BI Norwegian Business School - campus Oslo

GRA 19502

Master Thesis

Component of continuous assessment: Thesis Master of Science
Final master thesis – Counts 80% of total grade

Investigating attitudinal and behavioral employee responses towards digitalization through the lens of Theory of Planned Behavior: A qualitative approach

Navn:	Karen Amalie Børufsen, Halvor Belbo Lukerstuen

Start:	02.03.2018 09.00
Finish:	03.09.2018 12.00

Karen Amalie Børufsen
Halvor Belbo Lukerstuen

Hand-in date:
29.08.2018

Programme:
Master of Science in Leadership and Organizational Psychology

Acknowledgements

First and foremost, we would like to express our sincere gratitude to our thesis supervisor, Sut I Wong, for providing us with valuable insights and ideas, theoretical and practical guidance, and for her feedback and support throughout this process. We further wish to thank her for always taking the time to help, even in her own free time.

Secondly, we would like to thank the faculty at BI Norwegian Business School for having challenged us academically and inspired us to pursue this topic. In particular, we would like to express our gratitude to those faculty members who have taken the time to provide us with theoretical and practical inputs throughout this process.

Thirdly, we wish to thank the participating organizations for their time, cooperation, and resources made available to us. Our warmest gratitude also goes out to the participating individuals who so kindly took the time to meet with us.

Lastly, we thank our families for their love and support through this process, and in particular Josefine Børufsen for taking the time to provide us with valuable feedback on our final draft of the thesis.

Abstract

In response to the digital transformation now taking place in many organizations, this thesis aims to shed light on the need for research to direct more focus toward the employee experience related to digital change in the workplace. Using a Theory of Planned Behavior framework in combination with elements from the Technology Acceptance Model, this study seeks to explore employee responses to the implementation of digitalization in their workplace. Additionally, the study examines the potential influence different mindset combinations could have on employee responses to digital technology. Similarities and differences between employee responses are addressed and analyzed in light of relevant theories to gain a better understanding of the underlying factors that could influence these responses. The study did not reveal any supporting evidence for the proposition that mindset combinations influence employee responses to digitalization. However, the results indicate that prosocial motivation can be a powerful force that may trigger a positive attitude toward digital transformation despite experiencing conflicting emotional responses to the change. Practical implications for organizations and suggestions for future research are discussed.

Content

1.0 Introduction

Today the world is facing, not a new, but an increasingly intensifying technological development within digitalization. Robots are more efficient than ever before and in many cases already doing a better job than human beings, claiming neither salary nor vacations (Seehusen, 2017). Computer Science Online (2017) recently reported that jobs in accounting and auditing has a 93,5% chance of being completely automated. In fact, the changes facing the world today are of a whole different scale than before, and happening at a rapid pace. According to a report conducted by Ball State University, the United States experienced the greatest loss of jobs in its history between 2000 and 2010 (Hicks & Devaraj, 2015). Although this may be partially due to the financial crisis in 2007, the country still experienced growth in productivity, suggesting that production workers are becoming redundant (Hicks & Devaraj, 2015).

From a customer's viewpoint, there seems to be no doubt that large organizations have leveraged digital technologies to improve the customer experience. In fact, a recent study by Deloitte (2016) revealed that 93% of respondents in the Financial Services Industry agreed that the objective of their digital strategy is to enhance the customer experience (Deloitte, 2016). The same study also revealed a darker truth, namely that only 46 percent of respondents agreed that businesses are inadequately prepared for the expected technological disruption. This suggests that somewhere along the way large organizations have neglected to direct focus inward to create an equally innovative employee experience. We would make the argument that employee experiences often transmit to customer experiences, thereupon businesses must assure that internal processes are as much in the forefront as customer offerings.

Further, while organizational theory has focused on managers and how to strategically implement new technology, we find that little research has been devoted to examining the responses these changes may trigger in employees. The Technology Acceptance Model (Davis, 1989) aims to explain how technology is readily adopted, but seemingly it falls short in today's intensifying and rapidly changing technological development as it fails to include cultural and social aspects, as well as emotions (Bagozzi, 2007). We find that the Theory of Planned Behavior picks up where the TAM falls short and therefore we find it worthwhile to include both models in this report.

The current study aims to further explore how employees might respond to the digital transformation that many organizations experience today. Building on a case study design with semi-structured interviews we seek to map out employees' responses in congruence with the behavioral-, normative- and control beliefs presented in the Theory of Planned Behavior model. Further, we aim to explore whether different combinations of mindsets (fixed/growth mindset and zero-sum/variable-sum mindset) influence employees' responses to new digital technology. Identifying aforementioned employee responses can help organizations in securing proper management strategies and developing more successful digital employee experiences.

2.0 Digitize vs. Digitalize

Most people living in a modern society today are likely to encounter words like digitize and digitalize quite often. One can say that digitalization has become almost a buzzword, especially in the world of business. Many believe that the two words - digitize and digitalize - are one and the same, however they have quite different meanings.

Digitize can be defined as "converting analogues physical measurements to digital form." (Dictionary.com, 2017). The action of scanning a book is in fact digitizing the book. Thus, digitizing is something that has been done for years.
Digitalization, on the other hand, is according to the Gartner IT Glossary (2017) "the use of digital technologies to change a business model and provide new revenue and value-producing opportunities." This evidently involves much more than simply converting analogue to digital. Thus, adopting and implementing digital technologies to create value in new ways is the essence of digitalization.

2.1 Technological Acceptance Model (TAM)

The *Technology Acceptance Model* (TAM) was introduced by Fred D. Davis (1986) to explain how people accept computer technology in general. The purpose of the model is to trace the impact of external factors on internal factors such as beliefs, attitudes, and intentions (Davis, Bagozzi & Warshaw, 1989).

The TAM explains how *Attitude Toward Using* (A) the technology is affected by *Perceived Usefulness* (U), which is the user's subjective perception of the extent to which the technology will increase his or her job performance, and *Perceived Ease of Use* (E), which is the extent to which the user perceives the

technology to require minimal effort. If the user has a positive *Attitude Toward Using* (A) this will increase *Behavioral Intention to Use* (BI) which in turn leads to actual system use (Davis et al., 1989).

The TAM also explains how perceived usefulness could directly lead to behavioral intention to use (BI), surpassing attitude toward using (A) and consequently disregarding the perceived ease of use. This relationship is proposed by Vroom (1964; cited in Davis et al., 1986, p. 986) based on the idea that people behave in a manner thought to increase their performance regardless of personal feelings. This behavior is encouraged through extrinsic rewards, and as such people will attribute the usefulness of the technology to the ability to meet organizational goals. If the technology is found to be useful to achieve organizational goals, then the ease of use (E) and the attitude toward using (A) is less important for predicting actual system use. However, Davis et al. (1989) found that when introducing a new system, perceived usefulness (U) and ease of use (E) were both important predictors of intention to use (BI). In contrast, after a 14-week study period, perceived usefulness (E) predicted intention to use (BI) alone, with ease of use (E) affecting intention to use (BI) only indirectly via perceived usefulness (U).

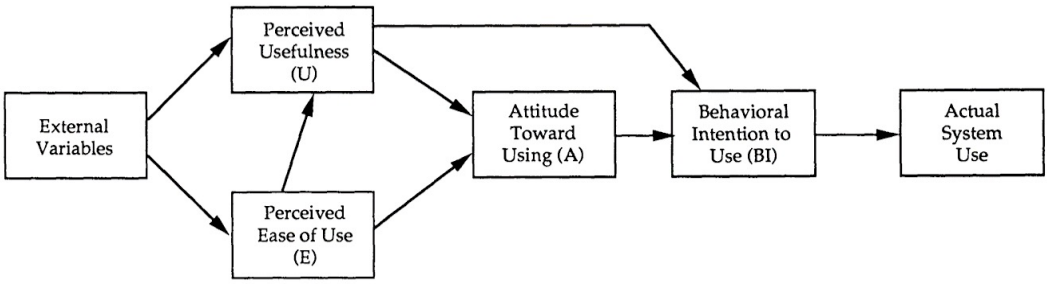

Figure 1: Technology Acceptance Model (TAM).
(Davis, Bagozzi & Warshaw, 1989, p. 985)

Nonetheless, it should be acknowledged that the TAM was originally developed in the 80´s for measuring user acceptance of technology systems such as information systems (Davis et al., 1986), and work-processing systems with the purpose of replacing tasks such as writing a letter by hand. As such the model is tailored to predict the behavior of an individual who is introduced to a new technological system. With the digital changes we see today, however, the circumstances have changed; employees are no longer asked to simply accept and learn a new system created to digitize their tasks; they are expected to give up

their work responsibilities – sometimes in full – to a digital system that, in time, may outperform their efforts in almost every aspect. This arguably creates a whole new context for evaluating and accepting the new systems. Hence, we argue that digitalization in organizations is likely to provoke different attitudes and intentions among employees than those previously identified in research using the TAM.

Moreover, we recognize the important factor that human behavior often must be seen in combination with social interaction (Bagozzi, 2007). Many decisions are made in collaboration with or influenced by others. The TAM lacks consideration of these social aspects that may be of great importance in explaining responses to digitalization. Nor is the aspect of emotions accounted for by the TAM (Bagozzi, 2008). An additional limitation of the TAM is the assumption that people plan their behavior and are rational beings, and that perceived usefulness is a rational estimate, when in fact more recent research has found the TAM to be affected by mood state (Djamasbi, Strong & Dishaw, 2009). People have limited cognitive resources and are "very much bounded by the situation and by human computational powers" (Simon, 1983, as cited in Bazerman & Chugh, 2006, p. 10). Hence, individuals are not capable of complete rational behavior, which the TAM neglects to take into consideration.

Although the TAM might not predict behavior toward digitalization as a whole, it may provide some cues along the way. Small steps of technology acceptance may in fact be categorically rejected out of fear that small concessions of acceptance will eventually lead to full digitalization of all job responsibilities. Building on this, we would argue that the TAM's relevance to digitalization lies within the perceived usefulness. Evidently, digitalization is useful to the organization confirmed by its presence and continuing expansion into new areas. A question to be asked is therefore whether an employee perceives digitalization as a useful mean to increase his or her job performance in order to achieve organizational goals, or if the usefulness of digitalization is in fact attributed to the long-term threat that automation may impose on the employee's job and the fear of being replaced. In other words, the individual mindset of employees might affect how one perceives the technological change, a matter that will be further discussed in chapter 2.3.

Nevertheless, we argue that other models of behavior must be assessed in combination of the TAM to fully understand what drives employee responses in

relation to increased digitalization. Mathieson (1991) conducted a study where he compared the Technology Acceptance Model with the Theory of Planned Behavior for predicting user intentions. The study concludes that while TAM is easier to apply, it only supplies very general information about the user's opinion of a system. Theory of Planned Behavior, on the other hand, provides more specific information, such as identifying factors that the user feel might be barriers to system use, as well as identifying social factors that might affect potential users (Mathieson, 1991). Building on this we argue that the Theory of Planned Behavior can give better insight to employees' responses to in relation to digitalization, and provide more specific information that can better guide organizational development in regards to adopting and implementing digital technologies.

2.2 Theory of Planned Behavior (TPB)

The theory of planned behavior was designed to predict and explain human behavior in specific contexts (Ajzen, 1991). By way of illustration, the model has been successfully applied to predict weight-loss behavior (Schifter & Ajzen, 1985), and unethical behavior (Chang, 1998).

According to Ajzen (1991), the TPB considers behavior as a "function of salient information, or beliefs, relevant to the behavior" (p. 189). These beliefs are separated into three main categories: (1) *behavioral beliefs* which are beliefs about the outcome of a behavior and an assessment of the evaluations of this outcome; (2) *normative beliefs* which are beliefs about the normative expectation of others and motivation to comply; and (3) *control beliefs* which are beliefs about the presence or absence of factors that may facilitate or impede performance of the behavior as well as a perception of the power these factors have over one's performance (Ajzen, 1991). Behavioral beliefs produce a positive or negative attitude towards behavior, normative beliefs result in perceived social pressure, or subjective norm, and control beliefs result in a perceived behavioral control (Ajzen, 1991; Miniard & Cohen, 1981). In the TPB model, these aforementioned factors predict intention, which subsequently determines behavior (Mathieson, 1991). In this thesis, we aim to explore and identify these different beliefs in relation to digitalization in the workplace.

2.2.1 Behavioral Beliefs and Attitudes toward Behaviors

An expectancy-value formulation explains how attitude towards behavior is a function of salient beliefs about attributes and perceived consequences of performing the behavior and evaluations about the favorability of those attributes and consequences (Fishbein & Ajzen, 1975, as cited in Miniard & Cohen, 1979). This also means, in terms of attitudes toward a behavior, that we have certain beliefs about behaviors, which are linked to certain outcomes, or to some other attribute such as the cost of performing that behavior (Ajzen, 2006). The attributes that come to be linked to the behavior are already valued positively or negatively which subsequently lead to an attitude toward the behavior. Through this research we aim to explore and identify salient beliefs people have about digitalization and adopting digital technology. Further, through a qualitative approach we hope to identify which consequences the participants believe this will have, and to what extent it will be favorable or unfavorable to them.

2.2.2 Subjective Norms

Normative beliefs deal with referent individuals and whether individuals or groups approve or disapprove of performing a given behavior (Ajzen, 1991). This is also viewed through an expectancy-value formulation (Fishbein & Ajzen, 1975 as cited in Miniard & Cohen, 1979). In short, the subjective norm examines an individual's beliefs about the expectations of referent individuals or groups, and the motivation to comply with these referents. By using the TPB framework, we aim to identify possible referent individuals or groups whose opinion might be important to the individual employee in a digitalization process. We also wish to explore the extent to which people feel compelled to comply with the identified referents.

Although some research suggests that subjective norm is a weak predictor of intention supposedly due to poor measurement (Armitage & Conner, 2001) we hope to find more evidence of its role in behavioral intention through a qualitative approach.

2.2.3 Control Beliefs and Perceived Behavioral Control

Control beliefs are thought to ultimately be the ones to determine whether people carry out their intentions (Ajzen, 2006). These beliefs are about the presence or absence of needed resources and opportunities to perform the given

behavior. Perceived Behavioral Control was added in an attempt to deal with situations where people do not have complete volitional control over their behavior (Ajzen, 2002).

As with attitude toward behavior and subjective norm, Perceived Behavioral Control (PBC) can be determined through an expectancy-value model where PBC is a function of beliefs about the resources and opportunities that facilitates performance of the behavior, and the perceived power these resources and opportunities have over one's performance (Ajzen, 1991).

These beliefs about control may come from experience, but also importantly, it may derive from second-hand information about the behavior (Ajzen, 1991). This secondary information may be obtained from co-workers, friends, family, or other places. We would argue that in terms of automation, there is a certain chance that people might perceive to have little control over the technological advancement and that readily adopting such technology will in the long run leave them disposable.

Perceived behavioral control should be distinguished from other conceptions of control, and carry most resemblance to Bandura's (1982) concept of self-efficacy. The concept of self-efficacy states that individuals make judgements about their own capabilities and continuously base decisions on their perceived efficacy. These self-efficacy judgements, whether correctly assessed or not, will influence people's choices in activities. If people believe that an activity exceeds their capabilities, such as learning a new computer system, people will avoid this activity. On the contrary, people will assuredly undertake activities they believe to be within their boundaries of capability (Bandura, 1982).

In the theory of planned behavior, perceived behavioral control together with behavioral intention is thought to directly predict behavior. Ajzen (1991) explains this in two ways. Firstly, if intention is held constant, we could expect the efforts to perform a behavior to increase with perceived behavioral control. The second explanation is that often, perceived behavioral control substitute a measure of actual control. However, this would only be the case if the perception is accurate. If a person has little information about the behavior, the perceived control of it would not be realistic. However, Ajzen (1985, as cited in Ajzen, 1991), argues that "to the extent that perceived behavioral control is realistic, it can be used to predict the probability of a successful behavioral attempt" (p. 185).

Further, research show that if there are no serious problems in regard to control, behavior can be predicted by intention with high accuracy (Ajzen, 1988; Sheppard, Hartwick, & Warshaw, 1988, as cited in Ajzen, 1991). However, in this thesis we will be examining situations in which employees may not be in total control of their behaviors. Thus, the theory of planned behavior (TPB) becomes an important tool as it aims to combine the intentions and perceived behavioral control in order to predict behavior.

Additionally, we bring forward the possibility that small incremental steps organizations take toward digitalization of jobs may result in employees experiencing a loss of perceived control. We would argue that adopting new systems that automate some areas of the job description could be perceived as a small concession toward the goal, which is to automate the job in its entirety, leaving the employees redundant. Following this line of argument, we suggest that digitalization consequently reduce perceived control among employees. Hence, we acknowledge that employees might recognize that making such concessions are not in their best interest and thus engage in defensive responses to the introduction of such systems. One would then expect, as argued by Ajzen (1991), that intention will influence behavior to the extent that a person has control over their behavior.

2.2.3.1 Autonomy. Additionally, we propose that autonomy may influence perceived behavioral control. When work autonomy is high, employees will credit the work outcomes on their own decisions, initiatives, and efforts, rather than other external factors (Saragih, 2015). According to Wang Dan Netermeyer (2002, as cited in Saragih, 2015) this situation will positively affect an employee's self-efficacy judgement because it will increase one's perceived capabilities and resourcefulness. Thus, we argue the importance of searching for indicators of job autonomy in our interviews and place these indicators as part of Perceived Behavioral Control.

2.2.3.2 Self-efficacy. Finally, as established by the theory of self-efficacy (Bandura, 1982), an important factor in the behavior of which individuals decide to exercise is the self-assessed capability to perform the behavior in question. Arguably, to adopt new technology one must have assessed one's efficacy in relation to technological adoption.

The determinants of self-efficacy are very similar to attribution theory (Gist & Mitchell, 1992). There are two ways to look at this. First, a process through which efficacy judgements have formed is the causal attribution process. As such, resulting attribution become determinants of subsequent efficacy judgements. Typical attributions are effort, ability, luck, task difficulty and so on. Even though, as mentioned by Silver, Mitchell and Gist (1991, as cited in Gist & Mitchell, 1992), attributions are assessments of past behavior and self-efficacy is future oriented, an analysis of the past is useful in assessing future capability.

The second contribution of attribution theory as presented by Gist and Mitchell (1992) is from researchers who have distinguished between types of attributes and made it possible to categorize them. The same categories can then be used to differentiate between determinants of self-efficacy.

The determinants of self-efficacy can be both internal and external. Internal factors are typically those you are more in control of such as mood and health, knowledge, and skills, whilst external factors are those often provided by the organization or the environment in which you are working. Examples of external factors are then task complexity, resources such as time and training, and support (Gist & Mitchell, 1992).

Given the above, we aim to identify the determinants of self-efficacy to identify statements that would speak to the Perceived Behavioral Control.

2.3 Mindset

By definition, mindset refers to a set of beliefs (Mindset, 2017). In the field of psychology, mindsets, or implicit theories, refers to people's beliefs about the nature of human attributes, such as intelligence, ability and other personal resources (Dweck, 2012). Evidence suggests that we start to form mental models of our social world as early as in our first year of living (Johnson, Dweck, & Chen, 2007; Johnson et al., 2010; Dweck, 2012). These mental models help set a framework for how to interact with the people we encounter and what to expect from others (Dwek, 2012). In other words, mental models shape our worldview and help us make sense of our surroundings.

2.3.1 Growth and Fixed Mindset

Our identity is shaped by our capacity to grow, change, and adapt (Dweck, 2012). Building on this, the extent to which a person believes that his or her core

qualities are fixed, or whether they believe that their qualities can be developed, matters; the former referring to an entity theory, or fixed mindset, while the latter refers to an incremental theory, or growth mindset (Dweck, 2012). These terms were first introduced by Dweck and Leggett (1988, as cited in Ross, 1989), who found that children's goal orientation could be predicted by their theory of intelligence, "that is, their implicit conception about the nature of ability" (Dweck & Leggett, 1988, p. 262). The individuals' implicit theories of their personal attributes orient them toward particular goals; namely learning and performance goals (Dweck & Legget, 1988). Accordingly, Dweck and Leggett proposed that some children hold the belief that intelligence is a "malleable, increasable, controllable quality", while others believe that "intelligence is a fixed or uncontrollable trait" (Dweck & Leggett, 1988, p. 262).

Research show that these mindsets also make a difference for success in social relationships, as well as in the workplace (Dweck, 2012), and according to Anderson and Anderson (2001), mindset is "the leverage point for transforming organizations" (p. 78). Moreover, research suggests that both dispositional variables and situational variables play an important part in producing behavior (Dweck & Legget, 1988). An individual's predisposition can, in theory, determine the probability of adopting a particular goal and displaying a particular behavior pattern. However, situational factors may potentially alter the probabilities that a predisposing tendency will prevail. As such, the stronger an individual's predisposition, the less likely his or her choice of behavior is to be altered by situational cues, and vice versa (Dweck & Legget, 1988). It follows that person-situation interactions ultimately should be understood in probabilistic terms. However, the power of personality theories and dispositional variables lies not in their prediction that the same behavior will be displayed across all situations, but rather in their ability to predict what behavior will be displayed in various situations (Dweck & Legget, 1988).

Individuals who hold a fixed mindset consider human attributes, such as intelligence or moral character, to be simply fixed traits (Dweck, 2012; Dweck, Chiu & Hong, 1995). For instance, people with a fixed mindset believe that we have a fixed amount of intelligence that cannot change, and that we have a certain personality that cannot be altered (Dweck, 2012). Research further suggest that people who hold a fixed mindset about their personal resources are more likely to attribute poor outcomes to their fixed personal attributes and, thus, avoid

challenges for fear of showing themselves to be inadequate/incompetent (e.g., Dweck et al., 1995; Dweck, 2012). It follows that individuals with a fixed mindset tend to also understand actions and outcomes in terms of these fixed traits (Dweck et al., 1995), and thus interpret setbacks as implying a lack of ability, which leads them to feel discouraged or defensive (e.g., Blackwell, Trzesniewski & Dweck, 2007; Dweck, 2012). In other words, individuals with such a mindset are likely to believe that if they are truly intelligent or talented, things will come easily to them.

Conversely, people with a growth mindset believe that all people have the potential to develop their qualities. As such, they believe that their personality or moral character can be developed over time, and that people can become substantially more intelligent through sufficient effort and education (Dweck, 2012). Further, those who believe that their attributes are more malleable, dynamic, and developable tend to understand actions and outcomes in terms of more specific psychological factors that mediate the behavior (Dweck et al., 1995). It follows that those who hold a growth mindset tend to seek more challenging opportunities where they can learn and grow (e.g. Dweck & Legget, 1988; Dweck, 2012). They also show more resilience when facing setbacks, because they do not feel defined by this setback, but, rather see the setback as part of a developmental process from which they are learning and improving because of their efforts (Dweck, 2012).

Although being described as two distinct mindsets, one does not exclude the other. In research on this topic, individual mindsets are found to lie somewhere along the continuum between the incremental (growth mindset) and entity (fixed mindset) prototypes (Heslin & VandeWalle, 2008).

Mindsets have further shown to have implications for personality, motivation, and social perception (e.g. Dweck et al., 1995). Building on this, we seek to find evidence that endorsing one mindset over the other also has implications for adapting to the digital changes that many now are facing in their workplace.

2.3.2 Zero-Sum / Variable-Sum Mindset

Zero-, or variable-sum mindsets are introduced in early research on game theory as the tendency for people to either compete or collaborate in situations where resources are either scarce or ample (Von Neumann & Morgenstern, 2007).

Zero-sum refers to a mindset where resources are considered as limited means and, hence, must compete for (Sirola & Pitesa, 2017). Thus, any gains or losses of utility must be balanced by an equivalent gain or loss of the participant(s) vying for the same resources. Conversely, a *variable-sum* mindset considers resources as expandable, in which all interacting participants have the opportunity to gain. In other words, people with a zero-sum mindset have a "winner takes all"-mentality, whereas people with a variable-sum mindset argues that we can in fact all go home as winners.

These mindsets manifest in human behavior in many situations and contexts. In a situation where organizations are changing the nature of work, and eliminating positions, it is natural to assume their mindset will impact the acceptance of new systems. We therefore seek to explore the possibility that employees with a zero-sum mindset will perceive technology not as a supplement or tool to help them reach goals, but as a system meant to replace them. Building on this, we aim to find evidence that those with a zero-sum mindset are more likely to be resistant and distrustful towards new technologies. Conversely, we aim to find evidence that employees with a variable- sum mindset may recognize digitalization as an opportunity and, thus, that these individuals are more likely to be accepting of new technologies and utilizing these new resources to simplify their daily work activities. Given the above, we aim to explore whether different mindset interactions have implications for employees' acceptance and adoption of new technologies.

2.4 Job Crafting

Job crafting refers to the active changes made by employees to shape their own job designs as an effort to foster positive outcomes such as job satisfaction, engagement, resilience, and thriving at work (Berg, Dutton & Wrzesniewski, 2010). It involves utilizing opportunities to customize one´s job to better fit with one´s individual motives, strengths and passions (Wrzesniewski & Dutton, 2001; Berg et al., 2008).

Research suggests that there are at least three different forms of job crafting (Berg et al., 2008). First, individuals may alter the boundaries of their jobs by modifying their work tasks. *Task-related job crafting* includes activities such as taking on additional or fewer tasks, redefining the scope of one´s task, or making changes to how the task is performed (Berg et al., 2008; Solberg & Wong,

2016). Second, *relational job crafting* refers to the changes made to modify the relational boundaries of one´s work (Berg et al., 2008; Berg, Grant, & Johnson, 2010). Individuals may alter the extent or nature of their work in order to interact with other people and gain new work relationships. Third, *cognitive job crafting* involves mentally redefining one´s job by altering how one perceives his or her tasks (Berg et al., 2008; Berg, Wrzesniewski, & Dutton, 2010).

Research suggests that job crafting takes place in most types of organizations and occupations (Berg, Dutton & Wrzesniewski, 2008). While high autonomy job designs offer the greatest opportunity for job crafting, it appears that even job designs that are more constrained and rigid also allow for some crafting (Berg et al., 2008).

Since job crafting influences the way in which individuals define their work (Parker, 2007), it has the potential to greatly impact their job performance (Berg et al., 2008). This impact may result in a more or less effective job performance, ultimately affecting the overall organizational performance (Berg et al., 2008). There are several studies that demonstrate the link between job crafting and a various number of beneficial work outcomes, including job satisfaction (Parker, 2007), work engagement (Tims, Bakker & Derks, 2015), greater productivity, better communication, and more efficient collaboration (Leana, Appelbaum & Shevchuk, 2009). Given the above, we aim to explore whether different mindset interactions have any implications as to how employees' go about embracing or excluding new technologies in their work.

2.5 Propositions for research

Up until now we have discussed several theories from organizational, and economic psychology. The aim for this research is to touch upon these topics to explore how employees respond to increased digitalization in their workplace and to shift the focus inward to highlight the employee experience.

For this research, we draw on several elements, but the primary focus lies on the Theory of Planned Behavior. As opposed to the TAM that focuses solely on the implementation of a specific technology into an employee's routine, the TPB can be used to explain a much wider variety of human behaviors in different contexts (Ajzen, 1991). As such it can be used to somewhat predict the responses employees will have toward increased digitalization in their workplace even though this digitalization does not directly affect the specific employee at that

particular time. The TPB could predict and serve as a tool for managers to guide employees through those changes, ensuring that productivity remains high in the process.

Our framework includes the possibility of elements from the TAM integrated in the TPB model to explore whether Attitude Towards Behavior may be influenced by Perceived Usefulness as represented in the TAM. Further, we seek to examine whether fixed and growth mindsets will affect the beliefs employees have towards the Behavioral Intention. We propose that people with a fixed mindset will be more reluctant to try new technology as they believe to have a capped capacity for learning technologies. Consequently, we believe that they will adopt a more negative Attitude Towards Behavior. In contrast, we propose that people with a growth mindset will view new technology as a great opportunity to expand their knowledge and skills and thus adopt a positive Attitude Toward Behavior.

Subjective Norm is kept as presented by Ajzen (1991) in our proposed framework. This element of influence focuses mainly on the acceptance or rejection by peers in the workplace. We have chosen to regard all evidence of company culture norms related to digitalization as subjective norm.

Further, we seek to examine whether a zero-sum versus variable-sum mindset may affect the extent to which one perceives to be in control. We propose that if an individual has a zero-sum mindset he or she will hold the belief that some will win and some will lose in a change process such as digitalization. Conversely, if an individual has a variable-sum mindset he or she will hold the belief that creating new opportunities from the resources at hand is possible. As such, we propose that people with a variable-sum mindset will feel more in control of the digitalization process as they expand on the resources available to create new opportunities for themselves. Thus, we believe that zero-sum/variable-sum mindsets are an important player in Perceived Behavioral Control.

Finally, we seek to explore the possibility that Perceived Behavioral Control also will be affected by (1) resources available such as time, learning material, training and so forth, (2) support from colleagues and supervisors, and (3) job autonomy.

By researching and analyzing individuals' behavioral beliefs, normative beliefs, and control beliefs in a digitalization process we hope to identify areas of excitement as well as areas of concern in such challenging processes that could

help organizations better understand and guide their employees through the digitalization process. By identifying the employees' beliefs about digitalization, organizations can engage in behavioral interventions based on the Theory of Planned Behavior (Ajzen, 2006). The idea behind using the TPB to influence behavior is to direct focus on the specific area that is negatively affecting intention to perform a given behavior. It would make little difference to apply efforts in an area where the individual already demonstrates positive beliefs. In the case of digitalization, we expect to find some level of resistance from the employees, however we also expect to find a certain level of excitement, curiosity and positivity. Through our research, we hope to identify areas that cause friction as well as those acting as drivers. Utilizing this information could potentially increase the effectivity of the digital transformation process.

3.0 Methodological Approach

The following sections address the research design and methodology used for this study. Reliability and validity, as well as ethical considerations are also discussed in this chapter.

3.1 Research Strategy and Design

The aim of this study is to re-examine the Theory of Planned Behavior Model in relation to employees' acceptance and adaptation of technological tools implemented in conjunction with digital change in organizations. Consistent with a constructivist epistemology, we believe that social phenomena are social constructs that should be understood considering individuals' subjective meanings of their experiences (Bryman & Bell, 2011). Constructionism is an ontological position "which asserts that social phenomena and their meanings are continually being accomplished by social actors" (Bryman & Bell, 2011, p. 22). Building on this, our research adopts a social constructionist framework to truly understand the full aspects of this phenomenon we acknowledge that the case should not be considered without including the broader context.

We are interested in the subjective perception and experiences of the study's participants in relation to the digital changes they are facing in their workplace. A case study design involves an intensive and detailed analysis of a specific issue within a bounded situation or system (Bryman & Bell, 2011). Moreover, this research approach is concerned with the nature and complexity of

a certain case (Stake, 1996, as cited in Bryman & Bell, 2011), such as a single organization, location, event, person, or environment.

Robert Yin (2003) presents one of two main approaches to the case study method (as cited in Baxter & Jack, 2008). Yin's approach is based on a constructivist paradigm, meaning that the truth is considered to be relative in that it depends on one's perspective, such as described above. More particularly, this paradigm "recognizes the importance of the subjective human creation of meaning but does not reject outright some notion of objectivity" (Crabtree & Miller, 1999, p. 10). According to Yin (2003), a case study design is especially suitable when "you want to cover contextual conditions because you believe they are relevant to the phenomenon under study" and when "the boundaries are not clear between the phenomenon and the context" (as cited in Baxter & Jack, 2008, p. 545).

By adopting a case study design, we are enabling ourselves as researchers to enter a close collaboration with the participants of this study; allowing the participants to tell us their story and describe their views of reality (Baxter & Jack, 2008). This means that we are likely to get a more accurate picture of the phenomenon and, thus, provide a better understanding of the participants' actions (Baxter & Jack, 2008). We believe this will help us reveal the deeper essence of the phenomenon in question, and are, for this purpose, trading breadth for depth in our research (Yin, 2003).

The case study research method can further be categorized as explanatory, descriptive or exploratory (Yin, 2003). The exploratory case study is best used to "explore those situations in which the intervention being evaluated has no clear, single set of outcomes" (Yin, 2003, as cited in Baxter & Jack, 2008, p. 548). Yin (2003) further differentiates between single case studies, holistic case studies and multiple-case studies, and states that "a multiple case study enables the researcher to explore differences within and between cases […] so that the researcher can predict similar results across cases, or predict contrasting results based on a theory" (Yin, 2003, as cited in Baxter & Jack, 2008, p. 548). Building on this, due to the nature of our research question we found it most appropriate to let our study follow a multiple-case framework with an exploratory research design, such as defined by Yin (2003), to capture the nuances of the phenomenon under study.

3.2 Data Collection Method

The multiple-case framework with an exploratory research design allowed us to combine qualitative and quantitative methods in our study (Yin, 2003). A qualitative research approach is typically associated with an inductive strategy of linking data and theory, while a quantitative research approach is more commonly used to deduce hypotheses and test theories (Bryman & Bell, 2011). A combination of the two approaches, also referred to as a mixed methods research, or an embedded design, is being employed at an increasing rate in the field of business studies and acquiring increased credibility as a distinctive research strategy (Bryman, 2009; Bryman & Bell, 2011). Further, mixed methods are found to be useful when a single method is considered insufficient for collecting data to understand all aspects of the phenomenon of interest (Bryman & Bell, 2015). Due to the ambiguity of the phenomenon under study, we found that a mixed method research approach, thus, would be appropriate for this study. As such, allowing us to get a fuller picture of the employees' experiences and reactions in relation to implementation of digitalization in their organization of employment.

An inductive strategy entails that theory is generated as an outcome of the research (Bryman & Bell, 2011). However, previously developed theories were used as a background for our investigation, and so our strategy cannot be considered as one that is purely inductive but rather as a semi-deductive strategy. According to Jack and Kholief (as cited in Bryman & Bell, 2011, p. 63), case studies are best suited "as a means of refining or refuting existing theories, rather than building entirely new explanatory frameworks".

We further argue that the collection of qualitative data provided our research with descriptive details significant for gaining a more complete understanding of our case (Bryman & Bell, 2011), while the collection of quantitative data kept us from being carried away by false impressions of the qualitative data and, as such, strengthens the final findings of the study by basing the results on several data sources (Eisenhardt, 1989; Yin, 2003).

Building on this, in order to detect inherent patterns that may shed light on our research question we sought to explore and analyze similarities within and across different units and organizations. By examining multiple units and organizations, we seek to enhance the generalizability of our study so that our

findings may be used to predict similar results in the future (Yin, 2003, as cited in Baxter & Jack, 2008).

3.2.1 Interview Guide

To guide the interviews, a semi-structured interview guide was used. The first part of the interview guide consisted of open-ended questions designed to examine what kind of digital changes the participants were facing, which stage of changes they were in, and whether they had done anything to shape their own job designs in relation to the theory of job crafting. The second part of the interview-guide consisted of questions designed to stimulate discussion about employees' attitudinal and behavioral responses toward digitalization according to the TPB guidelines. The items building on the TPB framework were retrieved from a previously conducted focus group study (White et al., 2015) and modified to fit the purpose of the current study (see Appendix 1). Additional follow-up questions were used to gain more nuanced and detailed information (Boyce & Neale, 2006).

3.2.2 Case Selection

In the search for partner organizations for this research project, the main criterion established was a presence of digitalization in the organization. This presence must have taken the form of (1) a completed process, (2) an ongoing process, or (3) a planned process of digitalization in the near future. These criteria were set in line with the purpose of exploring the full specter of employees' subjective expectations, experiences, and perceptions related to the implementation of digitalization in their workplace.

We would argue that employees who have recently completed a digitalization process would be able to recall their experience in relation to this, such as certain emotional states, issues, general concerns, and other events that took place during the digitalization process. We were also interested in the valuable insight which could be provided by those surviving any downsizing due to technological advancements. Further, employees undergoing a digitalization process in present time could provide us with a better understanding of their subjective experiences related to issues that come to play, such as attitude towards digitalization, cultural norms, and the level of perceived control. Lastly, in regards to employees facing digitalization in the future we anticipated getting a fuller picture of the employees' subjective perceptions related to certain anxieties, fears,

or unease about the upcoming digitalization. By interviewing people in these three different stages of digitalization, the aim of focus was to get a better understanding of the full scope of the employee experience related to implementation of digitalization in the workplace.

To get a representative sample and collect enough data to make useful comparisons we decided to partner up with three different organizations, who were able to provide us with access to a total of 15 interviews; meaning that we conducted 5 interviews in each of the three organizations.

3.2.1.1 Organization 1 (O1) is one of Norway's largest financial institutions. Their operations are mainly in the traditional banking industry, yet it has branched out to other areas such as real estate and insurance. Its size is evident in worldwide operations and overall visibility.

Being an industry where many of the tasks are rather repetitive, routine based, and with little use of human reasoning, the financial services industry is now on the cusp of a digital transformation in order to enhance customer experiences (Deloitte, 2016). For instance, a loan clerk has little room to navigate as loans today are granted almost merely on checking and verifying that legal requirements are met. As such, the job consists of gathering information, checking for eligibility, and then granting or denying the loan request. Hence, this is a process that is highly suitable for automation and, in other words, a job that could be done more effectively by a "robot". O1 has completed several processes of implementing automation, as well as ongoing and planned processes related to digital transformation in the near future.

3.2.1.2 Organization 2 (O2) is a large company in the Norwegian public sector. This organization is responsible for handling welfare, pensions, and other benefits to the Norwegian public. Similarly, to O1, many of the work processes in O2 consist of routine tasks where information is gathered from different sources, verified, and controlled for eligibility for benefits. The employees make an evaluation of the case, however, all in all the final decisions are based on legal grounds.

Currently, many departments within this organization are using software developed early in the 1970's. This is about to change as the organization is now gradually implementing a newer and more automated system across its

departments. In addition to being in the midst of a major digital transformation, several other considerable automation processes are planned to be implemented in the in the foreseeable future.

3.2.1.2 Organization 3 (O3) is a privately held telecommunication company. By operating in the rapidly evolving industry of telecommunication, this company is forced to stay up to date with recent technological developments in order to maintain a satisfactory experience for their customers. Their most recent project involves a *chatbot*, which is an automated chat system that will handle a large number of customer service inquiries and thereby relieve the stress on the customer service center. This system is planned to not only produce automated responses to customers' questions, but also, in time, to take action in certain cases and perform simple tasks. Subsequently, much work that is currently undertaken by human labor will be delegated to digital systems, leaving a trail of redundant workers. As such, this organization has an immediate need to change their business structure and reorganize their human resources.

3.2.3 Participants

A purposive sampling approach was applied for this study, meaning that participants were not sampled based on a random basis (Bryman & Bell, 2011) but, rather, in a strategic way to find information-rich sources in relation to the phenomenon under study (Thorpe & Holt, 2008). Nevertheless, the sampling was done with an intent to ensure variety (Bryman & Bell, 2011), in that the participants differed from each other in terms of key characteristics such as age, gender, experience within their field, and involvement with the development and implementation process of the digital tools in question. Our point of contact in the different organizations were informed of the preferred criteria and then encouraged to select employees they saw fit to provide us with relevant information. We also instructed our point of contact not to share any information about the research to any potential participants, other than the topic, namely digitalization in the workplace.

Based on these criteria, O1 selected five employees from three different departments, all of whom were employed at a subordinate level. The employees had varying levels of experience from and involvement with digitalization in their workplace. In O2, three subordinates and two managers were selected. They were

all first-hand users of a newly implemented digital tool, and had a varying degree of involvement in the development and implementation process. The employees were all working in the same department, however, they were situated in two different geographical locations. Five employees were selected in O3, all of whom were subordinates working in the same department. They were all first-hand users of newly implemented digital tools, with essentially no involvement in the development or implementation of these tools.

3.3 Data Collection Process

The data for this study was collected by means of qualitative and quantitative methods. In order to uncover the participants' subjective interpretations and experiences (Bryman & Bell, 2011) related to digitalization in their workplace, we conducted in-depth semi-structured interviews as a primary mean of collecting data. In addition, we conducted a questionnaire survey to measure the participants' mindsets as a quantitative element to support our findings emerging from the qualitative data.

Given the exploratory nature of the study we chose to follow an interview-guide to ensure similarities between the interviews, yet still affording leeway and room for the conversation to move around the subject. The interview-guide comprised of open-ended questions related to mindsets, job crafting and the various aspects of the TBP (see Appendix 2 & 3 for the full interview guide). The interviews were conducted in meeting rooms at the respective organizations to ensure a natural environment for the participants (Johannessen, Christoffersen, & Tufte, 2011). The duration of the interviews ranged from approximately 15 to 50 minutes, and resulted in a total of 7:08:09 interviewing hours. In order to go back and examine the interviewees' answers more thoroughly and help correct the natural limitations of our memory (Bryman & Bell, 2011), all interviews were audio-recorded with the consent of the interviewees. The interviews were then transcribed in NVivo 12 in its entirety, word by word, with the exception of words that got repeated, inaudible words and, small talk that could not be seen as relevant to the content of meaning (e.g. conversations about the taste of the coffee), in which case the transcript has been marked with *small talk.* One of the advantages of a verbatim transcription is that the material becomes verifiable and thus increases the reliability of the study (Bryman & Bell, 2011). Identifying information – such as the names of the participants or colleagues, company, or

department – were redacted from the transcripts to ensure anonymity. As recommended by Maxwell (2013), observational notes and memos were written down during the transcription of the interviews so that tentative ideas could develop about relationships of similarities and categories for the coding.

Before the interviews, the interview objects were asked to respond to a multi-item questionnaire measuring the participants' mindsets. The survey consisted of six items measuring zero-sum and variable-sum mindsets, and four items measuring growth and fixed mindsets. In addition, demographics such as age, gender, experience within the industry and organizational tenure were added to the survey. A five-point Likert-type scale was used to record responses (see Appendix 4 & 5 for questions and response-scale). The decision to place the questionnaire before the interviews builds on the assumption that this could reduce the possibility of the participants' answers to be tainted by increased awareness about the subject in the aftermath of the interviews.

3.4 Data Analysis

The analysis of the collected data was guided by our research question as presented in section 2.5. There are few well-established and widely accepted rules for qualitative data analysis (Bryman & Bell, 2011). However, Braun and Clarke (2006) proposes a thematic analysis, which offers a theoretically flexible approach to identifying, analyzing, and reporting patterns within qualitative data. Building on this strategy, we coded the data set to identify important themes and pattern, which were then rearranged into categories for comparison. Coding is considered the main categorizing strategy in qualitative research (Maxwell, 2013), and patterns can be identified by using either an inductive or deductive approach (Braun & Clarke, 2006). The results of the analysis can enhance the study's internal validity if the themes and patterns found in the data set coincide with the themes and patterns that were predicted in the proposition (Yin, 2003). Conversely, if no correlation can be found between the predicted and the identified themes and patterns, alternative explanations for the findings must be explored (Almutairi, Gardner, & McCarthy, 2014).

Building on this thematic framework, our analysis involved an iterative process which combined an inductive and deductive approach to generate inferences. As with the transcription of the interviews, the coding of the written material was performed in NVivo 12. First, we went through all the transcriptions

and marked sequences of text in terms of predefined categories driven by the theory linked to our research question. At this point our main focus was to identify similarities, themes and patterns at a semantic or explicit level, meaning that we were not looking beyond the surface meanings of the data or what the participants had said (Braun & Clarke, 2006). In this phase of the analysis we continuously moved back and forth between the data set and theoretical framework and proposition(s) to ensure that no hasty conclusions were made. Second, all occurrences for each of the identified categories were retrieved for a more nuanced interpretation of the material at a latent level. In this phase of the analysis we sought to identify and examine underlying structures, meanings, and ideas underpinning what was actually articulated in the data. The latter form of analysis is often associated with a constructionist paradigm (e.g., Burr, 1995, as cited in Braun & Clarke, 2006). Finally, we combined the patterns derived from the thematic analysis with the results from the survey and compared the findings with the predictions in our proposition.

Descriptive statistics were used to analyze the quantitative data (see Table 3). The calculated scale scores provided a mean rating ranging from 1-5 for each of the two response sets. A higher score for the response sets (5-4) indicates a zero-sum or fixed mindset, whereas a lower score (1-2) indicates a variable-sum or growth mindset. The patterns were analyzed and then compared to the patterns derived from the qualitative data to examine whether they matched the predicted patterns.

3.5 Reliability and Validity

Several elements have been integrated to the study to establish and assess the overall quality of our research in terms of reliability and validity. First, the methodological process of our research has been described in detail in the previous sections to enhance the external reliability of the study. By doing so, we intent to provide transparency in regards to how we arrived at the study's conclusion (Bryman & Bell, 2011), as well as enabling future researchers to replicate the study by tracing our steps (Yin, 2003). Second, to ensure internal reliability, the qualitative data material was first coded independently and later compared and discussed until we arrived at consensus on the emerging themes and patterns (Baxter & Jack, 2008; Bryman & Bell, 2011). Third, in regards to external validity, the aim of this study has not been to generate a representative

sample and generalize our findings to populations but, rather, to let the unique aspects of this case lay the foundation for future theoretical inferences (Mitchell, 1983, as cited in Bryman & Bell, 2011). Fourth, data source triangulation was applied in that both qualitative and quantitative data material was used as a basis for our analysis to ensure construct validity. By approaching the case from different perspectives and relying on multiple sources of information, the validity and credibility of the results may be strengthened (Yin, 2003). Finally, Eisenhardt and Graebner (2007) argue that interview data can be biased due to impression management and retrospective sense making. In order to limit this bias, numerous and highly knowledgeable informants, who are likely to view the phenomena from diverse perspectives, were used in this study (Eisenhardt & Graebner, 2007).

3.6 Ethical Considerations

To ensure that ethical guidelines were followed for this research, the project was approved by the Norwegian Centre for Research Data (NSD; see Appendix 6) in advance of the data collection process. In line with NDS's guidelines, all personal information collected in this project is stored according to the regulations in § 31 of the Personal Information Act. No sensitive personal data was obtained during the project. At project completion, all audio-records were deleted, and indirectly identifiable information was anonymized. Participation in the study was voluntary, and all participants were informed about the guidelines for processing and storing of the collected data. A verbal consent was obtained from the participants before audio-recording the interview.

4.0 Findings

In the following sections, we present the empirical findings from our research. The most interesting aspects from the main findings are further highlighted and examined in the next chapter.

A description of each of the organizations and its participants is presented in Table 1. Each of the three groups consisted of 5 participants. The participants were aged between 22 to 60 years (mean = 40,1 years), and ranged in experience from their respective field from 1,5 to 41 years. The participants' roles within their organization are as follows: four senior account officers, four customer consultants, three executive officers, to department managers, one senior consultant and, one working with customer operations.

Table 1 Descriptive Data of Participants

Organization	N	Gender	Age	Length of service	Role type	Leadership responsibilities	Work status
O1	5	3 Females 2 Males	(31-60 yrs) M = 48,8 yrs	(6-41 yrs) M = 27,6 yrs	4 Senior account officers 1 Senior consultant	1 Yes 4 No	5 Full-time
O2	5	3 Females 2 Male	(30-56 yrs) M = 45,6 yrs	(1,5-20 yrs) M = 10,3 yrs	2 Department managers 3 Executive officers	2 Yes 3 No	5 Full-time
O3	5	2 Females 3 Males	(22-34 yrs) M = 26 yrs	(2,5-4 yrs) M = 3,3 yrs	4 Customer consultants 1 Customer operations	0 Yes 5 No	5 Full-time
Total	15	8 Females 7 Males	(22-60 yrs) M = 40,1 yrs	(1,5-41 yrs) M = 13,7	4 Senior account officers 4 Customer consultants 3 Executive officers 2 Department managers 1 Senior consultant 1 Customer operations	3 Yes 12 No	15 Full-time

The results were mainly consistent across the three organizations. Table 2 provides a summary of the empirical findings that emerged from our research. The findings are presented according to key concepts and themes, including a description of the themes, whether the statements were considered to be positive or negative, and the number of times a theme was expressed. The table is presented over two pages.

Table 2: Key Concepts, Themes (including number of times theme expressed), and Example Quotations across the full Sample (N =15)

Concept	Theme	N of statements	N of interviews	Description	Example quotations
Attitude Toward Behavior	Perceived usefulness (n=152)	Positive: 81	15	References suggesting that participants believe using the technology will enhance their job performance	«[Digitalization] effectivizes, gives quality assurance of the work task, and "time to market" - those are the three most important tasks»
		Negative: 71	15	References suggesting that participants believe using the technology will diminish their job performance	«If the systems had worked, yes. But when they don't then it almost becomes more work actually»
	Fear of unemployment (n=41)	Positive: 8	12	References suggesting that participants are not concerned of becoming unemployed as a result of the digitalization.	«But [the work] is always replaced by new tasks, […] more thrilling tasks, somewhat more complex»
		Negative: 33	12	References suggesting that participants are concerned of becoming unemployed as a result of the digitalization.	«When such autmated solutions emerge, then you think about how long you are needed here»
	Responses to change (n=103)	Positive: 46	15	References suggesting a positive attitude towards digital change	«I think this is very exciting, and I would like a lot more of this»
		Negative: 57	15	References suggesting a negative attitude towards digital change	«I think it was easier before, I think things worked better before»

Table 2 Key Concepts, Themes (including number of times theme expressed), and Example Quotations across the full Sample (N =15)

Concept	Theme	N of statements	N of interviews	Description	Example quotations
Subjective Norm	Subjective Norm (n=30)	Positive: 15	8	References suggesting social pressure to accept new technology	«A lot of people are are very excited about what this is, and has an attitude that one must try to learn as much as possible, and figure out as much as possible"
		Negative: 15	6	References suggesting social pressure to oppose new technology	«[...] I worked in a local branch before, and there one wasn't as positive toward changes perhaps.»
Perceived Behavioral Control	Resources (n=126)	Positive: 41	11	References to available resources	«[...] we have a system, or we have a learning portal on our phones that we can use»
		Negative: 85	13	References to needed or unavailable resources	«[...] So I think it is time that is demanding, at least for us in operations»
	Support (n=24)	Positive: 23	9	References suggesting support	«There is a lot of cooperation for instance. There is much more - that we discuss solutions and such»
		Negative: 1	1	References suggesting lack of support	«But I feel that we are met- by our leaders we are met with positivity and that they listen. [...] but how it is handled from there I don't think is much to brag about»
	Competence (n=40)	Positive: 28	8	References suggesting that participants view competence as a facilitator of technology acceptance	«I think that one, instead of just listening one must learn to understand it»
		Negative: 12	6	References suggesting that participants view lack of competence as an inhibitor of technology acceptance.	«Those who aren't as familiar with it may talk down on it»
	Zero-sum/Variable-sum (n=123)	Variable: 71	14	References suggesting a variable-sum mindset	«So you yourself can be made available to do other things»
		Zero: 52	15	References suggesting a zero-sum mindset	«And then you have those […] who see that the tasks they are doing now are going away, and wondering what they will be doing»
	Autonomy (n=25)	Positive: 20	8	References suggesting a presence of job autonomy	«Once I got involved with robots and such then my job became completely different»
		Negative: 5	3	References suggesting a lack of job autonomy	«[...] there is much not to do on your own really. Just pay attention to the information that emerges and the training we receive»

All quotations used as examples have been translated from Norwegian. When translating, we have aimed to stay true to the original sentences and to make the English translation as direct as possible. However, dialects, idioms, or other figures of speech do at times cause for loss of meaning in translation. In such situations, we have translated so that the meaning of the statement is

conserved but recognize that translating it back may result in unsimilar wording. This is further discussed under limitations.

In the following sections, we provide a more detailed description of the empirical findings.

4.1 Attitude Towards Behavior

The 15 interviews resulted in a total of 504 statements associated with Attitude Towards Behavior. These statements were further categorized into five predefined categories, which then were analyzed a second time for a more nuanced interpretation and to identify and examine any underlying structures. In the following sections these statements will be presented in relation to Perceived Usefulness, Fear of Unemployment, Resistance to Change, and Mindset.

4.1.1 Perceived Usefulness

When analyzing our interviews for evidence of Perceived Usefulness we aimed to look for arguments both pro and con digitalization. We hoped to identify areas where employees find digitalization to be useless or counterintuitive so that these issues could be addressed in an organizational setting. We also hoped to find indicators as to which areas employees find digitalization most useful, which can be utilized to serve as a motivational argument for employees who are reluctant to this change.

The analysis generated a total of 152 references related to Perceived Usefulness, of which 81 statements had a positive regard. We have categorized all statements in favor of the technology with reference to how it is useful as positive. We found that employees generally recognize the usefulness of digitalization in mundane tasks. Not only is this usefulness applied to their own repetitive tasks, but its usefulness is also frequently mentioned in regards to the end user as well as other employees in the organization:

> *"Yeah, there is that, that it becomes more efficient and hopefully a better solution for the users, and also for those who work with it"* (O2)

> *"I'm thinking that perhaps it leads to a better flow in our days, for everyone involved: both those who work here and [...] those that are our customers"* (O3)

A technological fit for colleagues was determined even in situations where participants found digitalization less useful in their own work. This suggests that in situations where individuals refuse to recognize the usefulness of digitalization in their own work, this should not be interpreted as synonymous with an overall negative assessment of digitalization, but rather it may suggest that there are other forces at work.

From a negative viewpoint, several concerns among participants were reflected in a total of 71 statements regarding Perceived Usefulness. All statements in which participants viewed the technology in question not to be useful, or otherwise stated concerns towards its practical use, were categorized as negative. First, there are concerns related to the readiness of the digital systems that are being implemented. From our analysis, it seems that many employees find the technological development both exciting and intriguing, but not ready. Bugs and errors cause not only a cutoff in service to the customers, but it leaves extra work for the employees. This in combination with an overeager organization that prematurely downsized their workforce leaves employees with a substantially larger workload than normal. Additionally, when mistakes are discovered, employees must go through all the computations to correct mistakes up until the point of discovery:

*"Yes, one disadvantage can be that one implements the effectivization cuts a little too soon. Before one sees how it works and that it's up and running. Because obviously, we see that there can be small adjustments on the systems we already have today and when you implement something new it happens that something defects or there are some bumps in the road so that you don't get up and running as quickly, that it becomes tougher to work, that there are more errors, and that there is extra work the next round [...]" (*O2)

Second, a loss of control also seems to be pulling down the perception of usefulness among participants. This is not to be confused with Perceived Behavioral Control which is a subjective assessment of a person's capabilities to handle the new technology, but rather this loss of control refers to the actual loss of ability to make some computations, or carry forward some processes that participants previously had the ability to do. As such, participants express that

digital systems require that some decision-making authority must be rendered to the digital system and that one must trust the outcome to be correct. The analysis reveals that there is a reluctance to afford digital systems this kind of trust and that the loss of control is perceived as negative:

"[...] it is like our freedom of choice is taken away because that is the system, we have to follow the way the system is built up. And you become very steered, [...] when you are to process a case you get, previously you opened the application and did the whole thing from A to Z. Everything, entire, so, it isn't, all cases weren't difficult, but then you had like responsibility for the entire [...]. While now you only get specific tasks pulled out, that the automatic solutions can't process by itself. [...] it can be a disadvantage in that you lose some of the totality of the case" (O2)

Nevertheless, common across organizations and participants is a shared alleviation in spending less time on mundane tasks. Even in O3 where the customer service employees, who are more negative to digitalization, express a hint of relief that a chatbot can undertake the most boresome inquiries. Second, quality assurance is brought forward by a number of participants. There seems to be agreeance that a digital system makes less mistakes than a human being:

"And there is - so robots make way fewer mistakes, and you get to eliminate plenty of small mistakes. So, that actually is exclusively positive, both for X and for the customers. We will get much more accurate products. Things will be more correct. Wash off careless mistakes and such." (O1)

Thus, the customer will have a more seamless experience and it will save organizations time and energy. This point is often argued in conjunction with repetitive tasks, as humans tend to get less focused after repetitive work for longer periods of time:

"The advantages are that you rid yourself of those simple routine tasks where there really isn't need for a person to copy and paste. It will also add to the quality of what one does. Because that was some of what we experienced rather early, that when you copy/paste thousands of lines every day, it becomes very easy

to forget the last letter in an email or forget - copy paste in the wrong column and so forth. That is something a robot does not do wrong." (O1)

4.1.2 Fear of Unemployment

The analysis resulted in 41 statements related to *fear of unemployment*, which emerged from 12 out of 15 interviews. 33 of these statements were of a negative nature, illustrating that there is some concern amongst the majority of the informants that they might become unemployed as a result of the digitalization. For clarity, all statements in which participants expressed concern for their job were regarded as negative statements. This fear seemingly arises from a perceived devaluation of their own skills and competencies. An interesting finding, however, is these statements tend to address the fear of others for losing their job as a result of the digitalization. In other words, the participants seem to have a more positive attitude towards their own prospects in regard to keeping their job than about their colleagues:

"I think it has to do with them feeling that their competence suddenly is redundant" (O2)

"[...] people who have worked with this for years and are educated jurists, they probably feel worthless also in a way[...]. Suddenly their evaluation is not important anymore, [...]" (O2)

However, from the 15 interviews conducted, fear of losing one's job seems not to be a very important variable in predicting behavioral intention toward digitalization. Some argue a subsequent abundance of workers but believe in new, more complex tasks for them to solve. Others believe in a more natural readjustment of the workforce in terms of retirements and resignations. Generally speaking, people seem to view cuts in the workforce as an inevitability and, thus, direct little attention to the issue as it arguably will not make a difference:

"I am probably so positive because of what we are saving society of. So I look beyond myself. If I get fired a beautiful day, then I will find something else to do" (02)

4.1.3 Responses to Change

Several factors were identified in relation to Responses to Change, resulting in a total number of 107 statements relating to the subject. Building on these statements we found that although people cognitively understand and accept the reasoning behind digitalization, there is an ambivalence in emotions and a more underlying mechanism that puts breaks on the openness to digitalization.

"One shall exist as a consolidation in the future. That is the most important job one has." (O1)

Through our analysis of the interviews we found 57 statements in relation to resistance. First, age appears to be a variable that predicts resistance to change in all three organizations. Not in the sense that people believe not to be capable of handling new technology, but rather that the time and effort required to master something new is fruitless. Be it new technologies or new tasks as a result of restructuring after a digitalization process, motivation is lacking for both. This lack of motivation seems to grow in prominence parallel to age:

"Yes, that must have been to have had more computer knowledge. Because when one is, yes, it is wrong to say it like that - when you are so old, perhaps you forgot when you were younger when these things emerged to learn more about computers, and follow that development. One sat and had a job, and did that job. And one didn't think that perhaps changes occurred in the future. So there is much I should have learned earlier - to be able to handle things. Yes, I was about to say, to be able to play with numbers. But I will admit that now I have come to a point where I can't be bothered. I am good." (O1)

Second, our findings also suggest that people tend to underestimate the complexity of their job. We discovered that people believe their tasks to be of a less complex nature, and thus adopt a skeptical view on their own capability to handle more complex tasks after automated systems have taken on much of their current tasks. However, when employees are asked to explain their tasks to a digitalization consultant whose aim is to automate that task, many employees realize first at that point how complex their work is:

"[...] "would you like a new job?" - "yes, but I don't know how to do anything but this." And then "this" is really a very complex task where you have to understand many structures and understand many interactions in society to get it done" (O1)

Thirdly, we identified in all organizations many concerns related to insecurities. Not only in light of downsizing but also as to future work responsibilities and insecurities rooted in unpredictability. We found that in situations where employees have little information and little knowledge about digitalization and what this process entails, it becomes difficult for them to predict the future and plan accordingly:

"It results in more insecurities among a lot of employees" (O2)

"Yes, so disadvantages, that is when you are in the middle of this and there are insecurities" (O2)

Fourth, we found that many employees that have been through multiple change processes are more tired of the change process itself than the objective of the change, which is digitalization:

"[...] All ideas are built on ideas that are made before, and they often go in cycles so that you bring back the same leader methodologies that you had in the 70's. Some of them are perhaps popular again in a few years, right. So you get a roundelay of things. And over time humans can get tired of it." (O1)

An interesting finding is that employees who earlier experienced outsourcing finds it more comforting that nowadays their job responsibilities are delegated to a digital system rather than another human being:

"Many of the tasks we had before have previously been moved to [a different country], and there hasn't been a difference; here you keep the tasks, but one gets a robot on it instead. That is much more positive." (O1)

O2 was also in the process of changing locations and restructuring the workforce, which added additional strain on employees' capacity. A general wish from employees was that the organization focused on one thing at the time and not subject their employees to unnecessary hardships:

"Of course, that part I wish I didn't have to deal with amidst all this, simultaneously with digitalization and that insecurity too. So for the department there is much going on at once." (O2)

Fifth, we identified several statements expressing concerns about the reputation of the organization if the technologies do not work properly, suggesting that employees are concerned for the organization at a level beyond their own job:

"So when the new solutions arrive they aren't completely finished. That is probably the biggest problem" (O3)

Sixth, we had the opportunity to talk to a department head in O2 who could inform that it is very demanding and stressful that departments are expected to perform at their normal rate and go through training programs laterally. Additionally, cuts in budgets are often incorporated in the beginning of a fiscal year, while the rise in effectivity may not start until the midst fiscal year. This puts extra strain on the entire workforce as there is too much downsizing in consideration of the remaining workload. Further, the department head had noticed that many employees felt that their evaluations were no longer of importance, which induced a lowered sense of self-worth.

In contrast to the references discussed above, we also found 46 positive references relating to responses to change. All statements in which participants expressed interest, excitement, curiosity, and general positive attitudes toward the digital change were regarded as positive. The majority of these statements were related to the involvement in the process and objective, and many of the participants expressed a request to obtain more knowledge about the subject:

"[...] those who aren't as familiar with it may talk a bit negatively about it. But once you start sort of getting it in your own department and such you let yourself be fascinated and understand that perhaps it's not so bad after all." (O1)

In O2, training responsibilities are delegated to those who feel inclined to take on such a role. We interviewed two people with such responsibilities who emphasizes the importance of being positive, spread positivity about these changes. In the interviews, they explained how they try to do this by creating a safe environment, provide excellent training, provide information, and also to function as a barrier for wrongful rumors and information being spread in the organization. While expressing that they have an understanding that the digitalization process they are part of is absolutely crucial to the survival of modern organizations, the participants are also at the same time experiencing a conflict with their emotional response because they feel that the digital tools are not yet sufficiently developed:

"I have probably just realized that I understand the business strategy and why they do it. So, they want to be more streamlined, it will be simpler, it will save costs on a large business scare, and it will be simpler - but there will be a grander challenge for each person though, seen this way - when one perhaps don't have the same prerequisites as one had before." (O3)

Overall, however, we found that most participants agree that digital changes are a fresh breeze of air and that most old systems need an update.

4.2 Subjective Norm

Based on our analysis we found little evidence to support that Subjective Norm or social pressure has much influence over individuals' behavioral intention towards digitalization in the workplace. Nevertheless, we did identify some other interesting aspects. As previously mentioned, one common factor in terms of subjective norm is that people tend to view older coworkers as more opposed to new technologies than younger coworkers:

"Some are more negative, but I haven't really thought about… Well, the older they are the more skeptical they are, I think." (O1)

"It is hard not to point at those that are in their last 3-4 years of their work-life. It's mostly them that perhaps don't see the use in acquiring new knowledge when they only have few years left" (O1)

Still, we found that people seem to be relatively unaffected by social pressure in relation to increased digitalization. When participants were asked what they believed to be the antecedents of negative attitudes of colleagues they often believed personality to be the main factor, and that the same negativity often transfers to other issues:

"Not just that, but some people are more grumpy than others no matter what it is. If there are two coffee cups on the counter that someone left there, then that is wrong, and if there is a pair of shoes there then that is wrong as well." (O1)

"It is probably those that are generally more positive as a person. I think so. Those that have a predisposition to be more positive." (O2)

"Well yes, throughout I'd say those that perhaps are more positive in general" (O3)

4.3 Perceived Behavioral Control

Through the analysis, we aimed to identify common denominators across the three different organizational settings that can speak to which areas that affect individuals control beliefs. In the following sections, we present the findings related to such aforementioned determinants.

4.3.1 Resources

The analysis exposed two primary resources that are of concern to employees in all three organizations, namely information and time. Given that these concerns are brought forward by almost all participants suggests that these resources are universally important in a digitalization process. To conceptualize information, we include learning material, learning courses, encyclopedias or other sources of information.

Based on the analysis we identified the following situations. First, information is accessible and easy to find, but employees express a lack of time to acquire the information and learn its content. In these situations, participants acknowledge the availability of e-learning courses, handbooks, online groups and other sources of information. What seems to be a constraint is still the time available. Although the organization encourages learning during work hours,

many employees prioritize other work assignments they believe to be of greater importance. In other words, time constraints efforts toward learning digital systems in situations where there is a magnitude of other tasks:

> *"We are of course encouraged to spend time acquiring the information and learning we need. So there is much room for that in [the organization]. […] But then again, you end up prioritizing the tasks you already have, and feel like "I don't have time, I don't have time."* (O1)

Second, although information is available, it is hard to find and employees express a lack of time to search for and acquire the needed information. In these situations, employees recognize that information is available to them, but the greatest challenge is knowing where to look. Typically, this is the response among those employees working in an environment where employees are expected to be responsible for their own learning and schedule this into their own workdays:

> *"We like to say that we don't have time, we don't have time to engage in everything that is going on. And we don't have time to keep updated and there is nobody who is telling us about it and there is so much. It becomes a situation where you must search for information yourself. So, it is so that if you don't know about it then you can't search for it. What you don't know you can't ask about either."* (O1)

This problem was not found in O2 where all employees interviewed are introduced to the new system at the same time with coordinated learning initiatives.

Third, we found sufficient evidence of information being a factor of concern on its own. In some situations, information is lacking and employees are expressing a wish for information beyond what the organization provides. In some instances, organizations believe to sufficiently provide information down the latter, while our findings suggest that employees instead must take matters into their own hands to retrieve information from higher levels. Also, our findings reveal that in some instances employees are experiencing a need to have knowledge of the specific processes an automated system executes. In these cases, this need is brought forward in light of the customer experience and to ensure that

the system is following correct procedures and ensures a fair outcome for the end-user:

"They thought that they always made sure to inform us, but that is not what happened, so then we had to take the initiative to host our own meetings - just to keep a frequent dialogue with them, every day. Find out what they work with, find out what they are going to work with." (O1)

Fourth, we have found concerns related to time alone and time in combination with workloads. Mainly these concerns are brought forward in combination with bugs that tend to occur in new systems. The argument presented is that organizations are often quick to harvest the benefits from automated systems by cutting positions too soon. When an error occurs must employees not only work to resolve the issue, but also handle the tasks for which the system is responsible. Thus, the amount of work left to the remaining employees becomes even more of a burden than before the system was implemented:

"We have cut one and a half full-time positions, and received well over 100% extra tasks because we had to sit and fix something that happens. We have to control everything that has been done because one couldn't be sure." (O1)

Additionally, in other situations where the system works well, there is often still a need for more time to practice the new solutions:

"The only thing must be that we should perhaps have had better time to work with and to practice the new solutions" (O2)

4.3.2 Support

After analyzing the 15 interviews we found evidence of our initial beliefs, that people do in fact seek support from coworkers. Most participants could point to colleagues from who they could ask for advice or help:

"There has always been, or at least since I began working here, an environment where it is easy to share knowledge. It is easy to receive and share knowledge if

you wish, and if you have patience it has always been effortless to get a hold of it." (O1)

"You learn from each other. Or, you seek advice […] from each other. And help each other and support each other in the process of learning to deal with new things and acquire new knowledge." (O2)

4.3.3 Competence

We initially found 111 references to competence in the transcripts. However, these could also be related to information, which is discussed as a resource. Our research found evidence that initially, when people are introduced to new digital systems they are more negative. However, as exposure to the technology in question persists, individuals become more positive. Our findings further indicate that learning courses or learning materials provided are not enough to cause a shift toward a more positive attitude, but rather active involvement is preferred:

"Yes, and I think what constitutes the difference on that which is.. Because I myself feel that [...] when it regards changes in everyday life I am more open and positive to it now than I was before and more positive than many others that I work with that haven't been able to partake and see that there are only new possibilities. So to be allowed to partake and to understand what is happening - receive information - is really important regardless." (O2)

We found references to this link between competence and attitude in 6 interviews and a total of 12 references. We also found references to a positive assumption that competence facilitates technological adoption in 8 out of 15 interviews with a total of 28 references:

"For example 10 years ago I would have said that I agreed that new technological solutions would be negative for me. But when you have been allowed to partake in a process to automate a service so to speak, and see how it works from the point in time where you sit down to find out if this is possible, to how are we going to do this, to writing the specifications, be there and watch the

Indians program what will be a robot, and see that this works, and see how fun this really is, then you start to think differently yourself." (O1)

4.3.4 Zero-sum/Variable-sum

Through our analysis we found elements constituting both zero-sum and variable-sum mindsets in 14 out of the 15 interviews. There are tendencies suggesting that people view colleagues as more zero-summed than themselves. This is displayed through statements such as the following example, which suggests that technology is a winner and all you can do is try and keep up:

"*I think that this is the future. So we must hang in there regardless if you want to or not [...]. But in a way we know that this has come to stay. So you have to try and hang in there the best you can, I think.*" (O1)

Further, some participants displayed clear evidence of variable-sum mindsets throughout the digitalization process, but this was not the general tendency. However, we did pinpoint a tendency for people to view themselves as more zero-sum in retrospect. Many participants could point to themselves and colleagues to describe a shifting mindset. Whereas prior to exposure a more negative and zero-sum mindset was dominant, a more variable-sum mindset was adopted toward the given technology post exposure. One could then debate whether the identified tendencies do relate to mindsets, or if we have in fact just identified perceived usefulness.

4.3.5 Autonomy

Through the analysis we found that the level of job autonomy varies within the three organizations in this study. In O1, job-autonomy seems to be high in the positions of those interviewed, with employees having the option to not only choose how they would like to solve their tasks, but also actively identify which tasks could be digitalized and request for this to be done by the IT-department. Overall it is our impression that this organization also experience less negativity and resistance than other the two others:

"Once I was involved with robots and such, my job became a totally different position" (O1)

O2 does not have the option to choose which of their tasks are to be digitalized, but rather all the simpler work tasks are eventually expected to go through digitalization processes, leaving only more complicated cases for the employees to process. In this organization, we have found that employees feel deprived of their autonomy in the way that tasks that earlier could be solved in a manner thought appropriate by the employee now is automatically solved by a system. They argue that they lose the possibility to individually assess each case, which could deny both the end user the best possible outcome - and the employee the option - of incorporating the human factor in solving tasks. This seems also to be of primary concern to those opposed to digitalization in O2.

"That it seems a bit cumbersome or illogical or, that one sometimes feel that perhaps one is not completely confident that we are operating on a legally correct groundwork, but then our freedom of choice is taken away because it is the system that, we must follow the system the way it's set up. And then you are very steered, so that when you are processing a case you get, earlier you opened the application and processed the whole thing from A to Z. Everything, the entire, so, there isn't, all cases aren't so difficult, but you had the responsibility for the whole thing. From the application came in to the decision and funding went out. Or the rejection. While now you only get specific tasks pulled out, that the automated solution cannot process by itself. It is absolutely not only a disadvantage, but it can be a disadvantage in that you lose some of totality of the case." (O2)

Participants in O3 are not afforded any job autonomy nor has this been experienced prior to digitalization. However, a point should still be made that due to increased digitalization there is a decrease in technical processes that customer service workers have access to. Consequently, there are fewer options to help the customer instantly, and more cases must be solved by IT-specialists, which is brought forward as concern among participants in O3:

"Those who develop the system often get too little information from frontline consultants. Because now and then we are not involved enough in the developmental processes [...]" (O3)

4.4 Prosocial Behavior

One interesting and unexpected finding in our research was the aspect of prosocial behavior. Almost all our participants expressed a primary concern for the end user and/or their colleagues. This concern for the end user seemed to outweigh participants' own needs at all time. When participants were asked about the usefulness of the digital system, this usefulness was assessed through the eyes of the end-user and not themselves.

Further, we found that even in situations where participants experienced low perceived behavioral control or other personal disadvantages from digitalization they still displayed a willingness to disregard the negative consequences to themselves if it yields an advantage to the end-user and/or their colleagues. This suggests that pro-social behavior seems to override other underlying mechanisms or motivations.

"[...] but what we really talk most about, at least me and those I talk to, it is more that we are, like I said before, concerned that it works for the end-users and us." (O2)

"Priorities. That's what it is. And in that we are different, and we must be, I think. It also has got to do with how long you have been in the game or not. I believe that probably the vast majority of those I work with are thinking "customer first"." (O1)

4.5 Mindsets

The scores from the questionnaire measuring the participants' mindsets are presented in table 3. The survey results revealed no significant differences between the respondents' scores, independent of demographics, experience within the industry and organizational tenure.

Table 3 Descriptive Statistics of Survey Results

Construals	N	Minimum	Maximum	Mean
Zero-/Variable-sum beliefs	15	2,166	3,166	2,562
Fixed-/Growth mindset beliefs	15	1,5	3,25	2,483

5.0 Discussion

Organizations are facing an increasingly intensifying technological development within digitalization. Yet little research has been devoted to exploring the employee experience in relation to this ongoing digital transformation in the workplace. To develop an understanding of employee responses to implementation of digitalization in their work, we conducted a multiple-case study involving three organizations at different stages of digital transformation. The empirical analysis of the gathered data is discussed in the following sections.

First, the analysis revealed that in line with previous research on change, individual responses to organizational change are complex and consists of multidimensional attitudes - emotional, cognitive, and intentional (Piderit, 2000). We found that although people cognitively understand and accept the reasoning behind digitalization, there is an ambivalence in emotions and a more underlying mechanism that puts breaks on the openness to digitalization. Consistent with what Piderit (2000) suggests, there is a broad understanding among the participants that digital transformation is absolutely crucial to the survival of modern organizations, whilst at the same time experiencing a conflict with their emotional response because they feel that the digital tools are not yet sufficiently developed. Further, we found that there are concerns about the reputation of the organization if the implemented technologies do not work properly. This suggests that employees are concerned for the organization at a level beyond their own job. In line with Piderit's (2000) suggestions, this indicates that negative responses to change may be motivated by positive intentions and potentially valid concerns about the proposed or implemented changes. On the contrary, what seems to generally generate a more positive view of change is the involvement in the process and objective. This shift toward a positive view is according to our findings directly affected by the amount of information about, exposure to, and experience with digitalization. Thus, it is not surprising that many of our participants request more knowledge about the subject. Moreover, our analysis also suggests that people tend to underestimate jobs that are more complex. When they are asked to explain their job-tasks to a digitalization consultant whose aim is to automate that task, many employees realize first at that point how complex their work really is. Subsequently they experience some sort of an awakening in terms of realizing their potential to understand and perform other tasks later.

Additionally, this can be interpreted as a form of cognitive job crafting. However, the cognitive changes are not actively made by the employee but, rather, is an effect of the circumstances. Nevertheless, it seems to foster the same positive outcomes as expected when initiated by the employee itself, such as job satisfaction, engagement, and thriving at work. Conversely, there is the issue of overestimating the complexity of a task as well as overestimating one's own importance in solving that task. Especially in O2 we found that employees have difficulties being objective about their own work and thus reject the notion that many of their responsibilities could be automated. This can also be tied to statements suggesting that people do not trust a digital system to perform as well as a human being. For a human-robot team to accomplish its goals, employees must trust that a robot will protect their interests and welfare (Hancock et al., 2011). The analysis reveals that there is a reluctance among employees to afford digital systems this trust. Among other things, digital systems perceived inability to safeguard customer relationships is emphasized among this study's participants. Since reliance on automation is influenced by trust (Lee & See, 2004), the partnership between employees and automation thus may be flawed. This may further lead to misuse and disuse of the implemented digital systems (Parasuraman & Riley, 1997, as cited in Lee & See, 2004), which may ultimately compromise the safety and profitability of the company (Lee & See, 2004).

Nevertheless, based on our analysis we found evidence suggesting support for the proposition that Perceived Usefulness affects the extent to which employees accept new technology as explained by the TAM. Believing that a particular system will enhance one's job performance, a colleague's job performance, and/or the end user's customer experience, increases the intention to use the system and thus actual system use. Our analysis led to an interesting discovery, namely that when participants were asked about the usefulness of a digital system, this usefulness was essentially assessed through the eyes of the end-user and not themselves. Further, we found that even in situations where participants experienced professional and personal disadvantages from digitalization they still displayed a willingness to disregard these negative consequences if it yields an advantage to the end-user and/or their colleagues. This discovery suggests that pro-social behavior override other underlying mechanisms or motivations. In a recently published study, Lebel and Patil (2018) highlight the important role of prosocial motivation for sustaining proactivity

among employees even when supervisors are perceived as discouraging. They argue that prosocial motivation can prompt employees "to make uniquely valuable contributions to their organizations when they arguably need them the most" (Lebel & Patil, 2018, p. 11). In line with these findings, our findings indicate that prosocial motivation can spark employees to have a positive attitude towards digitalization despite not recognizing the usefulness of digitalization in their own work. Since prosocially motivated employees are more focused on benefiting others than on self-interest (Lebel & Patil, 2018), they may be driven to bring about change to impact their organization and improve implemented digital processes.

Moreover, the analysis revealed a concern amongst the majority of the informants of becoming unemployed as a result of the digitalization. However, this concern was often followed by statements saying that the digital transformation will benefit society to such an extent that the participants gladly are willing to look beyond their own wants and needs. Here too we find evidence suggesting that prosocial motivation is a powerful force that may affect employees' behavior and drive them to be proactive (Lebel & Patil, 2018), despite risking becoming redundant and potentially losing their job. Another interesting aspect concerns that the participants seem to have a more positive attitude towards their own prospects in regard to keeping their job than about their colleagues'. This tendency may be explained by an illusion of control (Plous, 1993), also referred to as Optimistic Bias, a cognitive bias that leads "people to believe that negative events are less likely to happen to them than to others and that positive events are more likely to happen to them than others" (Rhee, Ryu & Kim, 2005, p. 381).

The analysis also revealed that a common factor in terms of subjective norm is that people tend to view older coworkers as more opposed to new technologies than younger coworkers. Particularly are people with few years left before retirement brought up as a more negative group. Interestingly, most participant address this group as "they" which both distances the negative group from themselves as well as recognizing that they are a group that may have adopted a collective negative attitude. This way of addressing "we" and "they" is found throughout most of the interviews. People do not tend to see themselves as part of a negative group, but when participants speak of others they group them together. This suggests a group polarization which may impose social pressure on

people in between positive groups and negative groups. This can be explained by an in-group out-group bias that fuels double-standard thinking (Forsyth, 2014). As such, people tend to consider the attributes and actions of the outgroup as negative, while considering these very same behaviors to be positive when one's own group performs of displays them. This may further be enhanced by an outgroup homogeneity bias which is the tendency for people to assume that membership of one's own group is more or less heterogeneous, whereas the members of other groups are very similar to each other (Forsyth, 2014).

Through our analysis, we aimed to identify common denominators across the three different organizational settings that can speak to which areas that affect individuals control beliefs. We found that the extent to which one can seek support from others may act as an external factor that influences one's level of perceived control. We aimed to look for evidence suggesting that employees seek support from each other and that this arguably serves as a substantial influencer to the assessment of self-efficacy and subsequently the control beliefs. This argument is based on the sense of security individuals may derive from having access to knowledgeable people, or having access to guidance in areas where the individual lacks competence. Based on the analysis we found evidence of our initial beliefs, that people do in fact seek support from coworkers, and that most participants could point to colleagues from who they could ask for advice or help.

On the other hand, we found that an internal factor in terms of self-efficacy assessment is competence. The analysis revealed that whether one believes to hold the competencies necessary to adopt and use new computer systems in the workplace will lead to an increase or decrease in perceived behavioral control. However, our findings also suggest that having competency or knowledge about digital systems will make you more aware of what this change entails.

We further explored the transcripts to find evidence of more direct relationships between competence and perceived control, which lead us back to the participants' expressed concern for a lack of resources, in particular related to information and time. The issue of competence which is an internal factor, and resources which is an external factor is the relationship between them. Low competency could indicate a lack of training in the area. Still, in the first phases of digital change it is to be expected that employees have little competence about the particular technologies in question, but that should not be interpreted as a lack of

training initiatives. Our research found evidence that initially, when people are introduced to new digital systems they are more negative. This negativity may be rooted in an innate fear of the unknown. As exposure to the technology in question persists, individuals become more positive. Thus, we argue that as individuals increase their competency in terms of what digitalization entails, and what it could mean for them, they will start to realize that initial fears were unfounded. Our findings further indicate that learning courses or learning materials provided are not enough to cause a shift toward a more positive attitude, but rather active involvement is preferred. As such, our findings are in line with previous research on how organizations create, maintains and exploits knowledge. Nonaka, Toyama, and Konno (2000), argues that in order to become an asset for the organization, tacit knowledge held by individuals needs to be converted and amplified through a spiral of socialization, externalization, combination and internalization in order to create new knowledge that in turn becomes the basis for a new spiral of knowledge creation.

Finally, in relation zero-sum and variable-sum mindsets, we found that when people demonstrate zero-sum mindsets it is often in regard to viewing technological development as a zero-sum game. An interesting finding, however, is a tendency suggesting that people view their colleagues as more zero-summed than themselves. Again, we believe that this could be explained by an in-group out-group bias such as mentioned above.

6.0 Theoretical Contributions

Despite increased digitalization in numerous industries, little research has yet been devoted to exploring the employee experience in relation to this transfromation. Although much work has been done to improve the customer journey and how to successfully implement digital technologies, employees have not been afforded much attention. In this thesis, we have redirected focus on the employee experience by using established theories such as TAM and TPB and apply them to organizations facing a digital transformation. The aim has been to capture evidence of attitudes and behavior that corresponds with the different elements of the models to identify which elements are of more importance and consequently offer organizations a deeper understanding of the employee experience.

First, this study contributes with research on employee attitudes and responses toward digitalization. Specifically, this study highlights which attitudes employees may have toward digitalization and where those attitudes may originate from. This is undoubtedly relevant and valuable information to many organizations that wish to digitalize work responsibilities. Moreover, this research contributes to the TAM and TPB model by confirming that the elements are in fact relevant to the issue of digital technologies as well as predictors of behavioral intention.

Second, this study contributes to the area of the employee experience in relation to digital transformation and the overall digitalization process. Additionally, it identifies areas of concern. Hopefully, this study will bring forward important questions regarding the employee experience that will spur future research in this area.

Finally, this research identifies a new possible factor to the TPB or TAM model, which is the possibility that our attitude towards digitalization may be overridden by prosocial behavior. Throughout our research we found evidence that prosocial behavior is an important motivator that enables people to look past their personal challenges if it benefits more people.

7.0 Practical Implications

This study brings to the table important considerations for organizations facing a digital transformation. Based on our research our recommendations are as follows.

Organizations should afford considerable efforts to the digital employee experience. This should specifically include a greater amount of resources in the form of time and information. Not only information in terms of training, but also in terms of enlightening employees about what this technology really does, and what opportunities it brings. The aim here should be to avoid and prevent insecurity among employees, both related to the outlook of the future, and also how the tools work to allow employees to trust that digital systems can ensure the best interest of themselves and the customers.

In relation to time and resources it is also crucial not to prematurely cut costs by downsizing. Allow for a longer adjustment period to ensure everything is up and running smoothly.

Organizations should foster a digital climate where employees' inputs are encouraged. Specifically, employees should be urged to submit their own suggestions to what can be digitalized and which digitalized processes needs improvement.

One major finding in this resource is the importance of perceived usefulness and to whom it should be useful. Not only should efforts be made to enlighten employees about the usefulness of digitalization in their own job, but more importantly - due to our finding that people tend to be prosocially motivated - organizations should spend considerable time and effort on ensuring and enlightening employees about the usefulness of digitalization to other people. Be it the end-user/customer or colleagues, our research suggests that prosocial motivation cause for people to sacrifice their own needs and wants to benefit others.

8.0 Limitations

There are several limitations in this study that should be pointed out. First, to increase the reliability of the results of the study, both the questionnaire survey and interviews were conducted in Norwegian to enable participants to answer in their mother tongue (Kahneman, 2011). When translating the questionnaire and interview guide from one language to another, it is extremely important that the questions have the same meaning in both languages (Saunders, Lewis & Thornhill, 2009). To secure the validity of the questions in both the questionnaire, the interview guide and in the quotes used from the transcripts, we used a parallel translation method (Saunders et al., 2009). We acknowledge, however, that the lexical, idiomatic and experiential meanings may have been compromised in the translation process.

Second, the small number of participants who responded to our questionnaire could explain why we were not able to find any evidence supporting or rejecting our proposition that different combinations of mindsets could influence employees' responses to the implementation of digitalization in their work. Moreover, the questionnaires did not include any reverse-coded items, meaning that we cannot rule out any potential response biases.

Third, seeing as only fifteen participants were interviewed for this study, no general inferences can be drawn from this study. Additionally, one cannot rule out that our subjective interpretation of the interviews has influenced the analysis

and the findings emerging from this study. Further, we acknowledge the risk that some of the respondents may have felt pushed to answer in a specific manner based on the framing of the questions asked.

Finally, although a pilot-test was conducted for both the interview guide and the questionnaire survey, the test participants were either students enrolled in higher education or well educated adults with knowledge about the terminology used in this study. Consequently, we experienced during the course of the study that some people found the questionnaire a bit difficult to understand as some words were not as familiar to them.

9.0 Future Research

First and foremost, our research supports Deloitte's (2016) argument that the employee experience is important and somewhat neglected. We would emphasize the importance that future research be directed at the employee experience in a digitalization process to better understand what drives their motivations as well as what causes friction. Given the lack of research on employee responses to digital change, we recommend that more quantitative research is devoted to further explore this phenomenon and advance the literature.

Second, our findings related to prosocial motivation was captured through semi structured in-depth interviews which did not allow for substantial exploration of this phenomena. Consequently, our research provides only limited information in the area of prosocial motivation and digitalization. Yet, our findings indicate strong powers at play, which should serve as an incentive to further explore this area.

Finally, since our findings could not support the proposition that mindset combinations influence employee responses to digitalization, we suggest that future research is devoted to further exploring this possibility.

10. Conclusion

This study set out to explore how employees respond to digital transformation in organizations, using a TPB-framework in combination with elements from the TAM. In line with previous research, we found that people's beliefs about the cost of performing a certain behavior subsequently lead to an attitude toward that behavior. However, our findings indicate that prosocial motivation can override people's attitude toward a given behavior, leading to

intention to behave in a manner contradictory to what one would expect when perceived usefulness is low and there is a lack of perceived behavioral control.

Another unpredicted finding suggests that subjective norm seems to have less of an impact on employees' intentional behavior than expected. As for fear of unemployment due to increased digitalization, we found that people recognize the overhanging threat, however it is often deflected onto others due to what we believe may be an optimistic bias. Our findings also support Piderit's suggestion that although employees may accept changes at a cognitive level, they can still experience some emotional ambivalence.

Further, we expected that subjective norm would pose a great impact on behavioral intention. However, after interviewing several participants we found no evidence of this relationship. Perceived Behavioral Control had a larger effect; our findings demonstrate that the most important underlying control beliefs in a digitalization process are resources, particularly manifested in time and information. Hence, we emphasize the importance of allocating enough time and resources to the development and implementation of new digital tools. Many employees also experience a loss of autonomy in their work as digitalization of tasks offers less opportunity to intervene. However, we recognize that this may only apply as a temporary stage in the digitalization process and that survivors will experience restored job autonomy in the future.

In the questionnaire, all our participants scored on the median regardless of demographics. Hence, we could not separate mindsets and corresponding responses. Therefor we found no evidence supporting our proposition that different combinations of mindsets influence employees' responses to new digital technology.

Little research has been devoted to examining employee responses to the implementation of digitalization in organizations. By shifting the focus inward and downward, we contribute to a deeper understanding of the employee experience related to the digital transformation many organizations now are undergoing in their quest to become fully digital enterprises. This research also brings forward practical implications for organizations and highlight important areas for future research.

Resources

Ajzen, Icek. (2006). *Behavioral Interventions Based on the Theory of Planned Behavior.* Retrieved 19.06.18 from: https://www.researchgate.net/publication/245582784_Behavioral_Interventions_Based_on_the_Theory_of_Planned_Behavior

Ajzen, I. (2002). Perceived behavioral control, self-efficacy, locus of control, and the theory of planned behavior 1. *Journal of applied social psychology*, *32*(4), 665-683.

Ajzen, Icek. (1991). The theory of planned behavior. *Organizational behavior and human decision processes,* 50(2), 179-211.

Almutairi, A., Gardner, G., & McCarthy, A. (2014). Practical guidance for the use of a pattern-matching technique in case-study research: A case presentation. *Nursing & Health Sciences,* 16(2), 239-244.

Anderson, D. & Anderson, L. A. (2001). *Beyond Change Management.* San Francisco: Jossey-Bass/Pfeiffer, Wiley.

Armitage, C. J., & Conner, M. (2001). Efficacy of the theory of planned behaviour: A meta-analytic review. *British journal of social psychology*, *40*(4), 471-499.

Bagozzi, R. P. (2007). The legacy of the technology acceptance model and a proposal for a paradigm shift. *Journal of the association for information systems*, 8(4), 3.

Bandura, A. (1982). Self-efficacy mechanism in human agency. *American psychologist*, 37(2), 122.

Baxter, P., & Jack, S. (2008). Qualitative case study methodology: Study design and implementation for novice researchers. *The qualitative report*, 13(4), 544-559.

Bazerman, M. H., & Chugh, D. (2006). Bounded awareness: Focusing failures in negotiation. *Negotiation theory and research*. 7. 9-10.

Berg, J. M., Dutton, J. E., & Wrzesniewski, A. (2010). *Job Crafting: The DIY Approach to Meaningful Work*. Retrieved 18.04.18 from https://positivepsychologyprogram.com/job-crafting/

Berg, J. M., Grant, A. M., & Johnson, V. (2010). When Callings Are Calling: Crafting Work and Leisure in Pursuit of Unanswered Occupational Callings. *Organization Science,* 21(5), 973-994. doi:10.1287/orsc.1090.0497

Berg, J. M., Wrzesniewski, A., & Dutton, J. E. (2010). Perceiving and responding to challenges in job crafting at different ranks: When proactivity requires adaptivity. *Journal of Organizational Behavior*, 31(2/3), 158-186.

Blackwell, L., Trzesniewski, K., & Dweck, C. S. (2007). Implicit theories of intelligence predict achievement across an adolescent transition: a longitudinal study and an intervention. *Child Development, 78*, 246-263.

Boyce, C., & Neale, P. (2006). Conducting in-depth interviews: A guide for designing and conducting in-depth interviews for evaluation input.

Braun, V., & Clarke, V. (2006). Using thematic analysis in psychology. *Qualitative research in psychology*, 3(2), 77-101.

Brinkmann, S., & Kvale, S. (2009). *Det kvalitative forskningsintervju.* Gyldendal Akademisk.

Bryman, A. (2009). *Mixed Methods in Organizational Research.* The Sage handbook of organizational research methods, 516-531.

Bryman, A., & Bell, E. (2011). *Business research methods.* New York: Oxford University Press Inc.

Bryman, A., & Bell, E. (2015). *Business research methods.* Oxford University Press, USA.

Chang, M. K. (1998). Predicting unethical behavior: a comparison of the theory of reasoned action and the theory of planned behavior. *Journal of business ethics*, *17*(16), 1825-1834.

Computer Science Online. (2017). *From Man to Machine.* Retrieved 24.05.2017 from computerscienceonline.com: http://www.computerscienceonline.org/cutting-edge/automation-ai/

Crabtree, B. F., & Miller, W. L. (Eds.). (1999). *Doing qualitative research.* Sage Publications

Davis, F. D., Bagozzi, R. P., & Warshaw, P. R. (1989). User acceptance of computer technology: a comparison of two theoretical models. *Management science,* 35(8), 982-1003.

Deloitte. (2016). *Digital transformation in financial services.* Retrieved from https://www2.deloitte.com/content/dam/Deloitte/nl/Documents/financial-services/deloitte-nl-fsi-digital-transformation-in-financial-services.pdf

Digitize (2017). *Dictionary.com.* Retrieved 24.05.2017 from http://www.dictionary.com/browse/digitize?s=t

Djamasbi, S., Strong, D. M., & Dishaw, M. (2010). Affect and acceptance: Examining the effects of positive mood on the technology acceptance model. *Decision Support Systems*, 48(2), 383-394.

Dweck, C. S., Chiu, C. Y., & Hong, Y. Y. (1995). Implicit theories and their role in judgments and reactions: A word from two perspectives. *Psychological* inquiry, 6(4), 267-285.

Dweck, C. S., & Leggett, E. L. (1988). A social-cognitive approach to motivation and personality. *Psychological review,* 95(2), 256.

Dweck, C. S. (2012). Mindsets and human nature: Promoting change in the Middle East, the schoolyard, the racial divide, and willpower. *American Psychologist*, *67*(8), 614.

Eisenhardt, K. (1989). Building theories from case study research. *Academy of Management Review*, 14(4), 532.

Eisenhardt, K. M., & Graebner, M. E. (2007). Theory building from cases: Opportunities and challenges. *Academy of management journal*, 50(1), 25-32.

Forsyth, D. (2014). *Group dynamics* (6th ed., International ed.). Australia: Wadsworth Cengage learning.

Digitalization (2017). *Gartner.* Retrieved 24.05.17 from https://www.gartner.com/it-glossary/?s=digitalization

Gist, M. E., & Mitchell, T. R. (1992). Self-efficacy: A theoretical analysis of its determinants and malleability. *Academy of Management review,* 17(2), 183-211.

Hancock, P. A., Billings, D. R., Schaefer, K. E., Chen, J. Y., De Visser, E. J., & Parasuraman, R. (2011). A meta-analysis of factors affecting trust in human-robot interaction. *Human Factors*, 53(5), 517-527.

Heslin, P. A., & VandeWalle, D. (2008). Managers' implicit assumptions about personnel. *Current Directions in Psychological Science*, 17(3), 219-223.

Hicks, M. J., & Devaraj, S. (2015). *The myth and the reality of manufacturing in America.* Center for Business and Economic Research, Ball State University, 6. Retrieved 24.05.2017 from https://conexus.cberdata.org/files/MfgReality.pdf

Johannessen, A., Christoffersen, L., & Tufte, P. A. (2011). *Forskningsmetode for økonomisk-administrative fag* (3. utg. ed.). Oslo: Abstrakt forl.

Johnson, S. C., Dweck, C., & Chen, F. S. (2007). Evidence for infants' internal working model of attachment. *Psychological Science,* 18, 501– 502. doi:10.1111/j.1467-9280.2007.01929.x

Johnson, S. C., Dweck, C., Chen, F. S., Stern, H. L., Ok, S. J., & Barth, M. E. (2010). At the intersection of social and cognitive development: Internal working models of attachment in infancy. *Cognitive Science,* 34, 807–825. doi:10.1111/j.1551-6709.2010.01112.x

Kahneman, D., & Egan, P. (2011). *Thinking, fast and slow* (Vol. 1). New York: Farrar, Straus and Giroux.

Leana, C., Appelbaum, E., & Shevchuk, I. (2009). Work processes and quality of care in early childhood education: The role of job crafting. *Academy of Management* Journal, 52, 1169–1192.

Lebel, R. D., & Patil, S. V. (2018). Proactivity despite discouraging supervisors: The powerful role of prosocial motivation. *Journal of Applied Psychology,* 103(7), 724.

Lee, J. D., & See, K. A. (2004). Trust in automation: Designing for appropriate reliance. *Human factors,* 46(1), 50-80.

Mathieson, K. (1991). Predicting user intentions: comparing the technology acceptance model with the theory of planned behavior. *Information systems research*, *2*(3), 173-191.

Maxwell, J. A. (2013). *Qualitative research design: An interactive approach* (Vol. 41). Sage publications.

Mindset (2018). *OxfordDictionaries.com*. Retrieved from 18.04.2017 https://en.oxforddictionaries.com/definition/mindset

Miniard, P. W., & Cohen, J. B. (1981). An examination of the Fishbein-Ajzen behavioral-intentions model's concepts and measures. *Journal of Experimental Social Psychology*, *17*(3), 309-339.

Nonaka, I., Toyama, R., & Konno, N. (2000). SECI, Ba and leadership: a unified model of dynamic knowledge creation. *Long range planning,* 33(1), 5-34.

Parker, S. K. (2007). That is my job' How employees' role orientation affects their job performance. *Human Relations,* 60(3), 403-434.

Piderit, S. K. (2000). Rethinking resistance and recognizing ambivalence: A multidimensional view of attitudes toward an organizational change. *Academy of management review,* 25(4), 783-794.

Plous, S. (1993). *The psychology of judgment and decision making*. McGraw-Hill Book Company.

Rhee, H. S., Ryu, Y., & Kim, C. T. (2005). I am fine but you are not: Optimistic bias and illusion of control on information security. *ICIS 2005 Proceedings,* 32.

Ross, M. (1989). Relation of implicit theories to the construction of personal histories. *Psychological review,* 96(2), 341.pdf

Saragih, S. (2015). The effects of job autonomy on work outcomes: Self efficacy as an intervening variable. *International Research Journal of Business Studies,* 4(3).

Saunders, M., Lewis, P., & Thornhill, A. (2009). *Research methods for business students*. Pearson education.

Schifter, D. E., & Ajzen, I. (1985). Intention, perceived control, and weight loss: an application of the theory of planned behavior. *Journal of personality and Social Psychology*, *49*(3), 843.

Seehusen, J. (2017). Jobbene som kan forsvinne. *Teknisk Ukeblad,* 164 (05), 78- 81.

Sirola, N., & Pitesa, M. (2017). Economic Downturns Undermine Workplace Helping by Promoting a Zero-Sum Construal of Success. *Academy of Management Journal,* 60(4), 1339-1359.doi:10.5465/amj.2015.0804

Solberg, E., & Wong, S. I. (2016). Crafting one's job to take charge of role overload: When proactivity requires adaptivity across levels. *The Leadership Quarterly,* 27(5), 713-725.

Thorpe, R., & Holt, R. (2008). *The Sage dictionary of qualitative management research.* Los Angeles: Sage.

Tims, M., Bakker, A. B., & Derks, D. (2015). Job crafting and job performance: A longitudinal study. *European Journal of Work and Organizational Psychology,* 24(6), 914-928. doi:10.1080/1359432X.2014.969245

Von Neumann, J., & Morgenstern, O. (2007). *Theory of games and economic behavior* (commemorative edition). Princeton university press.

White, K. M., Jimmieson, N. L., Obst, P. L., Graves, N., Barnett, A., Cockshaw, W., ... & Martin, E. (2015). Using a theory of planned behaviour framework to explore hand hygiene beliefs at the '5 critical moments' among Australian hospital-based nurses. *BMC health services research*, *15*(1), 59.

Wrzesniewski, A., & Dutton, J. E. (2001). Crafting a job: revisioning employees as active crafters of their work. *Academy of Management Review, 26*(2), 179-201.

Yin, R. (2003). *Case study research: Design and methods* (3rd ed., Vol. Vol. 5, Applied social research methods series). Thousand Oaks, Calif: Sage.

Appendix

Appendix 1. Focus group discussion guide

TPB component	Elicited beliefs	Question
Behavioural beliefs	Advantages	"What are the advantages of performing hand hygiene?"
	Disadvantages	"What are the disadvantages of performing hand hygiene?"
Normative beliefs	Normative approval	"Who are the people (or groups of people) important to you who would approve of you performing hand hygiene?"
	Normative disapproval	"Who are the people (or groups of people) important to you who would disapprove of you performing hand hygiene?"
Control beliefs	Barriers	"What prevents or make it difficult for you to perform hand hygiene?"
	Facilitators	"What helps or motivates you to perform hand hygiene?"

(White et al., 2015)

Appendix 2. Interview guide – English

Introduction questions

Introduction

• Presentation of ourselves.
• Information about the project in general, and about the questions that will follow
• Definition of central concepts, if the interviewee wishes
• Explain how the interview will be documented, and what will happen to the material
• Inform about the anonymity of the participatory individuals and organizations
• Indicate the length of the interview

Background questions

• Date of birth:
• Sex:
• Status:
• For how long have you been employed by this organization?
• What is your work title?
• For how long have you been in this position?
• Are you employed on a full time or part time basis?
• Do you have any leadership responsibilities?

Open-ended questions

1. Please describe what new digital technologies your organization has implemented in the past 2-3 years?

2. Please describe what new digital technologies your organization is planning on implementing within the next couple of years?

3. Please describe what have you done on your own initiative to modify your task work or the way you interact with others at work to accommodate or embrace the new digital technologies introduced in your organization?

4. Have you done anything on your own initiative to modify your task work or the way you interact with others at work in order to avoid working with these technologies? If so, please describe what you have done.

5. Has the introduction of new digital technologies in your organization changed the way you see or think about your job? If so, please describe how.

TPB Components	Elicited Beliefs	Questions in English	Spørsmål på norsk
Behavioral Norm / Attitude	Advantages	*What do you believe are the advantages related to digitalization in your workplace?*	*Hvilke fordeler mener du er knyttet til digitalisering på arbeidsplass din?*
	Disadvantages	*What do you believe are the disadvantages related to digitalization*	*Hvilke ulemper mener du er knyttet til digitalisering på arbeidsplassen din?*
	Other	*Is there anything else you associate with digitalization in your workplace?*	*Er det andre ting du assosierer med digitalisering på arbeidsplass din?*
Subjective Norm	Normative approval	*Are there any individuals or groups who would approve of the technological changes in your workplace?*	*Er det noen enkeltpersoner eller grupper som støtter de teknologiske endringene på arbeidsplassen din?*
	Normative disapproal	*Are there any individuals or groups who would disapprove of the technological changes in your workplace?*	*Er det noen enkeltpersoner eller grupper som er i mot de teknologiske endringene på arbeidsplassen din?*
	Other	*Are there any other individuals or groups who come to mind when you think about the technological*	*Er det andre enkeltpersoner eller grupper du kommer til å tenke på i forbindelse med de teknologiske endringene på arbeidsplassen din?*
Control beliefs	Facilitators	*What factors or circumstances would enable you to adopt new technological solutions in your*	*Hvilke faktorer eller omstendigheter kunne gjort det lettere for deg å tilpasse deg og bruke nye teknologiske løsninger på arbeidsplassen din?*
	Barriers	*What factors or circumstances would make it difficult or impossible for you to adopt new technological solutions*	*Hvilke faktorer eller omstendigheter gjør det vanskelig for deg å tilpasse deg nye teknologiske løsninger på arbeidsplassen din?*
	Other	*Are there any other issues that come to mind when you think about the difficulty of adopting new*	*Er det andre ting du kommer til å tenke på i forbindelse med det å tilpasse seg og bruke nye teknologiske løsninger på arbeidsplassen din?*

Appendix 3. Interview guide – translated to Norwegian

Introduksjonsspørsmål

Presentere oss selv

- Informer om prosjektet og hvilke type spørsmål som vil bli stilt
- Definer sentrale begreper dersom intervjuobjektet ønsker det
- Forklar hvordan intervjuet vil bli dokumentert og hva som vil skje med datamaterialet
- Informer om de deltakende organisasjoner og individers anonymitet
- Antyd hvor lenge intervjuet vil vare

Bakgrunns spørsmål

- Født:
- Kjønn:
- Status:
- Hvor lenge har du jobbet i serveringsbransjen?
- I hvilken organisasjon er du ansatt nå?
- Hvor lenge har du arbeidet for denne organisasjonen?
- Hva er din stillingstittel?
- Hvor lenge har du arbeidet i din nåværende stilling?
- Er du ansatt på heltid eller deltid?
- Har du noen form for lederansvar?

Åpne spørsmål

1. Kan du fortelle oss litt om hvilke nye digitale løsninger som har blitt implementert på arbeidsplassen din i løpet av de siste 2-3 årene?

2. Kan du fortelle oss litt om hvilke nye digitale løsninger det er planlagt å implementere på arbeidsplassen din i løpet av de neste x antall årene?

3. Kan du fortelle oss litt om hva du på eget initiativ har gjort for å tilpasse arbeidsoppgavene dine, eller måten du samhandler med andre på jobben, for å imøtekomme de nye teknologiske løsningene som har blitt implementert i organisasjonen?

4. Har du på eget initiativ gjort noe for å tilpasse arbeidsoppgavene dine, eller måten du samhandler med andre på jobben, for å unngå å jobbe med de nye teknologiske løsningene som har blitt implementert i organisasjonen?

5. Har implementeringen av nye teknologiske løsninger på arbeidsplassen din endret måten du oppfatter og/eller tenker om jobben din?

TPB Components	Elicited Beliefs	Questions in English	Spørsmål på norsk
Behavioral Norm / Attitude	Advantages	*What do you believe are the advantages related to digitalization in your workplace?*	*Hvilke fordeler mener du er knyttet til digitalisering på arbeidsplass din?*
	Disadvantages	*What do you believe are the disadvantages related to digitalization*	*Hvilke ulemper mener du er knyttet til digitalisering på arbeidsplassen din?*
	Other	*Is there anything else you associate with digitalization in your workplace?*	*Er det andre ting du assosierer med digitalisering på arbeidsplass din?*
Subjective Norm	Normative approval	*Are there any individuals or groups who would approve of the technological changes in your workplace?*	*Er det noen enkeltpersoner eller grupper som støtter de teknologiske endringene på arbeidsplassen din?*
	Normative disapproal	*Are there any individuals or groups who would disapprove of the technological changes in your workplace?*	*Er det noen enkeltpersoner eller grupper som er i mot de teknologiske endringene på arbeidsplassen din?*
	Other	*Are there any other individuals or groups who come to mind when you think about the technological*	*Er det andre enkeltpersoner eller grupper du kommer til å tenke på i forbindelse med de teknologiske endringene på arbeidsplassen din?*
Control beliefs	Facilitators	*What factors or circumstances would enable you to adopt new technological solutions in your*	*Hvilke faktorer eller omstendigheter kunne gjort det lettere for deg å tilpasse deg og bruke nye teknologiske løsninger på arbeidsplassen din?*
	Barriers	*What factors or circumstances would make it difficult or impossible for you to adopt new technological solutions*	*Hvilke faktorer eller omstendigheter gjør det vanskelig for deg å tilpasse deg nye teknologiske løsninger på arbeidsplassen din?*
	Other	*Are there any other issues that come to mind when you think about the difficulty of adopting new*	*Er det andre ting du kommer til å tenke på i forbindelse med det å tilpasse seg og bruke nye teknologiske løsninger på arbeidsplassen din?*

Appendix 4. Questionnaire – English

Please indicate how strongly you agree with the statements below. All items should be rated on a 5-poing scale, such that 1 = strongly disagree and 5= strongly agree.

In general, to what extent do you agree that:

1. **When technological changes are introduced in organizations, employees often lose out.**

   Strongly disagree – Disagree – Undecided – Agree – Strongly Agree

2. **New technologies reduce the opportunities for current employees to succeed in their current jobs.**

   Strongly disagree – Disagree – Undecided – Agree – Strongly Agree

3. **The more jobs that technology takes over in an organization, the fewer good jobs there are for employees.**

   Strongly disagree – Disagree – Undecided – Agree – Strongly Agree

4. **Resources used for technological changes take away resources from existing employees.**

   Strongly disagree – Disagree – Undecided – Agree – Strongly Agree

5. **For every new technology, there are people losing their jobs.**

   Strongly disagree – Disagree – Undecided – Agree – Strongly Agree

6. **Employees will have less influence in organizations the more technology takes over**.

   Strongly disagree – Disagree – Undecided – Agree – Strongly Agree

7. **A person's level of technological savviness is something basic about them, and there isn't much that can be done to change it.**

   Strongly disagree – Disagree – Undecided – Agree – Strongly Agree

8. **Whether or not a person will be quick and skilled at using new technology is deeply ingrained in the kind of person they are. It cannot be changed very much.**

   Strongly disagree – Disagree – Undecided – Agree – Strongly Agree

9. **Not much can be done to change how well a person will keep pace with technological change. Everyone is a certain kind of person, and some will fare better with technological changes than others.**

   Strongly disagree – Disagree – Undecided – Agree – Strongly Agree

10. **Though people can sometimes learn new things, you can't really change people's basic talent for adapting to new technology.**

    Strongly disagree – Disagree – Undecided – Agree – Strongly Agree

Appendix 5. Questionnaire – translated to Norwegian

Spørreskjema

Nedenfor vil du bli presentert for en rekke påstander. Vennligst ring rundt det svaralternativet som best forteller hvor enig eller uenig du er i påstanden.

Generelt sett, i hvilken grad er du enig i følgende utsagn:

1. **Når teknologiske endringer blir introdusert, taper ofte ansatte på dette.**

   Veldig uenig – Uenig – Hverken enig eller uenig – Enig – Veldig enig

2. **Ny teknologi reduserer mulighetene for ansatte til å lykkes i jobben sin**

   Veldig uenig – Uenig – Hverken enig eller uenig – Enig – Veldig enig

3. **Jo flere jobber teknologi overtar i en organisasjon, desto færre gode stillinger er tilgjengelig for arbeidere.**

   Veldig uenig – Uenig – Hverken enig eller uenig – Enig – Veldig enig

4. **Ressurser brukt til teknologiske endringer reduserer ressurser tilgjengelig for ansatte.**

   Veldig uenig – Uenig – Hverken enig eller uenig – Enig – Veldig enig

5. **Hver gang ny teknologi introduseres, er det noen som mister jobbene sine.**

   Veldig uenig – Uenig – Hverken enig eller uenig – Enig – Veldig enig

6. **Ansatte vil inneha mindre innflytelse i organisasjoner jo mer teknologi tar over.**

   Veldig uenig – Uenig – Hverken enig eller uenig – Enig – Veldig enig

7. **En persons teknologiske mottakelighet er forhåndsbestemt og kan ikke endres.**

Veldig uenig – Uenig – Hverken enig eller uenig – Enig – Veldig enig

8. **En persons evne til å oppnå gode ferdigheter i å bruke en ny teknologi er sterkt knyttet til hva slags person de er. Denne evnen kan man ikke endre.**

Veldig uenig – Uenig – Hverken enig eller uenig – Enig – Veldig enig

9. **Ikke mye kan gjøres for å endre hvor godt en person kan holde følge med teknologiske endringer. Folk er forskjellige, så noen vil håndtere teknologisk endring bedre enn andre.**

Veldig uenig – Uenig – Hverken enig eller uenig – Enig – Veldig enig

10. **Selv om mennesker kan lære nye ting så kan man ikke egentlig endre menneskers grunnleggende evne til å ta i bruk ny teknologi.**

Veldig uenig – Uenig – Hverken enig eller uenig – Enig – Veldig enig

Appendix 6. NSD Approval

Sut I Wong
Nydalsveien 42
0442 OSLO

Vår dato: 26.04.2018 Vår ref: 59974 / 3 / HJT Deres dato: Deres ref:

Vurdering fra NSD Personvernombudet for forskning § 31

Personvernombudet for forskning viser til meldeskjema mottatt 20.03.2018 for prosjektet:

59974	*When Facing the Risks of Jobs Being Digitalized: Employees' Responses to Digital Change in Organizations*
Behandlingsansvarlig	*Handelshøyskolen BI, ved institusjonens øverste leder*
Daglig ansvarlig	*Sut I Wong*
Student	*Karen Amalie Børufsen*

Vurdering

Etter gjennomgang av opplysningene i meldeskjemaet og øvrig dokumentasjon finner vi at prosjektet er meldepliktig og at personopplysningene som blir samlet inn i dette prosjektet er regulert av personopplysningsloven § 31. På den neste siden er vår vurdering av prosjektopplegget slik det er meldt til oss. Du kan nå gå i gang med å behandle personopplysninger.

Vilkår for vår anbefaling

Vår anbefaling forutsetter at du gjennomfører prosjektet i tråd med:

- opplysningene gitt i meldeskjemaet og øvrig dokumentasjon
- vår prosjektvurdering, se side 2
- eventuell korrespondanse med oss

Vi forutsetter at du ikke innhenter sensitive personopplysninger.

Meld fra hvis du gjør vesentlige endringer i prosjektet

Dersom prosjektet endrer seg, kan det være nødvendig å sende inn endringsmelding. På våre nettsider finner du svar på hvilke endringer du må melde, samt endringsskjema.

Opplysninger om prosjektet blir lagt ut på våre nettsider og i Meldingsarkivet

Vi har lagt ut opplysninger om prosjektet på nettsidene våre. Alle våre institusjoner har også tilgang til egne prosjekter i Meldingsarkivet.

Vi tar kontakt om status for behandling av personopplysninger ved prosjektslutt

Dokumentet er elektronisk produsert og godkjent ved NSDs rutiner for elektronisk godkjenning.

NSD – Norsk senter for forskningsdata AS Harald Hårfagres gate 29 Tel: +47-55 58 21 17 nsd@nsd.no Org.nr. 985 321 884
NSD – Norwegian Centre for Research Data NO-5007 Bergen, NORWAY Faks: +47-55 58 96 50 www.nsd.no

Ved prosjektslutt 31.05.2018 vil vi ta kontakt for å avklare status for behandlingen av personopplysninger.

Se våre nettsider eller ta kontakt dersom du har spørsmål. Vi ønsker lykke til med prosjektet!

Marianne Høgetveit Myhren

Håkon Jørgen Tranvåg

Kontaktperson: Håkon Jørgen Tranvåg tlf: 55 58 20 43 / Hakon.Tranvag@nsd.no

Vedlegg: Prosjektvurdering
Kopi: Karen Amalie Børufsen, amaliee@gmail.com

Personvernombudet for forskning

Prosjektvurdering - Kommentar

Prosjektnr: 59974

Dere har opplyst i meldeskjema at utvalget vil motta muntlig informasjon om prosjektet, og samtykke muntlig til å delta. Vi gjør oppmerksom på at for å innhente et gyldig samtykke må utvalget minst motta følgende informasjon:

- hva som er formålet med prosjektet og hva opplysningene vil bli brukt til
- hvilke opplysninger som samles inn og hvordan opplysningene samles inn
- at deltakelse i prosjektet er frivillig, og at man kan trekke seg uten begrunnelse
- hvem som vil få tilgang til opplysningene
- når prosjektet vil bli avsluttet og hva som vil skje med opplysningene ved prosjektslutt; opplysningene anonymiseres, slettes eller lagres/arkiveres
- navn og kontaktopplysninger til behandlingsansvarlig institusjon
- navn og kontaktopplysninger til den daglig ansvarlige for prosjektet, samt til studenten ved studentprosjekt

Utvalget rekrutteres gjennom deltakende bedrifter. Det er lederne i bedriftene som oppretter kontakt mellom studentene og informantene.

Personvernombudet forutsetter at dere behandler alle data i tråd med Handelshøyskolen BI sine retningslinjer for datahåndtering og informasjonssikkerhet. Vi legger til grunn at bruk av privat pc/mobil lagringsenhet er i samsvar med institusjonens retningslinjer.

Prosjektslutt er oppgitt til 31.05.2018. Det fremgår av meldeskjema at dere vil anonymisere datamaterialet ved prosjektslutt.
Anonymisering innebærer vanligvis å:
- slette direkte identifiserbare opplysninger som navn, fødselsnummer, koblingsnøkkel
- slette eller omskrive/gruppere indirekte identifiserbare opplysninger som bosted/arbeidssted, alder, kjønn
- slette lydopptak

For en utdypende beskrivelse av anonymisering av personopplysninger, se Datatilsynets veileder:
https://www.datatilsynet.no/globalassets/global/regelverk-skjema/veiledere/anonymisering-veileder-041115.pdf

I tillegg til Karen Amalie Børufsen skal medstudent Halvor Belbo Lukerstuen ha tilgang til datamaterialet.