



# **Implementation of a digital workplace from the perspective of employees**

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Master's Thesis  
International Business Management  
2020

MASTER'S THESIS	
Arcada	
Degree Programme:	International Business Management
Identification number:	
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Title:	Implementation of a digital workplace from the perspective of employees
Supervisor (Arcada):	Minna Stenius
Commissioned by:	
<p>Abstract:</p> <p>This qualitative study aims to shed light on how employees perceive the change process when organizations are implementing a digital workplace and what role they perceive that change management can play in it to facilitate the transformation. It specifically seeks to answer the following research questions: 1. How do employees perceive change management when organizations implement a digital workplace? 2. What are the challenges with current digital workplace technology from the employee's perspective? In addressing the aim of this study, it draws on literature of both change management and a digital workplace. The study is conducted as semi-structured in-depth interviews among six employees representing different seniorities and industries. The results indicate that digital workplace implementations are still largely driven as technical projects not accounting for how processes might need to be re-evaluated or how the tools should be used to benefit employees across the whole company. This effectively results in a multitude of challenges impacting employee productivity, satisfaction, and engagement, among others. Additionally, the results indicate that although new technology and a digital culture is seen as a strategic advantage for companies, their implementation still lacks active and visible sponsorship from the executive management. No generalized conclusions are made, but rather indications for future research topics.</p>	
Keywords:	digital workplace, change management, qualitative study, user adoption, digital culture
Number of pages:	62
Language:	English
Date of acceptance:	

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# 1 INTRODUCTION

Digital transformation is top of mind for most executives in 2019 (KPMG, 2018) and it holds great promise for innovation, improved efficiency and productivity, thereby creating sustainable growth and increased wellbeing. Technology by itself will, however, not automatically lead to these benefits being realized and an example of that concerns workforce productivity (Pilat and Criscuolo, 2018). Already in 1987 Solow (1987) claimed “*you can see the computer age everywhere but in the productivity statistics*”, and this claim has since fuelled much of macroeconomic productivity literature regarding internet technology, as it has puzzled scholars for many years (Goldfarb and Tucker, 2017). The 20<sup>th</sup> century was the golden age for industrial productivity and some estimate that during this time manual labour productivity grew as much as 50 times (Drucker, 1999a). Macroeconomic productivity in the US rose rapidly in the mid-1990’s and was primarily driven by investments and usage of information technology. The pace eventually slowed down in the late 1990’s, leading to discussions about technology’s potential to fuel further productivity growth (Jorgenson et al., 2008; Van Reenen et al., 2010). This contradiction became known as the “computer productivity paradox” (Jorgenson et al., 2008).

Digital transformation is tightly intertwined with companies becoming ever more knowledge based. There is little doubt today that knowledge is a principle source of value creation and possibly the most important strategic resource for many companies (McIver et al., 2012). Peter Drucker wrote already in 1999 that “The most valuable asset of a 21<sup>st</sup> -century institution (business or non-business) will be its knowledge workers and their productivity” (Drucker, 1999b). During the last decade office work has shifted from repetitive to adaptive and knowledge requiring tasks (Aaltonen et al., 2012; Ataran et al., 2019), increasing its contribution towards a company’s performance and success significantly. Hence, office work productivity could be seen as equally important for companies today, as industry and process automation has been in the last decades, but this has not been the case (Schillerwein, 2011). Schillerwein (2011) argues that office work productivity is not a priority for most organizations and that this is evident in the usage of technological tools which have mostly been built based on industrial age business principles, that exist in isolation from current business processes, em-

employee skills and work practices (Schillerwein, 2011). There are fundamental differences between industrial and digital information work starting from how the work is organized. An industrial age organization was hierarchical while a digital age company operates through networks. Furthermore, organizations in the industrial age relied heavily on repeatability for products, production, and processes. The nature of the era was mass production and organizations aimed to standardize their production capability, which was still very manual work heavy, although industrial machinery was also being used. The shift to the digital age is a fundamental change in how organizations operate on every level. Mass production shifts to custom production as customers increasingly require personalized products, and hierarchies change to networks of people being increasingly self-managed. Routine tasks will be done by computers and the speed of change increases, demanding organizations to be agile and dynamically respond to changing circumstances, either internally or externally. Schillerwein (2011) highlights the fundamental differences between industrial and digital information work in Figure 1.

Industrial age (focus on manual work)		Digital age (focus on information work)
Hierarchy	→	Global networks, informal structures, multi-dimensional matrices, self-management
Mass production	→	Custom production, service orientation, differentiation
Transactions, transaction quality	→	Decisions, decision quality
Predictability, standardization, routine activities, repetitive tasks	→	Flexibility, managing constant change, ad-hoc activities
Stability, keeping the status-quo	→	Accelerating levels of dynamics
Defined processes, task segmentation, specialization, low level of complexity and uncertainty	→	Tasks/Jobs not clearly definable, cross-border work, transparency, sharing, creativity, holistic approaches
Known problems, low escalation and decision frequency	→	High level of improvisation, experimentation, learning through failure, constant escalation and decision-making needs, high-level of understanding required
Results visible and quantitative	→	Results invisible but relevant and quantitative
Long-term validity and knowledge	→	Constant learning, social networks, pattern recognition
Defined work hours and location	→	Blurring borders and need to balance private and work life, work anywhere, always connected

*Figure 1 Differences in industrial and digital age work by Schillerwein (2011)*

Even though digital tools are being used in workplaces, many of the work and management practices are still based on the industrial age or earlier. Our information work practices have been shaped by paper being the only medium available for information management. Thus, almost all our electronic information management practices are still

based on paper handling logic. With information volumes constantly rising to new highs, it is simply not possible to work productively and produce good quality work by following practices that are better suited for paper-based work (Schillerwein, 2011).

Although technology is the essential enabler of work in the digital age, its full potential will only be realized if it is embedded into all aspects of an organization. It is only possible if it is fully supported by the management and substantial change management activities (Perks, 2015; Schillerwein, 2011). Recent surveys bring further support to these claims. A study by Prosci (2018), conducted with 1778 change practitioners, project leaders, consultants and executives from 84 countries identified *active management support* and *structured change management* activities as highly impactful contributors to successful change (Prosci, 2018a). The same study highlighted the importance of actively engaging the employees, as ultimately, they are the ones that adopt and live the change. Change creates anxiety and fear and can lead to change resistance if not actively managed. Employee engagement and participation must be in the core of every change initiative to mitigate change resistance, increase awareness and knowledge of why the change is happening, and what impact it will have on an employee's own personal work (Prosci, 2002, 2018a).

## **1.1 Problem formulation, research questions and research aim**

The aim of this thesis is to shed light on how employees perceive the change process when organizations are implementing a digital workplace and what role they perceive that change management can play in it to facilitate the transformation.

To determine the role of change management in a digital workplace setting, both concepts need to be understood.

There are two primary research questions for this study:

1. How do employees perceive change management when organizations implement a digital workplace?
2. What are the challenges with current digital workplace technology from the employee's perspective?



The emphasis in this study is to explore how employees perceive change management efforts in organizations, specifically those related to the implementation of new technology or a digital workplace, and based on the empirical study, discuss about what role change management could play in helping employees adapt to the change.

## **1.2 Delimitations**

The digital workplace is discussed as a general concept, not specific to any industry or type of organization. Moreover, as the digital workplace is not something organizations can in the short term accomplish, the emphasis and angle of digital workplace in this thesis is primarily around the implementation of new digital tools that can affect existing work processes or practices. The role of change management is discussed from the perspective of the employees and how employees perceive it.

## **1.3 Structure of the study**

This thesis is divided into five chapters. Following the introductory chapter, I review prior research and academic literature that is relevant for the purpose of my study. First, I present an overview of current and past literature related to organizational change, change management and the different elements of organizational change. Second, I present the concept of the digital workplace, its advantages, what challenges organizations are facing when implementing it, and how organizations can prepare for it. Finally, I conclude the chapter by summarizing the prior research and findings. In the third chapter, I present the chosen methodology for this study. In this chapter I establish the research approach and motivate the selection of the sample. I present the methods applied for the data collection and analysis. In the fourth chapter, I describe the findings of the research. In the final chapter, a summary of the findings is presented and discussed, and practical implications of the findings provided. Limitations of the study and recommendations for future research are explored.

## **2 THEORETICAL FRAMEWORK**

This chapter reviews relevant literature and research about the concepts presented in this study. First, I provide an overview of central elements related to organizational change, change management and the change process. Second, the concept, the advantages, and the challenges of a digital workplace, and how organizations should prepare for it, are presented.

### **2.1 Organizational change**

The pace and degree of change has dramatically increased during the last two decades, as technological innovations have changed the way we work and interact with one another (Brightman and Moran, 2001). Managing this change effectively has become an imperative for organizations to stay competitive in the global market (Reeves and Deimler, 2011). Managing this change, also known as change management, is the process of continuously renewing an organization's direction, structure and capabilities to serve the changing needs of the market, customers and employees (Brightman and Moran, 2000). Examples of organizational change include business acquisition or merger, business expansion or new lines of business, culture change, process change and technology change among others (Smith, 2002).

#### **2.1.1 Managing change**

Managing organizational change is demanding, as over 70 percent of organizational change efforts fail (Beer and Nohria, 2000; Burke, 2011). Managing digital transformation changes are even harder, as only 16 percent of organizations report to have successfully improved performance through digital transformation and felt equipped to sustain the changes for the long-term (McKinsey & Company, 2018). Failing to manage changes has a negative impact on the whole organization both financially and on the employees, but it may also have devastating effects on the executive management itself, as according to studies the number one firing reason of Chief Executive Officers is poor change management (Beer and Nohria, 2000; Murphy, 2015).

Beer and Nohria (2000), suggest that many of the failures are caused when organizations rush to change themselves, leading to the middle management being overwhelmed by too many initiatives. This results in a lack of focus and managers not understanding why the organization is changing and how the change should be accomplished.

Organizational change research has long tried to understand the process of change, and particularly the factors that prevent or hinder it (George and Jones, 2001). Over time, the focus on factors preventing change has shifted between a micro-level and a macro-level analysis. Following the lead of population ecology, some researchers have suggested that the inability to change primarily stems from organizational factors such as the organizational culture or institutionalized routines (Hannan and Freeman, 1984). In the macro-level analysis, the role of the individual in the change process is minimized, and inertia is viewed as a powerful force increasing an organization's chances of survival in the short run, thanks to the existence of stable routines that allow concerted organizational action (George and Jones, 2001). The inability to change becomes, however, a liability for an organization in the long run, especially in a rapidly a changing environment (Hannan and Freeman, 1984).

An increasing number of scholars today argue that many change efforts fail because change leaders underestimate the critical role of the individual in the change process (Armenakis et al., 1993; Choi, 2011; George and Jones, 2001). Change in organizations often stems from the efforts of people, either individually or collectively, so it is necessary to recognize that organizations only change and act through their employees, and even the most collective activities that take place are the result of activities performed by individual members of the organization (George and Jones, 2001). Brightman and Moran (2000) bring forth the notion that managing change is primarily about managing people, and the focus of change should be shifted towards managing the impact of environmental and/or organizational changes on individuals, instead of the change itself. Researchers argue that ultimately a long-term sustainable organizational change is possible only if the individual employees change their behaviour (Jones et al., 2005), putting employees at the centre of organizational change (Porras and Robertson, 1992).

A study by McKinsey & Company (2010) reveal that organizations that create a sense of ownership to drive change at the employee level have a 79 percent chance of success, and organizations with strong change management capabilities either meet or exceed their return on investment requirements, whereas organizations with poor change management do much worse (LaClair and Rao, 2002). The study by LaClair and Rao (2002) rated companies based on twelve widely recognized factors for successful change, such as commitment communication, leadership and motivation among others. The factors are categorized according to the following levels in the organization: senior managers, middle managers, and frontline staff. The study showed that companies that performed well across all factors and levels, captured the most value from their change program, on average 143 percent of the expected return. The study also revealed that companies that performed well in only one or two levels also captured all or much of the expected returns of the change initiatives, on average 129 percent of expected return. Companies that struggled on all three organizational levels captured, on average, only 35 percent of the expected return. This suggests that employing meaningful change management measures, involving several organizational levels, can make a substantial difference for the success of the change.

### **2.1.2 Change recipients**

It is widely acknowledged that the reactions of individual employees impacted by change, also known as *change recipients*, are critical for change success (Kim et al., 2011; Vakola et al., 2004; Wanberg and Banas, 2000). Behavioural reactions have been conceptualized as explicit behaviours such as feelings, thoughts or actions, in response to the change (Oreg et al., 2011a). The literature review provides a wide list of ways employees can react to organizational change, ranging from participation and active support of the change (Cunningham et al., 2002) to actively opposing it, or even sabotaging it (Oreg et al., 2011a).

One useful conceptualization, based on a combination of definitions (e.g. Falbe and Yukl, 1992; Herscovitch and Meyer, 2002), describes behavioural reactions to organizational change either as support or resistance that can be divided into four categories:

1. **Active support** is defined as going the extra mile and doing everything it takes for the change to be successful, including promoting it to others.
2. **Passive support** is defined as making the minimum or average effort to support the change and carrying out requested actions reluctantly.
3. **Active resistance** is defined as behaviour where the employee engages visibly in actions intended to ensure that the change fails.
4. **Passive resistance** is defined as demonstrating opposition to change by engaging in subtle behaviours aimed at ensuring the change fails.

This suggests that change recipients can have a tremendous effect in deciding whether a change initiative ultimately succeeds or fails.

The role of managers has been emphasized in many studies. According to a longitudinal study by Vakola (2016), investigating the long-term employee behaviours before, during and after the change, strong supervisory support and open communication seemed to be critical and strong enough reasons for change recipients to change to or maintain a positive reaction when implementing change (Vakola, 2016). Managers are usually closest to the employees impacted by the change and experienced in managing people. They have a close relationship with their direct reports and can relate to the change they are going through, and they are positioned to coach and influence employees by showing how they manage the change themselves (Prosci, 2018b). According to a study with 575 change leaders by Prosci (2018), 84 percent of participants ranked manager and supervisor support in change initiatives as “extremely important” or “very important” to the success of the change initiative (Prosci, 2018b). Furthermore, the participants in Prosci’s (2018) study identified five behaviours which managers and supervisors must perform when change is implemented: Communicate, Advocate, Coach, Liaison and Manage resistance. Employees want to hear about how the change is impacting them directly from the person they report to, making managers and supervisors a critical component when communicating about change (Prosci, 2018b). Employees turn to their manager also to evaluate their level of support for the change effort. If the direct manager is a person that falls under either passive support or passive or active resistance, their direct reports have little incentive to change (Prosci, 2018b; Vakola, 2016). Hence, it is important to ensure active manager advocacy before implementing the change to

the wider organization. During the change process employees need support to manage how the change impacts their day-to-day work. Managers should actively support their direct reports and coach them through the change process and help them address barriers blocking successful change (Prosci, 2018b; Vakola, 2016). Managers are uniquely positioned within the organization to liaise between their employees and the project team, providing their employees with updates on the change and the project team with feedback from their employees. Their position in the organization makes them also the best to identify what change resistance looks like and what the source of it is. A resistant employee's direct manager is best suited to actively manage that resistance, to ensure the change is successfully implemented within his or her team (Prosci, 2018b; Vakola, 2016).

### **2.1.3 Elements of individual and organizational change**

The elements of individual and organizational change have been researched and conceptualized in many ways, both by scholars and practitioners (e.g. Cunningham et al., 2002; George and Jones, 2001; Hannan and Freeman, 1984; LaClair and Rao, 2002; Oreg et al., 2011b; Prosci, 2018a; Vakola et al., 2004). In today's world organizations are continuously introducing changes based on changing conditions, both externally and internally. The changes can focus for instance on processes, organizational structure, or the implementation of new technology. Regardless of the type, each of the changes impact how individuals do their jobs (Prosci, 2018a). It is widely recognized that change is a cyclical process and every change initiative goes through different phases (Brightman and Moran, 2000; George and Jones, 2001). In regard to organizational changes, Brightman and Moran (2000) have conceptualized the change cycle into four phases: *Understand the current situation, Determine the desired state and develop a change plan, Enlist others and develop critical mass and Track and stabilize results.*

The first step is to understand the current situation, meaning that the change needs to be aligned with the organization's strategic business objectives, whether they are impacted by increased competition, changing customer demands or emerging technology. Change leaders need to have a holistic view about the people and processes impacted by the change on all organizational levels. They also need to identify those supporting and

those resisting the change, and their own commitment, especially if the change did not originate from them. The next step is to determine the desired state and develop a change plan after a clear picture of the current situation has been established. A change plan needs to have a tangible goal appealing to many different employees. The plan needs to include a practical approach on how the goals of the change will be reached and how success will be measured (Brightman and Moran, 2000).

Successfully implementing organizational change requires the active help and support of others, and that is why it is important to enlist others and develop a critical mass. Individuals easily revert back to old habits if the change does not have the support of a broad employee base and thus, it is important to continually involve more people as the change initiative moves forward. Finally, results need to be tracked and stabilized and it involves creating measurable targets for the leaders to track the progress of the change. Brightman and Moran (2000) suggest that creating specific targets also makes the change more tangible in terms of individual and organizational performance and increases the motivation of the employees. Furthermore, it gives employees a sense of progress and offers the opportunity to celebrate when milestones are reached. Imposing specific performance requirements lowers the amount of change resistance and encourages individuals to adapt quickly, and measuring results tends to lead to successfully sustaining long term change (Brightman and Moran, 2000). To conclude, organizational change can be conceptualized as a cyclical process and organizations need to understand the different phases during the change for it to be successful.

For an individual, change is a complex psycho-social adaptive process that involves cognitions and emotions (Oreg et al., 2011b). George and Jones (2001) introduce the schema construct, which they claim is fundamental to how people perceive and make sense of changes in their environment. Schemas are described as abstract cognitive structures that contain knowledge about a stimulus or concept, its features or attributes, and the interconnections between its attributes (Fiske and Linville, 1980; Fiske and Taylor, 1991; Taylor and Crocker, 1981). People develop schemas for stimuli or concepts they experience regularly. Once a schema has been developed and a person experiences stimulus that fits or is related to it, the schema is activated and used to interpret the information. Information tends to be interpreted so that it is consistent and confirmed with

the schema (Fiske and Taylor, 1984), which is why people enact reality in ways that resonate or concur with their prior experiences and expectations (Schutz, 1967). Schemas are actually just simplified theories of concepts and stimuli of people’s past experiences (Fiske and Taylor, 1991), and in organizational literature it is widely recognized that people in the organization rely on schemas to perceive their surroundings, process information and make decisions in organizations (Walsh, 1995). Scholars argue that schemas are of particular interest in understanding individual change in organizations, because at the heart of organizational change are changes in people’s beliefs, interpretative schemes, and behaviours (Bartunek, 1984; Porras and Robertson, 1992).

George and Jones (2001) have created a model for the individual change process in an organization, and they base their model on the established fact that change is emotionally a heavy process and that organizational members use their schemas to process information to make sense of what is going on in their organization.

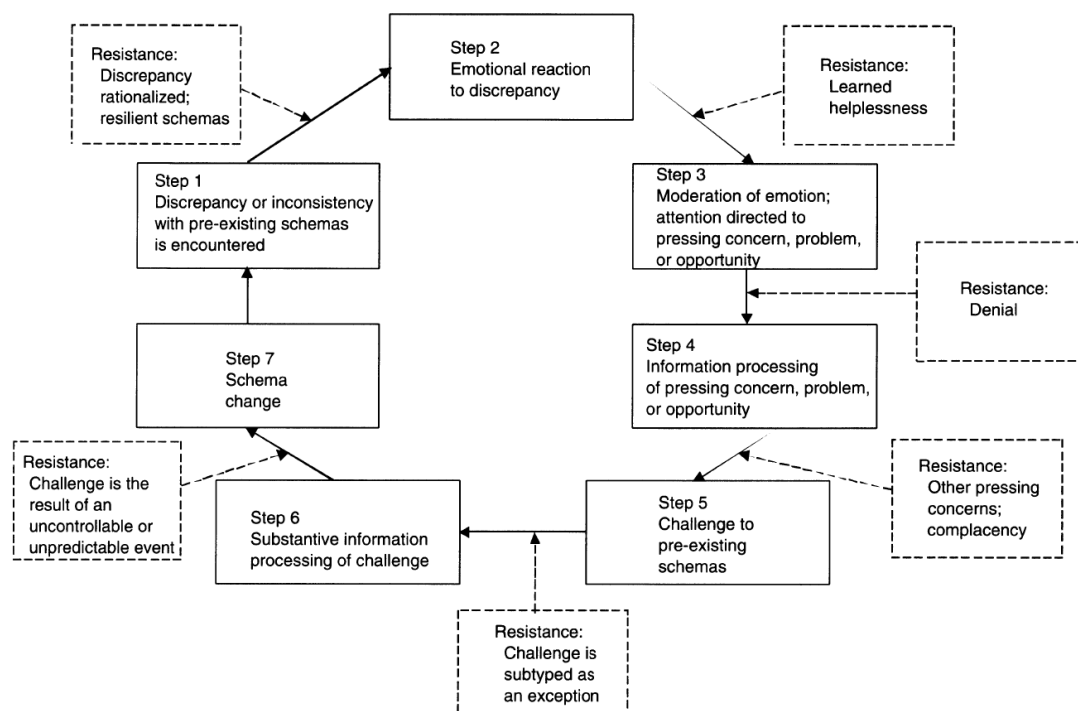


Figure 2 A process model of individual change in organizations by George and Jones (2001)

According to the model, the change process is started if an individual encounters noticeable discrepancy or inconsistency with his or her schemas, usually triggering an emo-



tional reaction. At each stage of the change process, including the stage where the emotional reaction occurs, there is an opportunity to resist the change from both the individual as well as from the social and organizational context. When people are presented with information that is inconsistent with their schemas, they often hold on to past interpretations rather than change their perspective or schemas, leading to change resistance (George and Jones, 2001). Figure 2 visualizes each step in the change process, including the sources of resistance. The model suggests that for an individual a change implies a complex sense-making process including many steps, where the change is reflected upon, challenged, questioned, denied, and reframed. This in turn implies that organizations have many opportunities to facilitate a smooth acceptance of the change during the employee's acceptance process.

To conclude, although scholars agree that organizational change is a cyclical process (Brightman and Moran, 2000; George and Jones, 2001), practitioners argue that change management, cannot be treated as a specific process that can be followed blindly (Prosci, 2002). Prosci, a leading company in change management solutions, has developed their change management methodology based on research with over 3400 participants since 2002. They argue that managing the people side of change always involves one of the most unpredictable variables, people themselves. Hence, change management efforts need to be customized and scaled according to the unique characteristics of the change and the attributes of the organization.

## **2.2 Digital workplace**

During the last decade developments in consumer technology and the rise of mobile devices have changed people's behaviour and expectations towards the technology they use in the workplace. Simultaneously, the meaning of office work has changed from a single physical location with desk phones, faxes, and printers to a mixed-location, always connected environment where information and people can be reached from any location with any device (Aaltonen et al., 2012; Attaran et al., 2019; Berland, 2016).

The term "digital workplace", was originally introduced at least as early as 1993 (Grantham and Nichols, 1993), but the term has since evolved and today there are several def-

initions available. Schillerwein (2011) puts forward the view that the digital workplace can be thought of as a master key which unlocks all resources an organization has to offer an employee to do his/her work. Those resources can include intranet or enterprise social platforms, communication tools such as email or instant messaging, CRM, ERP, and HR systems (Attaran et al., 2019; Schillerwein, 2011; White, 2012). Infocentric Research AG has created a framework for the digital workplace (Figure 3) that consists of different building blocks (Schillerwein, 2011). The blocks serve as a logical framework for creating a digital workplace concept or strategy. They form the foundation which includes all information, technology, tools, and processes for employees to get work done regardless of time, place or device. The blocks do not exist in isolation but blend into one another depending on context and requirements (Schillerwein, 2011). They address different areas of work performance, more generic areas indirectly related to performance and tasks, and other structures, context and services that form the foundation of the digital workplace, which can be used together with other blocks.

<b>Digital Workplace Framework</b>			
<b>Personal performance</b> <ul style="list-style-type: none"> <li>• Dashboards</li> <li>• Activity streams</li> <li>• Self services</li> <li>• Personal info. mgmt.</li> <li>• Decentral data</li> <li>• etc.</li> </ul>	<b>Team performance</b> <ul style="list-style-type: none"> <li>• Collaboration</li> <li>• Conferencing</li> <li>• Project mgmt.</li> <li>• etc.</li> </ul>	<b>Organizational performance</b> <ul style="list-style-type: none"> <li>• Social networking</li> <li>• Communities</li> <li>• Idea management</li> <li>• Enterprise Jams</li> <li>• etc.</li> </ul>	<b>Communication &amp; Information</b> <ul style="list-style-type: none"> <li>• News</li> <li>• Knowledge sharing</li> <li>• Content syndication</li> <li>• eLearning</li> <li>• etc.</li> </ul>
<b>Process performance</b> <ul style="list-style-type: none"> <li>• Process, Case and Information flow specific applications</li> </ul>			<b>Culture &amp; Relations</b> <ul style="list-style-type: none"> <li>• Internal branding</li> <li>• Social applications</li> <li>• Campaigning</li> <li>• etc.</li> </ul>
<b>Structures, Context &amp; Services for all components of the Digital Workplace</b> <ul style="list-style-type: none"> <li>• Search</li> <li>• Personalization</li> <li>• Analytics</li> <li>• Intelligent agents</li> <li>• Compliance</li> <li>• etc.</li> </ul>			

Figure 3 Framework for the digital workplace by Schillerwein (2011)

Personal performance can be viewed as a single repository that combines all personal, team or project related tasks, an overview of all the projects and activities an employee is associated with, an overview of metrics relevant to an employee, and direct access to other important information regardless of source (Schillerwein, 2011). Team perfor-

mance, in turn, involves having virtual and dynamic spaces to enable seamless and effective collaboration regardless of time, location, group size or the task at hand. The virtual spaces cater for the effective management of information, tasks, agendas, deadlines, contacts, deliverables etc. Communication can be done synchronously or asynchronously through text, voice, video between one or several people (Schillerwein, 2011).

For the full utilization of an organization's knowledge, the information needs to be brought together and made findable and easily accessible whenever and wherever. This ultimately affects organizational performance positively and value creation by tapping into dormant knowledge, knowing about other people's competencies, and connecting like-minded peers across borders to support joint idea generation, decision making or new developments (Schillerwein, 2011). Process performance circulates around the fact that every organization runs on processes, whether they are defined, documented, and managed or not. If the systems supporting the information processes exist in isolation from each other or the context, productivity is severely affected. Most tools in organizations today are built for a specific purpose and a holistic view of how the processes can be connected or integrated is lacking (Schillerwein, 2011).

Communication and information involves information that can be in context or out of context, and which is presented through different channels. Today much of the information is generic and out of context, like the ones that can be found on organization's intranets. In the digital workplace information can be presented in context depending on the activity the employee is currently working on (e.g. news and information about a location for an upcoming business trip can be presented automatically) (Schillerwein, 2011). Importantly, culture and relations are affected by the tool's employees use at the workplace. A design reflecting the intended culture becomes important, and if the tools are professional, well-designed, intuitive and support the work employees are doing, it is easier for employees to live up to the culture (Schillerwein, 2011).

The foundational block in Figure 3 can be viewed as the "engine" below the other building blocks above. It is required to make services truly available across the organization and without them, a unified user experience and a single repository for working is not

possible. The foundation is not only a technical element. It requires business specification similarly as the other blocks to truly support them (Schillerwein, 2011).

### **2.2.1 Present challenges**

There are three fundamental trends that have been driving the need for a digital workplace, information overload, the need for speed, and aging population (Deloitte, 2014).

First, information is growing at an exponential pace. By 2016, 90 percent of the world's information had been created in the two previous years and many analysts suggest the amount will be 40 times larger by 2020 (IBM, 2016). Although the amount of information is increasing, organizations have a hard time making the right information available to the right person at the right time. In a survey made by IDC, 40 percent of the individuals surveyed said they had the information they needed less than 75 percent of the time (Gantz et al., 2009). Second, the pace and magnitude of change has dramatically increased during the last two decades and organizations need to be agile, work faster and collaborate more effectively to stay successful (Brightman and Moran, 2001; Deloitte, 2014). Third, organizations struggle to cater to the needs of a multi-generational workforce. Since a few years back there have been in total five different generations working at the workplace (Meister and Willyerd, 2009). Since the first generations entered the workplace the speed, tools, processes, and nature of work has changed substantially. In 1986, when the youngest baby boomers entered the workplace, the percentage of knowledge necessary to retain in your mind was 75 percent. For the other 25 percent, you accessed books or other documentation. In 2009, only 10 percent of knowledge was necessary to be retained, meaning a wide range of other sources were required to be used. To manage this complexity, younger generations use new tools and ways of working (Meister and Willyerd, 2009).

According to a 2016 survey 44 percent of global employees feel their workplace is not smart enough and 35 percent responded that the technology they have home is more cutting-edge than what is available at their workplace (Berland, 2016). When it comes to millennials, these numbers need to be taken seriously as millennials are more likely to quit a job due to substandard technology in the workplace (Berland, 2016). One of the

major challenges faced by knowledge-based organizations today is knowledge wasted because of suboptimal systems or processes. According to studies by Basex (2008) and Gantz et al. (2009), the US economy loses from \$0.9 to \$1.5 trillion per year due to information overload and information related time waste (Basex, 2008; Gantz et al., 2009). Another study by (Capgemini, 2008) suggests that the same number for the UK is £67 billion per year, suppressing organizational performance by 29 percent. Information related time waste has also a big economic impact on individual organizations. According to research by IDC (Schubmehl and Vesset, 2014), an organization with 1000 knowledge workers waste over \$5.7 million each year searching for but not finding information. The biggest reasons for information related time waste are related to ineffective interactions to exchange knowledge and systems that do not support effective knowledge retrieval. On average a single employee attends over 60 meetings per month, equalling to 37 percent of an employees work time. According to a study by (InfoCom, 2018), 30-50 percent of time in meetings is considered wasted and 91 percent of meeting attendees admit to daydreaming during meetings, while over one-third (39 percent) have dozed. This costs organizations approximately \$8000 per employee each year.

Email is one of the most popular and widely used forms of communication in the workplace. An employee spends on average over 15 hours per week checking, reading, replying and sorting through emails (Advanis, 2018). Another study by (Schubmehl and Vesset, 2014) revealed 33 percent of time spent on email is wasted on trying to locate an email or reading “Reply all” messages. The survey estimates that managing email costs organizations some \$9000 per employee each year. Furthermore, searching for people and information results in employees spending an average of 16 percent of their time per week on gathering information by searching, retrieving, and browsing internal and external information. This may be because up to 95 percent of information in the workplace is unstructured, meaning it is not easily described or catalogued automatically (Gantz et al., 2009). Almost half of the time (44 percent) the employees are unable to find the information they are looking for and this is estimated to cost organizations on average some \$7000 per employee each year (Schubmehl and Vesset, 2014). Not finding information also leads to re-creating already existing work. Employees spend almost 2.5 hours daily duplicating work that has already been done. According to a study by

(Taylor, 1998), one-third is spent reworking existing information, two-thirds in finding knowledge and communication and only 10 percent of productive time is spent creating new knowledge. The cost for organizations is estimated to be around \$5000 per employee each year (Schubmehl and Vesset, 2014).

These challenges might not ever be completely overcome but they could be substantially alleviated by better digital tools. Digital tools alone have, however, no intrinsic value. According to Tabrizi et al. (2019) most digital technologies provide opportunities for improvements but if the organization lacks the right mindset or have flawed processes, the technology will simply magnify the problems (Tabrizi et al., 2019). Research by Bain & Company in 2016 support the claim and conclude that organizations need to look at their own behaviours, rather than seeing technology as an easy solution. Many investments in new technology are essentially workarounds for bad practices or behaviours of sharing information, and organizations should evaluate whether technology will enable employees to do more in less time, or whether it will only make collaboration easier (Mankins, 2016). The research suggests that organizations should carefully consider whether to accept the bad practices and invest in technology to cope with it or try to change the underlying problem instead. (Mankins, 2016). Mankins (2016) claim that the roots of the problem lie in a technological wisdom called *Metcalfe's Law*, named after Robert Metcalfe, co-inventor of the Ethernet and who helped pioneer the internet in the 1970s. According to *Metcalfe's Law* the value of a network increases with the square of the number of users. As an example Mankins (2016) says that one fax machine is worthless, two fax machines are worth a little, but a network of thousands of fax machines is worth millions, because it allows people to send documents to one another (Mankins, 2016). Mankins (2016) claim that *Metcalfe's Law* has a flip side; as the cost of communications decreases, the number of interactions increases exponentially, as does the time required to process them. According to Mankins (2016), this can be seen in the workplace. Thirty years ago, if executives missed a phone call, they would get reminded by their secretaries with a pink slip. A busy executive could get 20 a day, or about 5000 per year. Today technology makes the cost of communicating virtually zero, resulting in an exponential rise in information that executives and employees alike need to manage. Figure 4 illustrates the rise in information load for executives from the 1970s to 2010s. This information acts as the foundation for Mankins (2016) claim,

which is supported by Tabrizi et. al (2019), that technology will make work harder for the employees if the processes and mindset in the organization does not support new ways of working (Mankins, 2016; Tabrizi et al., 2019).

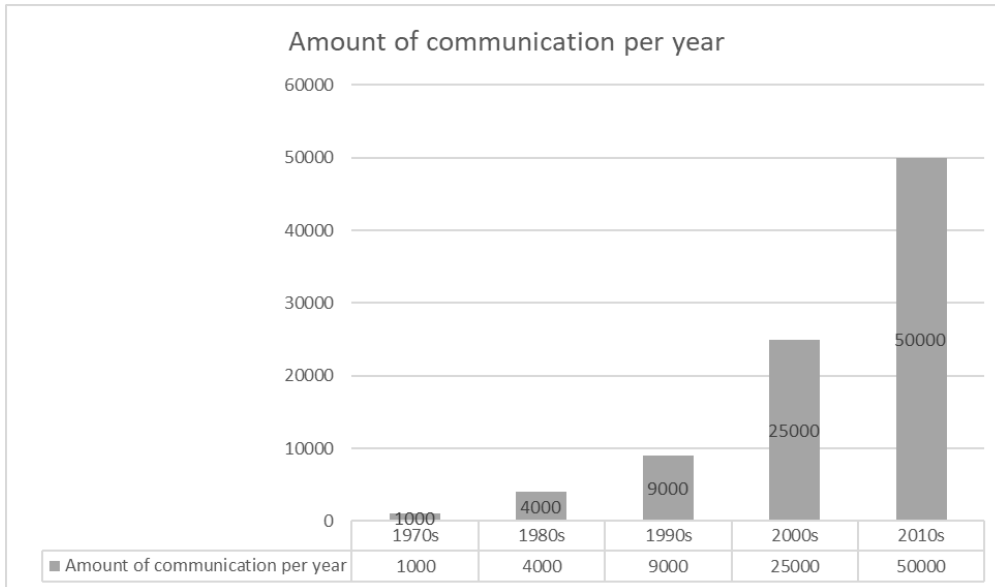


Figure 4 Approximate number of communications per executive per year, based on research and figure by Mankins (2016)

## 2.2.2 Advantages of a digital workplace

It is widely acknowledged that a digital workplace can optimize workforce productivity and much research has been conducted about its benefits, such as increased collaboration, better compliance, mobility and reduced stress and overload. (Aaltonen et al., 2012; Köffer, 2015). Implementing workplace technologies like mobile, cloud, analytics and social tools into the workplace will empower employees to be more productive and communicate with ease, at anytime from anywhere (Attaran et al., 2019). In 2015, Wakefield Research conducted an online survey with 500 C-level executives and IT-decision makers across seven countries about the benefits of a digital workplace. The results showcase compelling business benefits realized as organizations reported between 43 and 67 percent growth in productivity, employee engagement and revenue growth (Avanade, 2017). For example, one company reported an estimated time saving of 43 minutes per employee per month equalling to an annual productivity increase of \$12 million (Deloitte, 2014).

A digital workplace provides many advantages for employees and the organization, including increased staff satisfaction, improved employee experience, closer collaboration, reduced operational costs, enhanced innovation, improved customer experience, and increased revenue. Table 1 summarizes the benefits gained by employees and the organization when implementing a digital workplace (Aaltonen et al., 2012; Attaran et al., 2019; Avanaade, 2017; Deloitte, 2014; Gantz et al., 2009; Schillerwein, 2011).

<b>Employees</b>	<b>Organization</b>
Empowers employees with a richer IT experience	Accelerates decision-making and innovation
Provides a consistent user experience across all devices	Provides more effective ways of working - Increases productivity
Raises employee engagement	Speeds up the release of new products and services
Helps employees experience greater flexibility and choice	Provides efficient information distribution channels
Helps to improve employee and customer experiences	Strengthens talent attraction and retention
Enables access to expert knowledge and discovery of project-critical information	Prevents information overload
Improves communications interfaces and collaboration	Reduces sales cycles
Enables agility	Exploits consumer-oriented styles and technologies
Prevents time wasted in recreating information that already exists	Increases the chances of a project successfully meeting its outcomes by using cross-functional teams
Reduces employee absenteeism	Facilitates technical improvements including better performance, platform support, improved security, etc.
Decreases staff turnover	Enables environmental gains due to a reduction in travel (thereby improving the carbon footprint)
Enables secure access for users, from anywhere at any time	
Supports closer collaboration with customers, partners & coworkers	

*Table 1 Benefits of a digital workplace by Attaran et. al. (2019)*

Gartner, a leading research and advisory firm, predicts that “by 2020 the greatest source of competitive advantage for 30 percent of organizations will come from the ability of the workforce to creatively exploit digital technology” (Cain and Rozwell, 2016).



### 2.2.3 Challenges related to implementing a digital workplace

Most information systems today deliver only limited value to their organizations. This is largely due to years and years of organic systems development and change. The legacy systems largely exist in isolation from each other and are primitive, passive, and set an expectation with the employees that the organization does not need to be efficient. Further, the lack of a clear distinction on what tool to use, when, and for what purpose, makes it hard for the employee to be effective with the current tools (Attaran et al., 2019). There is also confusion on the market about what it means to have a digital workplace, as 84 percent of respondents in a recent survey incorrectly believed that email and social media capabilities are all that are required for a digital workplace (Avanade, 2017). The same study showed that although many companies have acknowledged that the role of a traditional, physical office is diminishing, less than one-third have made it possible to access information systems and applications seamlessly outside of the physical office location. Although legacy applications and infrastructure play a role in whether an organization is successful in implementing a digital workplace, the technology in use plays only one part (Attaran et al., 2019; Avanade, 2017).

A study by (Greeven and Williams, 2017) identified five primary adoption challenges. These were *culture*, *business/operation*, *technology in use*, *benefits*, and *attitude/behaviour*. Out of the five *culture* and *behaviour* have been presented as the biggest challenges (Buvat et al., 2018; Goran et al., 2017). Cultural and behavioural challenges are directly linked to change resistance, low acceptance, low awareness, growing complexity and employees underperforming, but also negative economic performance (Goran et al., 2017; Greeven and Williams, 2017). Furthermore, a survey of 1700 respondents from 340 organizations and interviews with academics, industry leadership and employees by Capgemini reveals that organizations struggle to create a digital culture due to four primary reasons (Buvat et al., 2018). First, the leadership does not understand, neglects, or underestimates the importance of culture when planning their digital transformation. Second, the existing culture and way of doing things is so deeply engrained with management and employees, that change becomes very difficult to implement. Third, employees are becoming more experienced and friendly with digital services. If the leadership lacks digital literacy, it can create a disconnect between em-

employees and the leadership, which hinders the development of a digital culture. Fourth, employees are not empowered to take on new challenges, compensated for learning new expertise or incentivized to change the status quo and create new ways of working.

On average, 40 percent of senior executives believe their organization has a digital culture, while the same number for employees is 27 percent (Buvat et al., 2018). These findings reveal that there is a significant perception gap between leaders and employees on whether the organization has a digital culture or not. Additionally, the research found that the same perception gap exists between different executives and managers, with only 22 percent of the management agreeing on the degree to which their organization has a digital culture. The research suggests that the perception gap is partly caused by socio-cultural reasons, but also by the lack of leadership action in defining the organizational culture and supporting the transition towards a digital culture (Buvat et al., 2018).

Scholars agree that a digital culture does require a change of leadership culture in the organization and that many leaders are likely required to develop new skills (Köffer, 2015). Buvat et al. (2018), define digital culture as a set of seven attributes:

1. **Innovation**, frequent behaviour that supports risk taking, disruptive thinking and exploration of new ideas.
2. **Data-driven decision-making**, use of data and analytics to drive better business decision.
3. **Collaboration**, creating cross-functional and inter-departmental teams to enable the best use of skills across the organization.
4. **Open culture**, creating networks of external partnerships with vendors, start-ups or customers.
5. **Digital first mindset**, a mindset where the use of digital tools comes by default.
6. **Agility and flexibility**, speed and flexibility of decision-making and the ability of the organization to adapt to internal and external changes.
7. **Customer centricity**, the use of digital technology to create new customer experiences, expand the customer base and co-create new products or services.

The lack of resemblance between the leadership and the employees was found to be consistent between all seven attributes of the digital culture, with the largest gaps in innovation and collaboration (Buvat et al., 2018). To conclude, leaders need to understand that creating a digital culture is a multi-faceted endeavour, which will require a completely new mindset and leadership from the management as the employees.

## 2.2.4 Preparing for the digital workplace

When preparing for a digital workplace, organizations need to take a holistic and cross-functional approach, spanning people, places, and technology. Increasingly, digital workplace projects do not have a strategic focus and too much focus is put on the technology itself, rather than on the people using the systems. The technology needs to be selected based on how it aligns with the organization’s strategy and what value it brings to the business (Perks, 2015). Thus, a cross-functional team consisting of senior leaders, IT, HR and Marketing should be formed to create a digital workplace strategy that clearly articulates what business goals the strategy intends to solve and how digital solutions should be developed (Attaran et al., 2019). The team should assist in future projects by providing access to expert knowledge, help with the discovery of project-critical information, and enable new ways of working.

To be effective, a digital workplace can not only be a combination of existing tools. The workplace must be enriched by context, structured and unstructured information, and consistent information flows (Attaran et al., 2019). Research and advisory firm Gartner conducted a 12-month long study with enterprises and vendors associated with cloud management strategies and identified three phases of cloud adoption strategy (Smith, 2016). Attaran et al. (2019) adopted the model and conceptualized it to fit a workplace transformation initiative summarized in Figure 5.

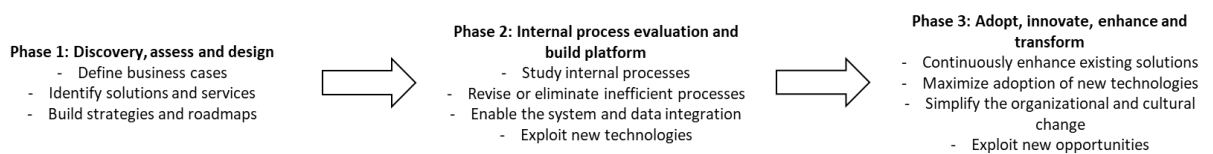


Figure 5 Three phases of workplace transformation

In phase 1, relevant employees should learn and perform a detailed analysis of digital technology solutions, based on the organization's requirements, and needs. They need to identify what business goals the technology will address and use that as guiding principles to drive development. Furthermore, a digital strategy needs to be implemented, considering the implications and alignment of the technology with business goals. The digital strategy should serve as a blueprint for the roles and responsibilities required of each department. It should include a clear business case and timeline to implement the digital workplace and set clear priorities for everyone involved. It should list the services, tools and solutions that are required. Users should fully understand their desired business outcomes and inform what kind of tools are required, how much they will be used and what price they can pay (Attaran et al., 2019).

In phase 2, relevant employees should work with the CIO and business stakeholders to document and analyse what internal business processes will be affected by the selected digital solutions. During the analysis they should study if the processes need to be flattened, reconfigured, realigned, refined, or eliminated. Repetitive manual processes should be targeted for automation. User-friendly systems should be enabled that bring together data, social, mobile, analytics and cloud computing technologies to create a digital workplace that responds to the informational needs of the employees. Organizations should integrate social collaboration tools such as voice, video, and messaging to make knowledge sharing more effective. These tools need to be accessed securely through different channels and devices (Attaran et al., 2019).

Finally, in phase 3, organizations should continuously enhance existing solutions, maximize the adoption of digital solutions, and ensure user adoption. As the needs of the employees evolve, the organization should continuously exploit new opportunities and deliver consistent, consumer-like experiences across multiple platforms for their employees. Organizations should simplify the organizational and cultural changes that delay the adoption of the digital workplace, and engage with users to understand their needs and articulate how the digital workplace enables them to work productively. Organizations need to make sure that employees have access to training that enables them to understand and use the digital solutions to their advantage. Technical personnel and

trainers need to be trained properly to support the deployment of the technology. Lastly, organizations must provide clear policies for employees about the type of information they should or should not share, how personal data should be handled, and how to avoid damaging organizational data (Attaran et al., 2019).

To conclude, technology implementations should be planned from the perspective of the users and answer the demand of business requirements. Also, existing processes or routines should be re-evaluated and changed if necessary to support the new technology. Much effort needs to be put on adoption to ensure employees are comfortable with the change and successfully adopt new ways of working.

## **2.3 Summary**

The aim of this thesis is to shed light on how employees perceive the change process when organizations are implementing a digital workplace and what role they perceive that change management can play in it to facilitate the transformation. The literature review highlights that organizational change is a difficult and taxing endeavour for all impacted employees in an organization, however an imperative for organizations to stay competitive in a rapidly changing market. Previous research shows that the majority of organizational change efforts fail to reach their targets (Beer and Nohria, 2000; Burke, 2011; McKinsey & Company, 2018). This means that organizations need to plan for and manage the change as effectively as possible to ensure that the change is successfully implemented and sustained in the organization.

Utilizing structured change management processes has been shown to significantly increase the probability of successfully implementing and sustaining the change (LaClair and Rao, 2002). The management and change leaders need to understand that change is emotionally a heavy process for individual employees and that employees use previous experiences about change to process information and make sense of what is going on in their organization. It is important to understand this as employees can actively or passively either support or resist the change. Previous research shows that an employee's direct manager is best equipped to manage the reaction of individual employees towards the change, and can be the leading factor in whether an employee will ultimately sup-

port or resist the change (Prosci, 2018b; Vakola, 2016). Change leaders and executive management need to ensure active support and awareness from the middle management towards the change, and ensure they can effectively lead the change and manage change resistance in their teams.

Today there are three fundamental trends that are effectively driving the need for a digital workplace: the speed of change, information overload and the aging population (Deloitte, 2014). These trends have a significant impact on employee's productivity, satisfaction, and wellbeing in organizations. On an organizational scale these trends have a substantial financial impact when employee's effective work time is to a large extent used on wasteful tasks like managing emails or searching for information (Gantz et al., 2009; Schubmehl and Vesset, 2014). Additionally, organizations may have a hard time retaining younger generations, as they are more likely to quit their job due to substandard technology (Berland, 2016). Many scholars and practitioners claim that a digital workplace is the way for organizations to solve these problems, and a necessary task to perform to ensure competitiveness in the digital era (Attaran et al., 2019; Avanade, 2017; Deloitte, 2014; Schillerwein, 2011).

A digital workplace, however, is not only about technology or tools. It is fundamentally about a completely new business culture with new processes and ways of working (Attaran et al., 2019; Schillerwein, 2011). This is something many organizations fail to understand, as many still view it primarily as individual tools (Avanade, 2017). Research by Buvat et al. (2018) show that there is a large disconnect between employees and the executives in many organizations about whether the organization has a digital culture or not (Buvat et al., 2018). Executives to a large degree fail to understand the importance of culture when planning for digital transformation, effectively hindering the innovation for new ways of working or the renewal of processes.

### 3 METHODOLOGY

This section describes the selected research approach and research methods for this study, motivation for why the selected methodology and approach was chosen, and how the data was collected and analysed. While change management and the elements of a digital workplace have both been studied by scholars as individual fields, the research on the intersection of the two is sparser. Due to the low amount of research available on how employees react when organizations implement a digital workplace, the nature of this research is explorative. The aim of this study is to answer the following research questions:

1. *How do employees perceive change management when organizations implement a digital workplace?*
2. *What are the challenges with current digital workplace technology from the employee's perspective?*

There is a need for this research as organizations are increasingly implementing and using new digital technologies to help perform and react to changing market conditions and employee demands. However, these tools have long been implemented as point-solutions, leading to increased complexity and information being hard to find. It is widely agreed that a digital workplace can solve many of the information-related problems organizations are facing, helping employees and the organization to perform better (Schillerwein, 2011). Hence, new research is justified to understand how employees today perceive the change when organizations implement the digital workplace and what role change management can play to facilitate the transformation.

#### 3.1 Research approach

The selected research method for this study is qualitative research. Qualitative research is a type of scientific research that seeks to understand a given research problem from the perspective of the people it involves. Qualitative research provides information about the “human” side of a subject and is especially effective in obtaining complex textual descriptions about people’s values, opinions and behaviours (Mack et al., 2005). As the aim of this thesis is to investigate how employees perceive the change when organi-

zations are implementing a digital workplace, and research conclude change management is about managing the people side of change (Brightman and Moran, 2000; Prosci, 2018a), the logical choice is to choose a qualitative research approach.

Although findings from qualitative data can often be extended to people with similar characteristics as those of the sample population, a rich and complex understanding of a specific social context or phenomenon is antecedent to elicit data used to generalize other geographical areas or populations. In this sense, qualitative research differs slightly from quantitative scientific research in general. (Mack et al., 2005).

There are three qualitative methods that are most used, participant observation, in-depth interviews, and focus groups. Each method has its own strengths for obtaining a specific type of data. *Participant observation* is well suited for collecting data on natural behaviours occurring in their usual contexts. *In-depth interviews* are well suited for collecting information about individuals' personal experiences, perspectives, and behaviours, particularly when sensitive topics are explored. *Focus groups* are well suited for eliciting data on the cultural norms of a group and in forming broad overviews of issues concerning the group in the study. (Mack et al., 2005)

The intent for this study is to conduct in-depth interviews with people from different backgrounds, age-groups and industries to get a wide input on how these people perceive the change when implementing a digital workplace, and what role change management can or have played. While the aim of this study is to arrive at a number of conclusions about the phenomenon, it is worth noting that the entirety of the concepts in question can be hard to research within the limits of one study. The research approach is inductive by nature, giving the research an exploratory quality, allowing to understand the complexity of the concepts better (Williams, 2007).

### **3.2 In-depth interviews**

In-depth interviews are a technique designed to provoke a vivid description of an individual participants perspective on a research topic. In-depth interviews are an effective qualitative method for getting people to talk about personal feelings, opinions and expe-



riences, and give an opportunity for the interviewer to gain insight into how specific subjects are interpreted by individual people. Interview questions are open-ended and asked in a neutral manner. The interviewer listens actively to the participants' responses and asks follow-up questions and probes based on those responses. The interviewer does not try to lead the participant according to any preconceived ideas nor encourage the participant to provide certain types of answers by expressing approval or disapproval of their responses. (Mack et al., 2005).

### **3.3 Data collection**

The primary source of information for the research at hand is collected through semi-structured in-depth interviews. Hence, the interview data consists of voice recordings, typed transcripts of voice recordings, and the interviewer's notes. Notes include observations about the interview content and the participant. Typed transcripts are the most common form of utilizing interview data, which is what was done in the present study. I used interview notes to remind myself of questions that needed to be returned to where answers were incomplete, as suggested by (Mack et al., 2005).

The interview questions were constructed based on prior research and literature, and categorized under three primary themes, where each theme corresponded to a central dimension in the study. The themes were: change management, digital workplace, and the intersection of the two. An interview guide was used to make sure all significant topics were discussed throughout the interview process. The interview guide is included in this thesis, in Appendix 1. The order of the questions within an interview were chosen according to the answers to support the talkative and informal nature of the interview, and to promote discussion and more insightful follow-up questions.

Six interviews were conducted during May 2019 – January 2020. The selection criteria for the interviewees was that they had to represent different industries (including aviation, airport operations, financial services, corporate law and ICT), and seniorities within the companies, to reach a broader context and general results as opposed to reflecting upon results related to a reality of a specific company, industry or seniority of employees. All interviews were conducted in Finnish, allowing the interviewer and interview-

ees to communicate in a shared language both the interviewer and interviewees are proficient in. Allowing interviewees to communicate in a native tongue allows them to more comprehensibly explain their ideas and opinions, which improve the quality of the interview answers (Leech, 2002). This also guaranteed that central concepts and definitions were understood as similarly as possible and no misinterpretation due to language barriers occurred.

The interviews were conducted face-to-face and varied in length between 30 and 60 minutes. The interviews were recorded and transcribed, and notes were taken for each interview to record thoughts, and emotions. The interviews were translated to English during the transcription and although I have strived to translate the intended meaning of each comment as accurately as possible, there is a risk that some of the nuance have been lost in the translation process. All interviews were transcribed anonymously, as agreed with the interviewees. The interview participants are listed in Table 2 below.

Code	Job description	Years at company	Industry
#1	Business Controller	2+	Financial Services
#2	Administrative assistant	1-2	Financial Services
#3	Head of Unit	10+	Airport operations
#4	Partner	4+	Law
#5	Business Controller	2+	Aviation
#6	Manager	20+	ICT

*Table 2 Interview participants*

### **3.4 Data analysis**

The data analysis is based upon the principles of the Gioia Methodology (Gioia et al., 2012). The principle of this method is to organize the data into 1st-order and 2nd-order categories, to facilitate their later assembly into a more structured form. The 1st-order category involves data captured from the interviewees (informant-centric), and the 2nd-order category information that has been linked to theory (theory-centric). The research approach begins by identifying and gathering a number of 1st-order categories that emerge from the interview data, after which it progresses to seek similarities and differ-

ences between those categories to form 2nd-order themes. Next, the 2nd-order themes are condensed into overarching aggregate dimensions. Finally, the categories, themes and aggregate dimensions are used to build a data structure, which not only allows for the visualization of the data, but more importantly, shows how the research has progressed from raw data to terms and themes in conducting the analysis, which is viewed as a key component of demonstrating rigor in qualitative research (Gioia et al., 2012).

I began the analysis by reviewing the interview transcript data and coding it to 1st-order codes. In the next phase, I sought after similarities and differences of the 1st-order codes, which I combined into overarching 2nd-order themes. In the final phase I created the data structure based on the 2nd-order themes and their linkage to empirical data.

### **3.5 Research evaluation**

Adopting explicit evaluation criteria increases the transparency of research if performed continuously throughout the whole research. Research is evaluated through the concepts of validity, reliability and generalizability, and they form the basic framework for evaluating research in social sciences and business research (Eriksson and Kovalainen, 2008).

The number of interview candidates in this study was limited to six interviews, which meet the purposeful sampling criteria the author and his supervisor have determined to be necessary for this study.

In qualitative research the aim of evaluating validity is to provide research with assurance that the report or description is correct (Eriksson and Kovalainen, 2008), and it is considered a key criterion to assess research trustworthiness. There are three common ways to establish validity in qualitative research, as outlined by (Eriksson and Kovalainen, 2008): analytic induction, triangulation and member check. Analytic induction is a method to collect data, develop analysis, and to organize the findings. (Hirsjärvi and Hurme, 2000). The research methodology applied in this study by (Gioia et al., 2012) includes the data capture, codification of the data, the process of evaluating the captured data against theory, and the organization and visualization of the data in aggregate data

structures. Triangulation is a process of comparing the collected data with other sources and perspectives (Eriksson and Kovalainen, 2008). If other sources support the information provided by the interviewees, the findings are more valid. This study is based on research from multiple sources, including academic and corporate references. Member check involves the process of allowing the interviewees to review the interpretation of the research in order to ensure the authenticity of the work (Bryman and Bell, 2011; Janesick, 1994). To incorporate member checking into this study, I summarized my interpretation of the interviewees' answer after each question and asked whether they agreed or disagreed with it.

The reliability of a study can be evaluated based on replicability, which tells the extent to which the findings can be replicated by someone else studying the same phenomena (Eriksson and Kovalainen, 2008; Hirsjärvi and Hurme, 2000). I argue that this study is reliable since I have described my research approach and methodology thoroughly and have been able to reproduce my findings.

Qualitative research aims to examine the feelings and thoughts of the interviewees on a deeper level (Bryman and Bell, 2011). Due to the limitations of the sample size and the nature of qualitative research, I do not intend to make any generalized conclusions based on the findings but rather inspect the feelings of the interviewees and aims to understand their background, wishes and expectations. However, it is worth noting that the sample size may indicate the opinions of a larger group of people, considering the heterogenic disposition of the group.

## **4 FINDINGS**

This chapter details the findings of this study. First, I reveal the findings from the interview data regarding the interviewees' perspectives on change management and how change is led in their company. I also outline the interviewees' opinions on how change can be led successfully when organizations implement a digital workplace. Second, I reveal the interviewees' views on the digital workplace, and how challenges of technology and the drivers of the digital workplace are visible in the interviewee's daily life. Figure 6 outlines the data structure of identified codes.

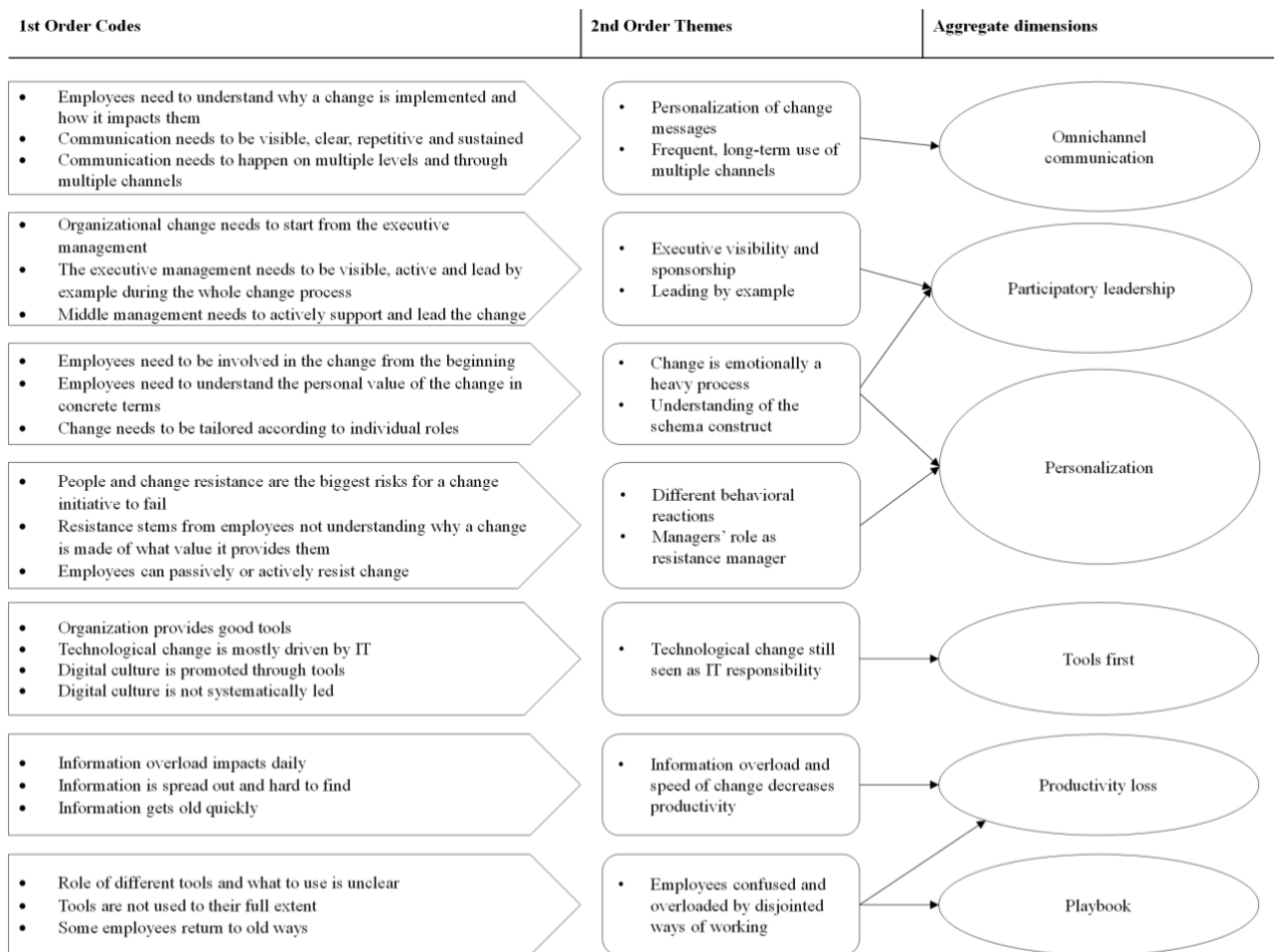


Figure 6 Aggregated data structure of codes

## 4.1 Change management

The first theme that was discussed with the interviewees was change management, with a focus on how change is being led in their current company, what kind of challenges they usually see when the company implements change, how change initiatives are communicated, and which actions are effective in leading change. Altogether twelve 1st order codes were identified, which were then combined into eight 2nd order themes. Lastly, three aggregate dimensions were created based on the 2nd order themes and they are described below.

### 4.1.1 Omnichannel communication

Most interviewees agreed that effective and multifaceted communication is fundamental for effective change management, meaning it needs to happen through various channels, tools, levels, and ways. It was brought up by many that the communication needs to happen repeatedly on different levels of the organization and through multiple channels.

“Change management means to me clear and repetitive communication to employees when change is implemented. With clear communication I mean how the change will impact employees and the role employees work in, so they know how the change will impact them personally. And with clear communications you usually must repeat the message and make the intent and meaning of the change clear. The communication needs to happen on different organizational levels. It is not enough that the communication comes only from the executive level” (#5)

“The most important communications channel is our intranet. Then we also have quarterly reviews by our CEO where our result is discussed, but also changes that can have big impact on employees. A third channel is info screens that are in break rooms, receptions etc. We have a very diverse workforce, so we have a challenge reaching everyone through the same medium. Personal contact is always important and that the people managers communicate and dissect what the change means to their own team. In my own experience that can't be done too much. It's not enough to tell it once, it needs to be repeated several times.” (#3).

Many pointed out technological change in their organization is primarily communicated through digital channels, such as intranet or email, however most interviewees acknowledged that those channels are not effective and preferred physical channels instead.

“Intranet is used a lot. The best are perhaps staff meetings, where you get to hear the matter face-to-face, making them more credible. If you post something on the intra, the fact that you get people to even read the article is difficult because people are so busy. But in staffing info's there are several thousand participants, including the management, and you can ask questions. I think they are good events to communicate about change. Intra and Yammer can be good, but it requires a lot from people to go read what is written there. I haven't had any time in the last few months to do it.” (#1)

“Intranet and team meetings are used the most. I think team meetings are most effective for me because I do not really read the intranet. Team meetings should have follow-up meetings for continued discussions about the change if it affects us a lot. Email is also being used but they get easily lost in the inbox.” (#2)

“Intranet and email are used the most. Internal meetings are being held mostly through online channels (e.g. Skype) and physical meetings or sessions are very rare. When a change is introduced the first info meeting could very well be an onsite meeting but after that there should be an information package from where the employees can look for answers by themselves. One communications channel isn't enough, there should be multiple options.” (#6)

“The communication channels depend on the change but in organizational changes we've had physical info sessions which are organized on repetitive intervals under a longer time period. This is because employees might mature over a longer period and think of new questions and thoughts after a while. We've also had a discussion channel where employees can send questions that will be answered by the team implementing the change. Also, employee's direct manager supports their direct reports' questions and thoughts. For broader communication we use different tools to communicate

about the change, e.g. our CEO uses email but in smaller groups we use Teams for open communication.” (#5)

Most interviewees agreed that sustained communication is key, as many had experiences with communication fading out after the initial hype.

“Change requires time and you must ensure that everyone understands and embraces the change. There is often a desire to push through a change but not taking measures in a sustained way, leading to interest disappearing after the initial introduction” (#1)

“The change project needs to be communicated from start to finish. So not informing about a change and then becoming silent after a couple of months.” (#6)

Finally, the interviewer’s pointed out their own experiences on good and bad communication practices regarding change communication.

“A chewed message from the leadership saying “this is how we will do” is negatively perceived and will easily lead to change resistance. The importance of the change will not be understood.” (#3)

“Effective ways are clear and repetitive communication on a granular enough level, so that grassroots employees also understand what the change means to them. We also have ways to motivate employees by including the success measures of the change to employee’s personal incentive targets. Ineffective ways are lack of communication or failure to communicate clearly the intentions of the change.” (#5)

“Some changes are led poorly and some better. We can have changes coming from the group level or from the local country organization, and how the change is communicated differs depending on whether it comes from group level or local organization. The group manages IT tools and usually they just inform that here’s the tools, start using them. The changes in the local organization relate more to processes or ways of working and in those cases we can better answer the questions why are doing something and what benefits we’re looking to achieve. It makes the local changes easier to adopt.” (#6)

#### **4.1.2 Participatory leadership**

All interviewees agreed that organizational change starts from the management. Many pointed out that the management needs to be visible, active and lead by example. As two interviewers stated:

“Everything starts with the management and that the management itself embraces the new ways of working and culture. It just can't be that someone tells you and nothing really changes. It starts from the management, their example and motivation to change.” (#1)

“From an executive level it’s both about leading by example but also clear communications about the why and how the change will help the employees and the organization. Usually in our organizations it starts from the executive level and how they communicate about the change to their immediate organization, after which it cascades down to the rest of the organization” (#5)

However, it is not only the executive management that needs to actively lead the change, it is the middle management as well.

“It must start with the management, that they are active and that all layers down from the management are also active. So that your own manager is motivated and wants to push through the transformation, and that it cascades through the entire organization. If you see that your manager is not involved in the change, why would you be yourself?” (#1)

Many interviewers commented that it is important for the organization to involve the employees affected by the change. Management needs to be aware of how the change is received by the employees throughout the organization, in order to understand which change actions are working and which are not, and whether or not the change communication needs any alterations. Employees will also benefit by being involved, as they feel they are able to influence the change, and thus feel they are included and heard. Change should also be given enough time and support, so that employee’s that are not quick to adapt, have sufficient support to cope with the change.

“In my opinion communication is critical and telling users why something is changing. Sharing information and getting them engaged from the start, instead of someone else telling everyone how to work, is key. Employees know themselves best how their work should be done, so leveraging the expertise of the employees when changes are planned and concepted is important. The earlier a person is included, the more motivated that person is to make the change successful, because they feel they’ve been able to influence the project.” (#6)

“First it’s important to get people managers to understand the change, and they will include their own teams in the discussion to have an active discussion about why the change is needed and how it will affect the employees daily work. I think including everyone in the discussion is important. A pre-digested message from the leadership saying, “this is how we will do” is negatively perceived and will easily lead to change resistance.” (#3)

“Everyone needs to be involved in the change. Many have worked in the same way for the last 20 years or so, and they might be asked to be more flexible and to renew their working methods. We must give the change enough time, and not assume that everything will happen in an instant. Managers also need to provide a lot of support. There can’t either be too many changes at once, so they would need to be implemented in tiers.” (#2)

### **4.1.3 Personalization**

Many of the interviewees recognized the importance of tailoring the change management activities to cater for the individual differences between employees. They mentioned that people can respond differently to change depending on their background, prior experience, role, personal differences etc., and how the organization proactively takes these aspects into consideration may play a pivotal role in whether the change will be successful or not.

“Taking into consideration the fact that there are different types of readiness for people is important. Some will embrace change easily, while others need more support and time. The change requires time and you must ensure that everyone understands and embraces the change. There is often a desire to



push through a change but not taking measures in a sustained way, leading to interest disappearing after the initial introduction.” (#1)

“The personality of the job and the special requirements for each role needs to be taken into account. Some use digital tools better than others. Peoples skills and experiences need to be taken into account to understand different user groups.” (#3)

“You must understand people have different starting points to use digital tools. Be patient and give people time to understand and adopt. Employees also need to understand that the tools will bring them value and not make their work harder.” (#4)

The interviewee’s noted that if employees do not understand how the change personally affects them or what value the change has to them, they might actively try to prevent the change from happening altogether. As one interviewee puts it:

“In the receiving end the biggest challenge is that there might be very strong negative attitudes and doubts about why or how the change is impacting them. Some might want to try to prevent the change from happening all together.” (#5)

When discussing personalization, the importance of the employees’ own manager was highlighted. The interviewees stated that the role of the people manager is to lead the change efforts within the team, and support the team members to adopt the change by tailoring the change message to their team specifically.

“Personal contact is always important and that the people managers communicate and dissect what the change means to their own team. In my own experience that can’t be done too much. It’s not enough to tell it only once. It needs to be repeated several times.” (#3)

## **4.2 Technology challenges and the digital workplace**

The second theme that was discussed with the interviewees was the digital workplace and how challenges related to the use of technology impact their daily life at work. The focus was on discussing about the interviewees’ interpretation of the digital workplace, if their current employer promotes a digital workplace, and how visible the drivers of the digital workplace are at the interviewees’ daily work. Altogether ten 1st order codes were identified, which were then combined into three 2nd order themes. Lastly, three aggregate dimensions were created based on the 2nd order themes and they are described below.

### 4.2.1 Tools first

All interviewees agreed that they have a digital workplace, but it quickly became evident that most have a different understanding of what a digital workplace means. Two examples are:

“In my opinion, everyone at our job has a digital working environment, that is, I get access to information from different devices. However, I do not have access to all the systems I need, to fully be successful in my role.” (#1)

“A digital workplace doesn’t mean anything concrete to me. It means that the digital tools support my work and make my work as effective as possible, so that I can focus on the substance in my work and not on how the technical stuff works. It enables myself to focus completely on my work without interruptions or problems and gives me the possibility to communicate effectively with my colleagues, which in turn supports my own work. A digital workplace also means that we have constantly access to data which is up-to-date, and which supports our decision-making. We have a digital workplace in my opinion.” (#5)

While there were different interpretations of what a digital workplace means, most interviewees agreed that their organization provides sufficient tools for the employees.

“I think we have advanced tools, almost anything I need I can order through a service request. I have been pleased with that and I do not think I have any better tools at home.” (#1)

“Personally, I don’t agree with the statement that I have more advanced technology at home than on my workplace. My employer offers all the digital tools I have and which I also use on my free time (e.g. mobile phone). I think it’s been an important part of my employers strategy to digitalize a big deal of our business and it involves both the services provided towards our customers but also internally for our employees so that they can perform their job as effectively as possible.” (#5)

During the discussions many interviewees stated that their organization is promoting a digital culture and new ways of working, but when asked about how it is done, many pointed out that it is still primarily driven by tools and by the IT department. As two interviewees wrote:

“So far, the digital tools have been mostly IT driven and they’re the driver of the new ways of working. IT by themselves is not enough to drive cultural change, it needs to come from the executive management.” (#3)

“Our organization promotes a digital culture mainly through the tools, but we try to include the processes as well. E.g. when we adopted LEAN, we abandoned unnecessary work and focused only on value adding work.” (#6)

Although there was clear consensus around the tools, the interviewees felt they needed more guidance on how to use them to get the full benefit. The interviewees noted that organizations may provide modern tools, but do not follow through on making sure the tools are used to the full extent. As one interviewee stated:

“We should perhaps think about various tools that could be utilized better. We use basic programs, but it would be good to understand what other possibilities there are to keep up with the changes” (#2).

“We have a lot of different channels and tools e.g. Skype, Teams, Yammer and others. We have the possibility to use them, but I don't know how widely they are being used. Different units are at different stages. In our strategy we have one point about renewing ourselves, but I think it's more related to renewing our external processes and customer facing operations. Our internal processes and ways of working are on our employees' own account to be improved. We have been told that we have different tools that we can use but not how they are supposed to be used to benefit everyone. We have a lot of tools, but they should be more effectively utilized.” (#3)

## 4.2.2 Productivity loss

When discussed about the effect of technological challenges, all interviewees agreed that the drivers of a digital workplace are visible and affecting their daily work. One challenge was emphasized above all, and that was the challenge of finding information.

“There's so much information and the information is scattered around different places, so it takes a lot of time to find the information you need.” (#3)

Finding information and storing it so others can use it is a challenge. Now a lot of information is silent information, so you need to know that someone knows about something. But how can we change that so that information is findable by everyone, that's a big challenge. Because the information exists but it's stored everywhere. The challenge, also, is to keep everything up to date, so you know what's relevant and what's not. (#6)

“A lot of time is spent searching for information because you don't know where to find it or who could help you find it. Then you start to do everything from the beginning and at some point someone will tell you that you already have access to the information you need, but you couldn't just find it.” (#1)

“If I try to find information, it takes a lot of time. Usually I try to ask colleagues if they know where the file, I'm looking for is located if I can't find it myself. Searching and communicating takes time. I don't know how to improve it, but it needs to be improved.” (#2)

Another issue, related to information, that was raised up by the interviewees was the increased speed of change. As one interviewee put it:

“The challenge is that there is so much information scattered around in different places, so how can you find the relevant information for you? Relevancy is the problem. Also, information gets old very quickly. The speed of change today is something else than what it used to be. Maintaining the information is a challenge because the information gets old so fast, and then it's not relevant anymore.” (#3)

Speed of change was not only viewed as problem regarding personal work, but also as an external catalyst that forces organizations to accelerate their own development and ways of working.

“Speed of change impacts, both from the need to work more effectively together but also to compete effectively with the rest of the market. If a competitor is ahead in the development of their digital capabilities, it means that their decision-making is improved, and they can make faster, more effective,

and economically sound decisions. That in turn makes them more competitive than companies that have not developed the use of data for decision-making, or other digital capabilities.” (#5)

Other challenges that were brought up was that technology does not always work as it should, resulting in time wasted during e.g. meetings.

“A big challenge is that the technology or tools don’t work as well as they should. Getting all the meeting equipment to work can eat even 10 minutes from the start of a meeting, which is almost 20% of the meeting time and a big amount.” (#5)

### **4.2.3 Playbook**

Many of the interviewees talked about the challenge of knowing which tools should be used for what purpose. Furthermore, they mentioned that the lack of clear communication and instructions about the tools have led to a situation where employees are using different tools for the same purposes. This in turn has been one driver for the challenges related to finding information discussed in the previous subchapter.

“Our goal for everyone is to use Microsoft OneDrive and save all the files there, but not everyone do it. Instead they send files via email that need to be stored on your computer and re-sent again. We have the capability to work together but everyone are not following the ways of working and that slows down and complicates work. I strive for my own work to guide others but if everyone are not following the new ways of working it complicates things” (#2)

“Do I use, and can I use all the tools that are available to their best ability, and how can I get the others to use them as well? We have a lot of tools, but they should be more effectively utilized.” (#3)

However, the lack of guidance was not necessarily viewed purely as a negative thing by everyone, as one interviewee states:

“Our organization hasn’t clearly communicated what tool we should use when and to what purpose. Employees have found them themselves and developed their own ways of working. This is an interesting phenomenon in my opinion.” (#5)

## **5 DISCUSSION**

This chapter includes a more detailed discussion and interpretation of the research findings with reflections to previous studies. Based on the 1st order codes and 2nd order themes, overarching dimensions were created. The dimensions highlight the most important high-level areas that the interviewees and previous research has revealed. Three of the dimensions are related to organizational change, and how change and change messages are communicated across the organization. The other three dimensions are

related to root causes of currently experienced technological challenges and what impact they have on employees.

## **5.1 Omnichannel communication**

It is generally agreed by scholars and practitioners that effective communication is associated with greater acceptance and support for the change (Oreg et al., 2011b; Prosci, 2018a). However, it is not only about the amount of information provided that determines the reactions to change, as one study revealed that additional information can also lead to negative attitudes towards the change (Oreg, 2006). While more information about the change is valuable for the change recipients, sometimes learning more about it can give change recipients even more reasons to resist it. Hence, also the content of the information needs to be considered for the communication to support positive reactions (Oreg et al., 2011b).

Most of the interviewees agreed and highlighted the importance of effective and clear communication during change initiatives. As one interviewee stated the communication needs to be clear, repetitive and happen on different organizational levels. Scholars and practitioners echo this sentiment, as Elving (2005) concluded that open and frequent communication impacts both readiness for the change and improves change related uncertainties (Elving, 2005). Prosci (2018) highlights that frequent, consistent and transparent communication leveraging multiple communication channels were among the top contributors to a successful change initiative (Prosci, 2018a). Beatty (2016) concludes that communication must answer the why, what and how questions, and use many different methods, ranging from face-to-face to digital channels (Beatty, 2016). Although scholars and practitioners agree that change related communication needs to be multi-faceted, most interviewees told that information about technological change in their organizations is primarily communicated through intranet, email, or other digital channels. Additionally, most interviewees agreed that those channels are not effective, and they preferred other channels, such as face-to-face meetings, company information events, or team meetings that allow for live interaction and discussion around the change. These results suggests that organizations need to re-evaluate their current communication prac-

tice, and communication plans, to more effectively utilize communication channels that employees expect to hear change messages from.

## **5.2 Participatory leadership**

The findings of this study paint a clear picture about the importance of active and visible management during a change initiative. All respondents concurred that change initiatives need to start from the executive management of the organization, and that they should be visible, active and lead by example. This aligns with Prosci (2018), who claim that active and visible executive sponsorship is the number one contributor to a change initiatives success, as their data shows that initiatives with extremely effective sponsorship are almost three times more likely to meet or exceed objectives than initiatives with very ineffective sponsorship (Prosci, 2018a). The research identified three areas where executive sponsors need to be effective in contributing to the success of the change initiative (Prosci, 2018a). Sponsors should be accessible throughout the initiative, be present at key events and consistently advocate for the initiative. They should talk directly with impacted employees and clearly articulate the reasons for change and explain why the change is important. Finally, the sponsor should involve other leaders, solicit and listen for feedback from the management, and ensure alignment with the organization's strategy and direction (Prosci, 2018a). As one interviewee pointed out the executive management needs to lead by example but also communicate clearly about why the change is important for the organization and the employees.

The role of the middle management was also highlighted and especially the role of the employee's direct manager. Some interviewees pointed out that their own manager directly influences whether they have a positive or negative attitude towards the change. Literature supports this notion, as the role of the manager and managerial support has been proven to be critical during change, even among employees that have had a positive view towards the change from the beginning (Oreg et al., 2011b; Vakola, 2016). Managers have a strong position within an organization to coach and influence employees through their change process, because they are closest to the employees impacted by the change and they are influential as their team's leaders. Research shows strong support and open communication by managers have proven to ultimately turn a resistant

employee to support the change (Prosci, 2018b; Vakola, 2016). According to Prosci's research there are five areas managers need to be effective in. They need to communicate about the change, demonstrate support for the change, coach employees through the change, engage with and support the project team, and identify and manage resistance (Prosci, 2018a). Some of the areas might sound trivial but Prosci's research shows managers struggle with many of them. Particularly coaching employees and managing change resistance are areas that managers struggle with the most (Prosci, 2018b). By coaching employees, managers are available to listen to concerns, answer questions and be respectful for the impact that the change has on the employees. Managers also need to help employees understand required behaviours, explain how the employees can themselves support the change, and remove barriers where needed (Lawrence, 1969; Prosci, 2018a). When it comes to change resistance, managers are best positioned within an organization to identify and mitigate resistance. They need to understand where the resistance stems from and mitigate it by discussing and coaching the employee to increase their desire to participate in the change (Prosci, 2018a). One reason why manager's struggle with the previously mentioned tasks might be caused by the role managers have historically played within an organization (Harter, 2019). Being an effective coach and managing resistance require new skills which managers might not be trained for. According to Prosci's research, training and preparing the managers for the change are areas many organizations fail to account for as almost 70 percent of study participants disagreed that their managers were adequately prepared for change (Prosci, 2018a). Overlooking managers can have detrimental effects for the success of the change, as the same research shows middle managers are the most change resistant group of people within an organization (Prosci, 2018a), and managers are already unengaged or actively disengaged in their work (Harter, 2019). It is important to consider, that on a fundamental level managers are both receivers and leaders of the change. As many interviewees pointed out, it is important to involve people in the change from the beginning, and the earlier they are included, the more motivated they are to make the change successful. Previous research by McKinsey (2010) support this notion by revealing that organizations that create a sense of ownership to drive change at the employee level have a 79 percent chance of success (McKinsey & Company, 2010). Thus, it is critical to engage, involve and train the middle management and other involved em-

ployees so that they have the capabilities, readiness, and motivation to support the change initiatives.

### **5.3 Personalization**

Tailoring the change message according to the individual characteristics of different audiences has been identified as one leading factor in successful change communication (Prosci, 2018a). Although every organizational change is unique, there are common groups that are always affected by it, namely executives and senior managers, managers and supervisors, and employees (Prosci, 2018a). However, to really consider individual characteristics, one can argue that the personalization should be done on a more granular level, especially if the groups of employees are heterogenous. The importance of tailoring the change message stems from the need of telling change recipients how the change benefits them personally, e.g. “What’s in it for me (WIIFM)”, which is generally accepted as a powerful driver to mitigate change resistance both by scholars and practitioners alike (Beatty, 2016; Prosci, 2018a). For example, during an organizational restructuring, certain departments may be more affected than others. The highly affected departments will need a lot more information and details about how the change affects them, while departments that will be affected less will not be interested in the same level of detail. Although tailoring is required to cater for each audience’s specific interests, the change messages must remain consistent across the audience’s (Beatty, 2016). Many of the interviewees mentioned that team meetings and their immediate manager is one of the best and most important channels to receive personalized, dissected information about how the change impacts them personally. Interviewee #1 also mentioned that live events, hearing from executives or from colleagues who have experienced the change increases the credibility of the change message compared to digital channels, and thus increases the motivation towards the change.

### **5.4 Tools first and the need for a playbook**

When discussing the digital workplace with the interviewees it became evident that everyone has a different perception of what a digital workplace means. This is in line with previous research by Avande (2017), where 84 percent of survey respondents believed



that email and social media capabilities are all that are required for a digital workplace (Avanade, 2017). Most interviewees answered that their workplace provides them with the tools that they need and felt they do not have more advanced technology at home. This is somewhat contradicting to previous research by Berland (2016), but the small sample size of this study needs to be considered. Many acknowledged that digital tools play an essential role in their daily work and that their performance depends on the tools being effective and working correctly. Also, digitalization of the business and effective usage of technology was discussed as something organizations have made a strategic priority.

Considering the importance technology plays on a strategic level it was somewhat surprising to hear that technological change is still viewed mostly as different tools and something the IT department is responsible for, even if it was acknowledged that organizational change and culture needs to start and be led from the whole executive management. Attaran et. al (2019) conclude that an effective digital workplace cannot merely be a combination of different tools. For the workplace to be effective and the technology to deliver added value the workplace must be enhanced by context, structured and unstructured data, and consistent coverage of information flows (Attaran et al., 2019). Tabrizi et al. (2019) point out that organizations that successfully have managed transformations, have focused on changing the mindset of the employees as well as the organizational culture and processes before they have decided what tools to use or how to use them (Tabrizi et al., 2019).

All of the interviewees answered that their workplace provide them with the tools they need, which is contradicting to previous research by (Berland, 2016), however, the small sample size and differences in roles and demographics need to be considered. Although their organization provides them with the technology they need, they felt that their workplace does not follow-through and ensure everyone understands how to use the tools for their full benefit, or distinct what tools to use when and for what purpose. According to the interviewees this leads to confusing situations where different groups within the organization use different tools for the same purposes. This can cause conflicts and lead to productivity loss, as employees are unsure what tool they should use. Second, lack of proper training or awareness of the possibilities to use the tools was

raised as a problem. Many felt they have great tools but were unsure if they are using them to their full extent. This is in line with previous research by Attaran et. al (2019), which concludes that lacking guidance and clear distinction makes it hard for the employees to be effective with the tools (Attaran et al., 2019). Although the different tools were on the responsibility of the IT department, many interviewees felt the effective usage of the tools, and mutually agreed ways of working were still left for the responsibility of the employees themselves to figure out.

Results from previous studies and the results from this thesis make it evident that there is a clear need to increase clarity when organizations implement digital workplace tools. The change should have strong sponsorship from the executive management and strong involvement from a multitude of business departments to gather department specific needs for the change. This increases the change teams' understanding about various context for the digital tools and allows them to clarify the use cases and benefits the departments will receive. Furthermore, awareness and clarity around the proper usage and practical use cases of the tools should be increased and sustained, to ensure employees, regardless of job position, understand which tool should be used for which purpose.

## **5.5 Productivity loss**

Productivity is a much-researched topic among scholars. Despite the rise of digital technologies in the mid-1990s, total productivity has slowed down over the past decade (Pilat and Criscuolo, 2018). All interviewees agreed that there are significant technological challenges in their workplace that negatively affect their productivity. Of all the challenges mentioned one rose above the rest, and it was related to finding relevant information. Finding relevant information is one of the most common problems information workers are facing in the workplace, and it often has domino effects, leading to already existing information being recreated (Schubmehl and Vesset, 2014; Taylor, 1998). This productivity loss has a significant financial impact on organizations, as the cost per employee is estimated to be between \$5000 and \$7000 per annum (Schubmehl and Vesset, 2014). The interviewee's pointed out that the primary reasons why it is hard to find relevant information is because information is scattered around in different locations, it is outdated, or the information is silent. Some of these can be resolved by raising employ-

ee awareness on where different types of information should be stored and agreeing on mutual ways of working and processes regarding information sharing. Similarly a policy overseeing the lifecycle of various information should be created and ensure there are processes in place that validate whether information is up to date, or whether information should be updated or archived. According to Gantz. et al. (2009) up to 95 percent of information in the workplace is unstructured, meaning it does not have a predefined structure, and it cannot be easily stored in traditional databases. Therefore, the information is hard to find and use, and has not been useful for organizations until recently. Today, there are different solutions to help user's find relevance in unstructured data that are based on machine learning algorithms or artificial intelligence. Hence, organizations should evaluate if these solutions can make finding information easier for its employees, thus lowering the cost of an unproductive workforce.

Based on the interviewee's answers, many of the challenges have also an evident linkage to either the organizational culture, employee behaviours, or existing processes. Previous research by Mankins (2016) and Tabrizi et. al. (2019) confirm that technology will make work harder for the employees if the processes and mindset in the organization does not support new ways of working. It became apparent from the interviews that the evaluation and implementation of new technology is almost solely the responsibility of the IT department. Considering the results in this study and results from previous research, it seems apparent that a more holistic approach is needed. Organizations should consider carefully whether existing tools, processes, and culture need to be evaluated when new technology is planned for. Considering the nature of processes and culture in the workplace, a heterogenic group of people should be included in the discussion representing various functions and seniorities in the organization. The wider the group of employees affected by the change, the more should these actions be emphasized. It is interesting to think about the reasons why these aspects are not included by default in technology change projects. Although digital transformation is a top priority for executives, the definition about what digital transformation means is not the same for everyone. Hence, it might be that digital transformation for executives primarily means new or improved business opportunities, e.g. that the organization utilizes data more effectively to create new business or improve sales using artificial intelligence. This can

mean that office work productivity might not be a priority after all, as Schillerwein (2011) also suggests.

Although much research has been done about the cost of an unproductive workforce, it seems many executives are not aware of, or have not calculated, its financial impact in their own organization. Interviewee #3 mentioned that people in their organization are not aware of what the financial cost of unproductivity is on a company level. Considering the high financial cost of time wasted on unproductive work, it is concerning if executives do not understand its impact. Digital technology has the potential to make people more effective by improving collaboration and automating routine tasks, but it can only happen if organizations take a holistic approach, evaluating, and if necessary re-evaluating, all aspects the technology will impact. Until now organizations have mostly implemented point-solutions that exist in isolation from other tools and processes, and the employees using them (Schillerwein, 2011), and it is apparent this approach does not work anymore. Perhaps that is one of the reasons why total workforce productivity during this decade has slowed down.

## **6 CONCLUSION**

Organizations are experiencing unprecedented change driven by technological advancements. Employees are amidst it all struggling to do more in less time with a disparate technological toolkit, ineffective processes and an organizational culture that doesn't support digital work. The nature of work will change dramatically within the next decade as organizations face increasing pressure to utilize technology as effectively as possible to meet changing customer expectations and increased competition. A digital workplace and digital workplace technology present both opportunities and challenges that organizations need to manage, starting from new ways of working, the evaluation and renewal of existing processes and ultimately to a whole new digital organizational culture.

The goal of this study was to find out how employees perceive change management efforts when their organization implements a digital workplace, and what challenges employees experience in said workplace. This thesis grounds its analysis and conclusions

on a theoretical framework based on previous research and data collected through in-depth interviews. The findings indicate that organizations view digital technology and a digital workplace as strategic opportunities for successful growth, however their execution and implementation is not necessarily aligned with the objectives. IT is still to a large extent solely responsible for implementing new digital tools, however they lack the expertise and functions of managing the user side of the change to ensure effective and sustained usage of the new tools. Furthermore, proper evaluation of how digital tools affect existing processes is lacking, leading to unproductive usage of the tools. Employees in general see the benefit of the new tools but are unsure if they are utilizing them to their full extent. The findings reveal the tools are something that have been implemented without much focus on the user adoption, mutually agreed ways of working or evaluation and modification of existing processes. Ultimately, this results in employee productivity being affected by both existing and new challenges. The findings reveal a strong need to improve awareness and clarity regarding the proper usage of tools in the workplace, and how they should be used effectively across the organization. Second, an evaluation of the existing organizational culture should be made to understand, whether the culture supports a shift towards a digital culture, or whether employee mindsets need to be changed. Concludingly, there is a need to evaluate existing processes and, if necessary, modify them to support a digital culture and new ways of working.

## **6.1 Practical implications**

The author's findings highlight the need for organizations to take a holistic approach involving all layers in the organization when planning and implementing digital workplace technology. Digital workplace technology needs to be planned with the user in the center, and not only as a technical project. The nature of different roles and functions need to be considered when planning the implementation of technology and the change needs to be personalized to the receiver. Similarly, organizations need to be aware of effective and sustained communication about the change and bring clarity and awareness about the role of the new tools and what benefits they brings.

## **6.2 Limitations and suggestions for future research**

Organizational change projects are often complex and require long-term empirical studies to understand the different factors affecting the change outcomes and how people perceive different types of change. The findings of this research stem from an inductive study of a group of six people. The inductive approach was suitable for the exploratory nature of this study but cannot as such offer any concrete quantifiable data. It is not possible to generalize the answers to a whole organization, industry, or type of employee as it requires further empirical validation. Studying how people perceive change when new technology is implemented in junction with change management using a larger sample and over a longer period of time would provide a more comprehensive view and understanding of the topic. It is also worth noting that involving a quantitative part to the study could have clarified the results and added further credibility to the research. The maturity of a digital workplace needs to be considered, as the definition described in literature still varies considerably from the reality in organizations. Organizations are to a varying degree using both old and new technology affecting the processes, ways of working and culture in varying ways. Hence, it is worth noting that these variations may have a varying effect on employee's perceptions on technological implementations. To draw a more comprehensive understanding of the topic a larger sample size focused on a company or industry over a longer period could be worth exploring. It would also be interesting to research how the executive management in various organizations view their role and the role of the organizational culture in the implementation of a digital workplace and a digital culture.

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# APPENDICES

## APPENDIX 1: INTERVIEW GUIDE IN FINNISH

### PROFIILI

**Q1. Voitko kertoa itsestäsi, työstäsi ja organisaatiosta, jossa työskentelet?**

### OSA 1: MUUTOSJOHTAMINEN

On esitetty ajatus siitä, että onnistuneen organisaatiomuutoksen keskeinen tekijä on miten vahvasti organisaation työntekijät, ns. "Muutoksen vastaanottajat" (eng. change recipients), hyväksyvät muutoksen. Ajatuksen ydin on, että organisaatiomuutos menestyy pysyvästi vain, mikäli yrityksen työntekijät muuttavat työtapansa.

**Q1. Mitä muutosjohtaminen tarkoittaa sinulle? Näkykö muutosjohtaminen sinun päivittäisessä työelämässäsi? Mitkä ovat mielestäsi muutoksen johtamisessa keskeiset haasteet/hidasteet?**

**Q2. Miten muutosta johdetaan teidän yrityksessänne? Mitkä menetelmät ovat tehokkaita, mitkä ei? Miksi?**

**Q3. Miten muutoksesta viestitään yrityksessänne? Mitä eri kanavia käytetään? Mitkä ovat tehokkaita, mitkä ei? Mitä epäsuoraa/nonverbaalista viestintää käytätte?**

### OSA 2: DIGITALINEN TYÖYMPÄRISTÖ

Digitaliselle työympäristölle ei ole olemassa yhtä kuvausta, mutta yksi kuvaus on, että se on eräänlainen yleisavain, joka antaa pääsyn kaikkiin organisaation resursseihin, jotka auttavat työntekijää suoriutumaan työstään parhaalla mahdollisella tavalla, riippumatta paikasta, ajasta tai käytössä olevasta laitteesta.

**Q1. Mitä digitalinen työympäristö tarkoittaa sinulle? Onko teidän työpaikalla mielestäsi digitalinen työympäristö? Onko organisaatiosi luonut tavoitteita digitalisen työympäristön toteuttamiseksi?**

On väitetty, että digitalista työympäristöä ajavat kolme päätekijää: informaatioähky (informaation räjähdysmäinen kasvu, informaation hallinta), muutosnopeus (tarve pysyä mukana muutoksen tahdissa ja työskennellä tehokkaammin yhdessä), monipolvinen työpaikka (ensimmäistä kertaa historiassa viisi sukupolvea samanaikaisesti työssä, nuoremmat sukupolvet ovat kasvaneet digitalisten työkalujen parissa ja organisaatioilla on vaikeuksia antaa heille riittäviä työkaluja onnistuakseen työssään). Työntekijät riippumatta sukupolvesta kokevat, että heillä on kotonaan edistysellisempää teknologiaa käytössä kuin heidän työpaikkansa tarjoaa.

**Q2. Mitä ajatuksia tämä herättää? Oletko sinä samaa mieltä väitteiden kanssa? Miten digitalisen työympäristön ajurit näkyvät teidän organisaatiossanne ja sinun päivittäisessä työssäsi?**

Eräiden väitteiden mukaan suurimmat tietotyöläisten haasteet ovat tehottomat kokoukset (tietotyöläinen osallistuu keskimäärin 60 kokoukseen kuukauden aikana), sähköpostin hallinta (tietotyöläinen käyttää keskimäärin 15h viikossa sähköpostin hallintaan), tiedon ja ihmisten etsiminen (tähän tietotyöläinen käyttää keskimäärin 16 prosenttia työajastaan joka viikko ja puolet ajasta he eivät löydä etsimäänsä) sekä tiedon monistaminen (tietotyöläinen käyttää keskimäärin 2.5 tuntia luomaan tietoa joka on jo olemassa). Väitteiden mukaan 1000 hengen organisaatio hukkaa yli 5.7 miljoonaa dollaria vuodessa pelkästään tiedon etsimiseen.

**Q3. Mitä ajatuksia tämä herättää? Oletko sinä samaa mieltä väitteiden kanssa? Miten nämä haasteet näkyvät teidän organisaatiossanne ja sinun päivittäisessä työssäsi?**

On väitetty, että digitalinen työympäristö voi ratkaista em. haasteet ja lisätä yhteistyötä, tietoturva, tuottavuutta, liikkuvuutta sekä vähentää stressiä ja ylikuormittumista. Keskeisessä roolissa digitalisen työympäristön mahdollistajina ovat työkulttuuri ja ihmisten käyttäytyminen, jotka usein muodostuvat suurimmiksi haasteiksi uusien toiminta- ja työtapojen jalkauttamisessa.

**Q4. Mitkä ovat mielestäsi digitalisen työympäristön toteutuksessa keskeiset haasteet tai hidasteet? Edistääkö teidän organisaationne digitalista työkulttuuria ja uusia toimintatapoja?**

### **OSA 3: MUUTOSJOHTAMINEN JA DIGITALINEN TYÖYMPÄRISTÖ**

Digitalisessa työympäristössä korostuu uusien toimintatapojen ja digitalisen kulttuurin vaikutus. Muutosjohtamisella pyritään vaikuttamaan yksilön muutokseen, ja siihen kuinka yksilö jatkossa suoriutuu omassa työssään.

**Q1. Miten muutosta voisi mielestäsi johtaa ja miten se auttaa digitalisen työympäristön jalkautuksessa? Miten uskot, että se voi vaikuttaa muutoksen omaksumisessa?**

**Q2. Mikä on sinun mielestäsi kaikkein tärkeintä huomioida työntekijän kannalta, kun organisaatio toteuttaa digitalista työympäristöä?**

## APPENDIX 2: CODING OF INTERVIEW DATA

Respondent ID	Raw Interview Data	Top Management	Line Managers	Employee involvement	Effective communication	Understanding value	Change management
1	<p>"It begins from the <b>management</b> and cascades down the organization, so that all <b>employees are involved</b> in the transformation. Especially in big organisations, it requires a lot and that there are people who actually make an effort to the transformation, that the <b>benefits of change are told</b> and get people onboard it. It can't be that a new thing is being implemented and that's it. You need to get <b>people understand what the benefit of change</b> is and to guide them to change</p> <p>Not daily, but they appear in short moments when changes are being made. E.g. When we introduced Teams and Yammer, support clinics were held a different areas of the office, but this did to my knowledge not interest many people (unsure), so that was not maybe very successful. I would expect <b>more change management</b>, in that case it was not enough. When we've had <b>organizational changes</b>, I think I have seen the <b>management</b> when we have eg. Introduced OP agile and changed our working methods, it's much <b>more visible</b>. Although we have not yet in our own unit switched to the new model its <b>effects and communication is visible almost daily</b>. It's <b>constantly communicated</b> and <b>supported from the management</b> on how yourself can influence the change and think about what the change will bring.</p>	1		1	1	1	
1	<p>OP Agile has invested a lot more, but it is also a much bigger change. I think Teams and Yammer were left a bit halfway. It was attempted in the beginning but after that it was a bit forgotten off. I don't see any Teams and Yammer things (at the office). OP Agile is such a big change, so I think it is being invested in and it shows a lot in my work. It goes all-in and does not try for three months after which it is forgotten (Teams and Yammer</p>	1		1	1		1

Respondent ID	Raw Interview Data	Making the change visible	Consider sharing benefits	Employee involvement	Effective communication	Understand value	Support of change	Use of...
6	<p>Probably it differs. Some are not poorly and some better. We can have changes coming from the group level or from the local country organization, depending on whether it comes from group level or local organization. The group manager I think would usually be the first to know that there's the things that's being done. The changes in the local organization refer more to discussion or ways of working and in those cases we can better answer the questions why are doing something and what benefits we're looking to achieve. I think the local changes easier to adopt. E.g. when we adopted L2N we had people as trainers and include employees right from the beginning for planning and executing. The more people we have involved the more the employees will feel that they're part of something. People from different parts of the organization were included. The change started from the leadership but the leadership were not particularly visible after the beginning. They could've been more visible.</p> <p>TOTAL</p>	2	4	2	4	6	1	4