnu siirtää, ihmisiä minnekään.

[19]Tää on mahdollistanu sen, että me voidaan tavallaan rekrytoida, me halutaan jotain osaajaa jonnekin, johonkin tekemiseen, [niin] me voidaan rekrytoida se mistä tahansa Suomesta. Ja sitte samalla se asiakas voidaan hoitaa sieltä. Sen ihmisen ei tartte muuttaa mihinkään toiseen paikkakuntaan.

[20]Meiän automaatioaste on, riippuen osa-alueesta, mutta noin keskimäärin yli 80 prosenttia. Periaatteessa tää toimis ilman ketään tää meiän talo. Sitä se mun mielestä on tää digitaalisuus.

[21]Paljon sellasta hommaa, mitä on vielä tehty virkailijatyönä ja sillä tavalla, vaikka ne nyt tuolla koneilla on kulkenutkin mut kuitenkin virkailijatyönä ja käsityönä, niin siitä automatisoituu paljon tän uuden [ohjelmiston] myötä […] Niin kyllähän se muuttaa sitä, että mitä sitten virkailijat tekevät.

[22]Semmonen rutiinityö alkaa oleen koneellistettu. Sulla se asiantuntijuuden kasvu on noussu esiin, elikkä sä et enää sillä selviäkään, että sä osaat tallentaa lomakkeen järjestelmään, vaan sun pitää osata käsitellä se substanssi.

[23]Kyllähän se työhyvinvointii kasvattaa, että sä saat tehä niitä haastavia, niitä suntasoisia tehtäviä eikä sun tarvi tehä jottai, minkä vois joku taksvärkkipäivänäänkin hoitaa.

[24]Ne ei oo enää mitään helppoja kysymyksiä, mitkä sieltä nousee […] Vois kuvitella että se on väsyttävämpää, et ku sä et saa sitä semmosta huoahdushetkeä siinä työn parissa, vaan se on jatkuvaa semmosta todella vaikeaa päätöksentekoa.

[25]Se porukka, jota me voidaan rekrytoida, niin täytyy olla jo korkeakoulutettua yleensä että pystyy sitten niihin tehtäviin. Se tietenkin nyt mietityttää sitten, että meillä kaikki ei oo tietenkään korkeakoulutettuja […] Mut et meillä aika nopeesti vähenee semmoset tehtävät varsinkin nyt, kun meillä tulee toi uus sovellus, jossa me pystytään yhä helpommin laittaa sääntöjä automatisaatiota varten, niin yhä enemmän tulee tehtäviä joissa vaaditaan jo sitten pohdintaa […] ja on ihmisiä, jotka ei siihen välttämättä kykene.

[26]Meillä on tuo sisäinen intra, joka nyt on SharePoint-alustaan just saatu viime vuoden puolella, ja se on mahdollistanu ihan eri tavalla sitä, et voi käyttää sitä semmosena yhteisenä työtilana, mutta siis vähitellen opitaan vasta kaikkii niitä mahdollisuuksia, mitä siel on.

[27]Sähköpostia ei lähetetä ikinä, ja kaikki tapahtuu tän reaaliaikasen kollaboratiivisen ympäristön kautta.

[28]Kaikki meijän [vuorovaikutus], kaikki tekeminen on läpinäkyvää. Kaikki on reaaliaikasta. Oon mä missä päin maailmaa tahansa, niin mä tiedän täsmälleen, mitä tapahtuu. Voin omat kontribuutiot antaa kaikkiin asioihin, mitä on meneillään.

[29]Kun organisaatio toimii hajautetusti, niin on tosi tärkeetä, et on [digitaalisia] kanavia myös sitte muittenki ku asia-asioitten työstämiseen, [kuten] semmoseen yhteenkuuluvuuden luomiseen ja se on tosi tärkee, että on se sitte tämmöstä hupia ja hauskan pitoa ja huumoria tai sitte ihan asia-asiaa tai jotaki siltä väliltä. […] Kyllä näen sen tärkeeksi.

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[30]kyllä siellä aina, debattia käyään että kuinka syvästi kukakin tekee työtänsä läpinäkyvästi.

[31]Siltiki tulee semmosii tylsii tilanteita, et "Ai oletko säki ollu sinne yhteydes? Mä näin sen [henkilön] ja emmä tiennykää" ja näin. Sit taas mä aattelen, et se vaikuttaa hyvinvointiin aina, et noi on niit, jotka kuormittaa helposti, vie fiilikset ihmisiltä, et tommoset turhat, säädöt ja sähläämiset.

[32]Meilhän on vähentyny esimerkiks meiän sisäisten yhteistyöpäivien määrä, [ja siitä seurannut] se et me reissataan. Me ruvettiin vähä itte pistää kapuloi rattaisiin, et mikäs idea täs on, et me nähdään aina kasvokkain, ku muutenki reissataan, niin viel ihan uupuneena keräännytään jonneki keskel pahint ruuhka-aikaa. Järjestetään mieluummin sit niin, et sä voit olla villasukat jalas kotona niinä päivinä.

[33]Kaikki kokoukset, ei kaikki mutta suurin osa kokouksista, tapahtuu tällä hetkellä virtuaalikokouksina ja sun ei tarvi enää reissata paikan päälle.

[34]Ei täst oo hirveen kauan, neljä viis vuotta sitten, niin kaikki tapahtu seinien sisällä. Ei ollu etätöitä, [niitä] ei saanu tehä, se oli kielletty. Kokoukset oli fyysisesti paikalla, matkustettiin. Nyt nää on kaikki verkossa.

[35]Työtä voi tehdä siis missä vaan. Se on, se on varmaan nyt se, et mä olin tänä aamuna, mä en tullukaan toimistolle vaan menin kahvilaan ja se oli mun, työhyvinvointia lisäävä seikka. Ja […] luin siinä Hesarin ja tein ihan, pienen pätkän tehokkaasti töitä.

[36][Viittaa ICT välineisiin] Se on mahdollistanu sen, että pystyy tekee etätöitä. Mä kyllä näen sen sellasena, et mulle se, mä näan sen jotenkin niin et ihmiset on paljon tyytyväisempiä, et pystyy joustaa paremmin siinä sen perhe-elämän tai muun kun työelämän kanssa sitä, että millon ehkä tekee, just millon alottaa sen työn tai alottaako sen työn pyjama päällä, et miten sen tekee. Sitte pitää breikkejä ja jatkaa. Se sellanen oman elämän, muun elämän rytmittäminen on helpottunu sitten ihan työntekijänä, kun miettii tätä digitalisaatiota meidän näis tehtävissä.

[37]Meil on esimerkiks yks konsultti, joka on ollu tosi kova matkustamaan, ja se on ollu hänelle tosi iso haaste ja sillai pienten lasten kanssa, niin hän sano, et hän tekee täl hetkel huomattavan paljon enemmän, yli puolet asiakastyöstään, didgitaalisii työvälinei hyödyntäen.

[38]Me ollaan itte tunnistettu esimerkiks se, et jos sä teet kotoo käsin pitkään, ja monta päivää, eikä sul tuu sitä sosiaalist kontaktii, niin seki on hyvinvoinnin kannalt tosi rankkaa.

[39]Mutta kuitenki me ollaan ymmärretty se, että [videokokoukset] ei oo sama asia kumminkaa ku ne kasvokkain tapaamiset. Se on vähintään yhtä tärkeet, et me nähdään toisemme ja tulee se semmonen sosiaalinen kanssakäyminen ja fyysinen kanssakäyminen niin sanotusti.

[40][Viittaa ICT välineisiin] [Heillä] tämmöstä vähän niin ku turvattomuutta siinä, että kun on totuttu siihen, että vaikka mun paras tuki on aina ollu siellä paikallisessa toimistossa […] Nyt kun se asiantuntija onki [in different location], niin sit sä et tunne sitä. Saattaa olla, et sä et nää sitä ees joka vuosi, mutta sitten sun pitäs siihen olla yhteyksissä, et siinä on etenkin meidän kokeneemmalle porukalle se on ollu semmonen kynnys.

[41]Tää alkaa olee jo vähä siinä tässä, että tarviiko näitä konttoreita oikeesti ollakaan. Se on vähän semmosta, et nyt pikkusen jarrutellaan, että pitää vielä tavata työkavereita, mutta onks sille oikeeta tarvetta?

[42]Se haittapuoli on tässä kyllä semmonen, joka on näkyny jo pitkään. Tää sykli on kasvanu jopa täällä meillä. Ennen jos sä lähetit sähköpostin, niin odotusarvo että siihen vastataan ehkä saman päivän aikana tai ehkä seuraavana päivänä. Nyt jos ei tuu puoleen tuntiin vastausta niin heti ollaan yhteyksis: "Ek sä huomannu?"

[43]Tää vauhti on kasvanu. […] Kun mä mietin sitä aikaa, kun mä alotin, kun se edistyksellisin työväline oli faksi, niin sillon saatto olla, että […] joku asia kesti monta viikkoo. Nyt, jos se ei oo saman tunnin aikana hoidettu, niin se on aivan hirvee katastrofi.

[44]Se [organisaatio] pyörii 24/7, niin se on aika tressaavaa semmoselle henkilölle, joka huolehtii siittä että hän hoitaa hommansa.

[45]Ne on aika harvat niin kovia luita, että ne lyö offlineen ja sitte ei katokaan ennen ku seuraavana aamuna.

[46]Meil on mahollisuus kytkeytyä tehokkaasti kaikkeen, mut sitten siinä pitää olla joku kyky tehä fiksuja valintoja, koska se menee muuten overloadin puolelle.

[47]Näähän pitäs helpottaa niit. Tuntuu et sä oot aina töissä sitte kuitenkin, tässä. Vähän semmosia haittavaikutuksia tällä nyt on.

[48]Ihmisten on tosi vaikee olla lomalla, kun tietää, että se kaikki on tossa parin klikkauksen päässä, että "mitä siellä tapahtuu ja voinks mä olla sieltä pois". Ja sitte taas meillä, jokka ollaan asiakastyössä, ku tapahtuu paljon virtuaalisesti asioita sieltä, niin helposti päivistä tulee pitkiä, ku koittaa uida siinä virrassa mukana, mitä kaikkee on päivän mittaan tapahtunu.

[49]Tämmönen määrä teknologiaa ja näitä mahollisuuksia, niin kyllähän se tekee sen itsejohtamisen haasteen ihan todella isoks, että millon mä oon töissä ja millon mä oon vapaalla.

[50]On sillä totta kai. Sanotaan niin että, me lähettiin kolme vuotta sitten oikeestaan tähän [toiminnanohjausjärjestelmämaailmaan] […] Niin silloin luovuttiin paperista ja, kaikki valvonta tehdään päätteillä. Ja kyl mä siinä kohtaa mietin että, mitenhän tää onnistuu että saadaanks me koko jengi oikeesti mukaan vai missä rupee kolisemaan että, "ei pysty ei osaa" […] jälkeenpäin sanoen niin, se meni tosi hyvin.

[51]Kyllähän sen esimerkiks muistaa että, siitä on varmaan joku neljä tai viis vuotta sitten kun me avattiin semmoset [etäkokous] päivät, niin se oli jotenkin semmonen, vähän jännitys ja että mites tässä toimitaan ja kaikkea muuta vastaavaa [tunnetta] ja, mikä menee pieleen ja muuta vastaavaa. Niin onhan se hauska että miten se on muuttunu rutiiniks et miten sitä pystyy hyödyntään kovasti. Ja […] eihän siitä kauheen montaa vuotta oo, ku ensimmäisiä asiakaspalavereita piettiin vaikka verkon välityksellä, ja siinä oli joku kynnys olemassa. Ja nyt se on kuitenkin tosi nopeesti muuttunu arkipäiväks.

[52]Ei oo todellakaan niin että meillä olis vaan early-adaptereita täällä tupa täynnä tai sellasia, vaan että ihan tavallista porukkaa siinä, että on semmosia jotka tarvi todellakin sulatteluaikaa jonkun uuden jutun kanssa.

[53]On ihmisii jotka suhtautuu [muutoksiin] innokkaasti ja sit on ihmisii jotka on aika passiivisii. Ne odottelee ja kattoo miten massat liikkuu. Ja sitten on niitä jotka seisoo siel vastarannalla viimeiseen asti. Et kyl se koko kirjo löytyy täältä.

[54]Tietenkin täs on tämmönen yhtälö, että aika monet [henkilöstöstä] on pahasti ikääntyneitä, elikkä keski-iät rupee pyörii yli viidenkympin. Kyl se vaan niin on, että sillä porukalla on pieniä haasteita pysyä tän kehityksen mukana.

[55]Mä oon päässy työelämässä joskus yli kolmikymppisenä reippaasti [käyttämään tietokonetta], niin se kynnys ja helppous oppia niin on ihan toista.

[56]Mä tiedän että mun lapset jotka rupee oleen jo aikusena nii pitää näit kuitenkin aika peruskamana, mut mä oon sitä ikää, et mä muistan, että mä oon tehny ison osan työelämästäni ilman näitä työkaluja, niin siin on ehkä vähän eri kokemus.

[57]Meil on totta kai niitä, jotka on vähän vanhempia ja kaikki muutos kestää vähän kauemmin sulatella.

[58]Meille tuli henkilökohtaset läppärit sillon ja tota ne oli sillon, ne oli jonku 55-vuotiaita ne muutamat ja ne halus sitten, että ne ei siirry ollenkaan käyttään niitä tietokoneita, vaan että he kuvitteli, että he voi 64 vuoteen asti olla tekemättä, jatkaa paperilla tekemistä edelleen. Se ei onnistu.

[59]Kyl mä ite muistan, että minähän sanoin, että minähän en yhtään kokousta pidä Lyncillä, että pitäkää itte kokouksenne ja ei siinä menny ku puoli ei mennyt puolta vuottakaan, niin pidetään kohtuullisen isoja kokouksia Lyncillä ja se pelittää ihan hyvin.

[60]Niin munkin yksikössä oli sellaisia yli kuuskymppisiä asiantuntijoita, jotka ei oo koskaan irrottanu telakasta konetta ja nyt me joudutaan, pistämään kone pussiin jopa yöks ja taas liittämään se sitten verkkoon aamulla, et siit lähettiin.

[61]Kyl mä veikkaan, et meil on myös ihmisii, jotka on ihan selkeemmin humanistikoulutuksen ja psykologitausta, niin niil ei ehkä oo kaikilla sellasta [osaamista], et se digitalisuus voi sisältää tämmösen

pienen peikonkin, että mites näitä nyt opitaan ja otetaan vastaan ja "pärjäänks mä tai onks musta digitaaliseksi?"

[62]Täs oli semmonen hetki, että tuntu, että maailma on hallinnassa, mutta nyt tää on levähtäny ihan taas käsiin tän mobiilipuolen takia. Kyl se varmaan aiheuttaa sillai ahdistusta jengille, että "osaa kaikki". Tommoselle ryhmälle se aiheuttaa, joilla ei oo kykyä ja mahdollisuutta, niin varmasti sitte, työepähyvinvointia siinä.

[63]Puhelinpalvelu on meillä kans laaja, niin nehän on vaan semmost apinahommaa. Että jos joku sen meijän puolesta [tekee], niin me voidaan keskittyy vaan siihen sisältöön ja siihen laskentaan ja siihen tulkintaan, mikä liittyy niihin tietoihin, eikä vaan hakata niit sisään. Niin kyllä se varmasti parantaa työmotivaatiota.

[64]Mä oon kuitenkin ollu tuol siel it-alalla aiemmin, vaikka sen aikasesta, kun mä varsinaisesti tein ohjelmointii, niin niil taidoil ei oo mitään tekemist nykysten kans. Mut mul on ehkä kuitenkin semmonen asenne, että kyl mä näist vimpattimist selviän.