The impact of Covid-19 and its Accompanying Digital Technology Changes on the Norms, Work Practices, and Employee Experience of Small and Medium-Sized Enterprises in The Netherlands

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Business Informatics

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Abstract

The rise of the Covid-19 pandemic has changed companies, organizations, and institutions in their day-to-day activities [Def+20]. Although research suggests that organizations can often deal with rapid change, many organizations and institutions were caught unprepared. Usually, this is not a problem as it often only affects a single company. However, the pandemic affected the whole global market [Obr+20]. This study aims to provide insights and recommendations incorporating the changing norms and work practices of Small-Medium-Enterprises in The Netherlands during the Covid-19 pandemic and how these changes affected the employees' experience and well-being, with emphasis on the effect of digital technology shifts. Following a literature study, organizations from different sectors in The Netherlands were interviewed and surveyed. Managers from four organizations were interviewed and 33 eligible survey responses were gathered from employees. Results reveal that organizations were heavily affected during the pandemic and implemented a large number of tools and technologies. Participants of the interviews and survey reported an increase in efficiency and productivity due to the changing norms, work practices, and technology uptakes that took place. These changes, however, did not always improve the performance of organizations and the well-being of their employees. We conclude this thesis with recommendations on how organizations can improve their processes, as a result of the lessons learned during the pandemic. Our recommendations include proposed changes in the implementation time, the shift in communications, the streamlining of the employee's overview, and the improvement of accessibility, availability, motivation, and energy.

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Contents

1 Introduction

At the beginning of 2020, Europe was on the verge of a new crisis, as the World Health Organization (WHO) confirmed that the coronavirus caused respiratory sickness in individuals by spreading through the air [Doo+21; Soh+20]. At first, it looked like Covid-19 would temporarily run its course around the planet, temporarily slowing down the world economy, while an effective vaccine to limit its impact would be attainable within a year. Instead, the Covid crisis had an enormous impact on the world economy, which provoked policy reactions throughout the world [Vet+21], and forced most countries to adopt different and radical restrictions that affected the workplace.

Due to these policies & restrictions, employees and employers had to isolate themselves from each other. The restrictions ceased almost all social and business activities and millions of people were likely to lose their jobs if nothing changed [KG20]. This meant that companies, organizations, and institutions had to change how they performed their day-to-day activities [Def+20]. This change came in many forms. Tasks and meetings shifted from offline to online, social distance measures were implemented, and employees started working from home (WFH) [Kni+21]. Due to this, employees of organizations increased their screen time while their physical activity decreased [Bar+21]. This shift from offline to online also happened quite suddenly. Therefore, many organizations and institutions were not prepared for this kind of rapid change [SS20].

Research suggests that organizations often deal with unforeseen circumstances that lead to crises. These crises are usually the consequence of humans, organizations, or technological interactions that fail due to the shortcomings of an organization in terms of infrastructure or preparedness [Shr+98]. In such crises, only a company or part of the market is affected. However, the emergence of a pandemic crisis affects the whole market in which organizations operate. The Covid-19 pandemic is a crisis that affected markets around the world [Obr+20]. Due to this, the needs of the industry were constantly changing, and new government laws were being implemented, increasing the need for organizations to respond fast to unexpected and expected events [LW20]. At the same time, Covid-19 demonstrated the ability

of organizations to adapt to fast-changing situations [BB21; SW21], revolutionizing their work practices and organizational culture [Chu+20].

Most studies to-date investigate the effects of the pandemic on higher education and national economies [Agu+20; AA20; BQN20]. Few studies focus on the well-being and experience of employees within organizations concerning, for instance, their daily work procedures that shifted from offline to online with the help of digital technology. Further, almost no studies investigate the effect of the pandemic on Dutch organizations, which are expected to differ from – for example –their US counterparts due to the differences in culture and management.

This thesis aims to fill this gap by providing a comprehensive assessment of the effect of the pandemic and the subsequent digital technology uptake at the national level in Small-Medium-Enterprises (SMEs) in The Netherlands and to identify crucial changes in their norms and work practices, as well as on its effect on employee experience and well-being. This is formalized in the following main research question:

> **What was the effect of the pandemic on Dutch SMEs, with emphasis on technology uptake, (digital) work practices, perceived organizational and employee performance, experience, and well-being?**

To answer this question, we will conduct exploratory interviews to identify which topics reported in the literature are relevant to Dutch companies. Based on the interview results and the relevant literature, a questionnaire will be developed and distributed to more participants. The questionnaire results will help validate or adjust the preliminary interview findings more systematically.

The rest of this thesis is structured as follows: *Related Work* covers the related literature, focusing on how organizations deal with unforeseen circumstances and crisis management. Next, the related work covers pandemic measures in Europe, The Netherlands, and organizations within The Netherlands. Then, a deeper look into quantitative and qualitative studies on the impact of the pandemic on sales, perceived performance, and employee experience and well-being took place. The *Research Design* section presents the research methodology implemented in this research, including the interview and survey design. The *Results* section presents the results of the data analysis. Next, we discuss the above findings in the *Discussion & Limitations* section. Finally, the *Conclusion* section summarizes the results and provides critical conclusions.

This study's objective is to assess the impact of the digital transition on the norms and work practices of organizations, as well as how these changes affected the well-being and experience of the employees. The survey results will help organizations learn what worked during the pandemic and what did not. This will create a set of recommendations for organizations based on the assessment. As a result, this thesis contributes to the following:

- Improvement of organizational changes related to organizational routines and procedures by providing an overview of recommended change implementations.
- Improvement of organizational approaches related to remote work by providing an overview of recommended approaches to remote work.
- Improvement in how organizations can sustain their employee's well-being & experience through lessons learned from digital technology and remote work practices during the pandemic.

2 Related Work

Studies show that there has been a revolution in the work practices and culture of organizations as an implication of the pandemic [Chu+20], including social distancing measures, increased screen time, decreased physical activity, and an increase in the amount of remote work performed [Bar+21]. In the next sections, we will see how organizations tend to deal with unforeseen circumstances in general, the measures they took to deal with this pandemic, and the quantitative impact the pandemic had on organizations and their employees.

2.1 How Organizations Deal with Unforeseen Circumstances

Organizations often face unexpected circumstances. These circumstances can occur anytime and could be anything, including changes in the supply chain, changes in the demand of customers, or new technologies that make their appearance. Such unforeseen incidents could create a chaotic situation for organizations, and often leave companies and organizations in a weaker state or position in the market. These situations are often referred to as crises. A study by Drucker [Dru98] defines crises as events and periods where incidents that have a negative impact on the company occur unexpectedly. Organizations need to adapt or provide a rapid, accurate, and correct response to such a crisis. If an organization is unable to provide a response, the crisis can affect its overall operations and have unintended consequences for the future operations of a company. These consequences could be the layoff of employees, the destruction of products and/or services, or the drainage of a company's finances. For organizations, these crises are often called economic crises [Dru98].

Economic crises have a larger effect than just on the company itself. An economic crisis could, for example, damage the brand of an organization and create an unattainable financial situation. In turn, brand damage could lead to decreased trust in the company by its customers. The study of Shrivastava et al. [Shr+98] suggests that these crises are usually the consequence of humans, organizations,

or technological interactions that fail due to the shortcomings of an organization in terms of infrastructure or preparedness in an organization. On the other hand, Pearson and Clair [PC98] define a crisis as an organizational crisis that is caused by obscure events. Such an organizational crisis requires a decision that will adapt to the current situation.

Another form of an unforeseen circumstance is an operational risk. Operational risks are dependent on uncertainties and their consequences. These risks often occur during the day-to-day activities of a company, for example, trains that do not work [AL05]. A more precise definition of operational risk is given by Fantazzini et al. [FVG08] includes the direct and indirect losses caused by a malfunction of procedures, human resources, or procedural problems. Operational risks often are the cause of or coincide with crises.

In general, crises form hardships in organizations, whether they are the consequence of a person or a system. These crises impact the whole organization and often indirectly affect the broader market. Because of this, organizations need to prepare for a potential crisis. One way to prepare is to establish a crisis management team.

2.1.1 Crisis Management and Slack within Organizations

There are many ways an organization could prepare for, or deal with situations caused by a crisis. Ideally, an organization has set up a crisis management team. This crisis management team must be able to change the organization to a new situation or environment. At first, the team would have analyzed both threats and opportunities before the crisis started. In this way, an organization is aware of some of its strengths and weaknesses, and, in turn, the organization will be able to work on them. The study by Coombs [Coo21] views only actions taken during a crisis as crisis management, while researchers like Kuzmanova [Kuz16] describe crisis management as more complicated. Kuzmanova states that companies need to assimilate various activities within sub-sections of the company. This opens possibilities for the crisis management team for in-time identification of the symptoms of a crisis, which in turn overcomes or reduces the consequences of the crisis. Stanton [Sta02] suggests that crisis management teams create a communication system beforehand. This communication system can help to respond to different circumstances. This system prepares people within the organization.

Crisis management teams are not perfect and sometimes make mistakes. Kuzmanova [Kuz16] states that crisis management teams often underestimate risks that are

relevant to an inevitable crisis, slow down the decision-making during a crisis, and underestimate the damage inflicted by a crisis on different stakeholders. Another mistake researchers recognized is that crisis management teams often start working on a potential crisis after it has already spread [Ber06]. All things considered, crisis management teams have the potential to slow down or stop the spread of a crisis within a company. However, organizations must realize that there are not perfect. Therefore, the organizations' management teams must facilitate the crisis management team to the best of their knowledge while simultaneously keeping a close eye.

Another way for organizations to deal with crises is by ensuring there is "Slack" in the system. Slack could be seen as the number of resources an organization has in stock to mitigate risks. For a system or organization to run at optimal efficiency, the slack within the organization has to be the right amount. An example of slack is having an extra generator. If there is no second generator when the first one breaks down, the organization could come to a halt. To avoid this, organizations ensure there is enough stock to handle the system even in the event of a crisis [GO98; Zho11]. However, if the stocks of an organization are too large, it will hurt the flexibility. This is because if an organization has more than four generators, it has a lot of capital tied down. This will reduce cash flow and increase store costs. Therefore, it is important for organizations to maintain the right balance. A stock large enough to create slack, while simultaneously small enough to keep the flexibility within the company is desirable [NG97; PA13].

2.1.2 Management during Covid-19

As mentioned above, a crisis affects the functionality of an organization. However, the emergence of an epidemic affects the whole market in which an organization operates. Therefore, it is important for organizational management to investigate the current status of the workplace and its future evolution in the context of Covid-19 and after. Afterward, the organization's management should create an environment that enables a fast response to upcoming situations. Fast-responding organizations excel in a rapid and unified response to unexpected events by creating solutions to a variety of circumstances to reduce communication needs [BO11; BR01]. However, sometimes management will need to deal with incidents that become so complicated that regular processes are no longer adequate to perform their tasks [FX06]. If this is the case, a fast-responding organization must change and operate outside its routines. The study by Nicolini [Nic12] shows that fast-responding companies

that are able to adapt during these crises are often practice-oriented. Therefore, organizations can adapt and concentrate on work that employees do in unforeseen situations [Isa+12; LR15].

2.2 Pandemic Measures

In the first months of 2020, Covid-19 spread rapidly among various European nations. In doing so, the virus put a huge strain on the healthcare system of various countries. This strain arose due to the lack of funding, material, and human resources [DDG20; HSW20]. In turn, public health organizations urged preventative public health measures to be implemented, both nationally and internationally. The implementation of these measures in a systematic manner would help to slow down the spread of Covid-19. The main goal of the proposed measures was to decrease the pace of the virus. This way, the quality of the health care system would not suffer [Ebr+20]. However, the measures also included basic hygienic advice, such as frequent hand sanitizing and maintaining a safe social distance [Kuc+20].

2.2.1 Pandemic Measures of Europe

Although the first cases of Covid-19 in Europe appeared at the beginning of 2020, most European countries took some time before implementing the proposed measures. As it became clear to the different countries that the pandemic needed to be taken seriously, governments started to implement social isolation measures that affected everyday people and organizations [Sag+20]. Figure 1 shows the different restrictions per European country and their median number of deaths. Although western countries responded after their first death, most eastern countries responded before. Some countries restricted access through the borders and flights entering the country, while others closed their borders completely and suspended all flights [Hal+20]. Although the differences between individual nations might seem huge, the study of Primc and Slabe-Erker [PS20] suggests that there is not a single combination of the different measures to has led to the outcome of low or high fatalities related to the Covid-19 virus. This information is important if similar situations could occur in the future. To close the border or suspend flights entering and leaving the country, many governments chose to declare a state of emergency to unlock more government powers. These powers helped governments deal with

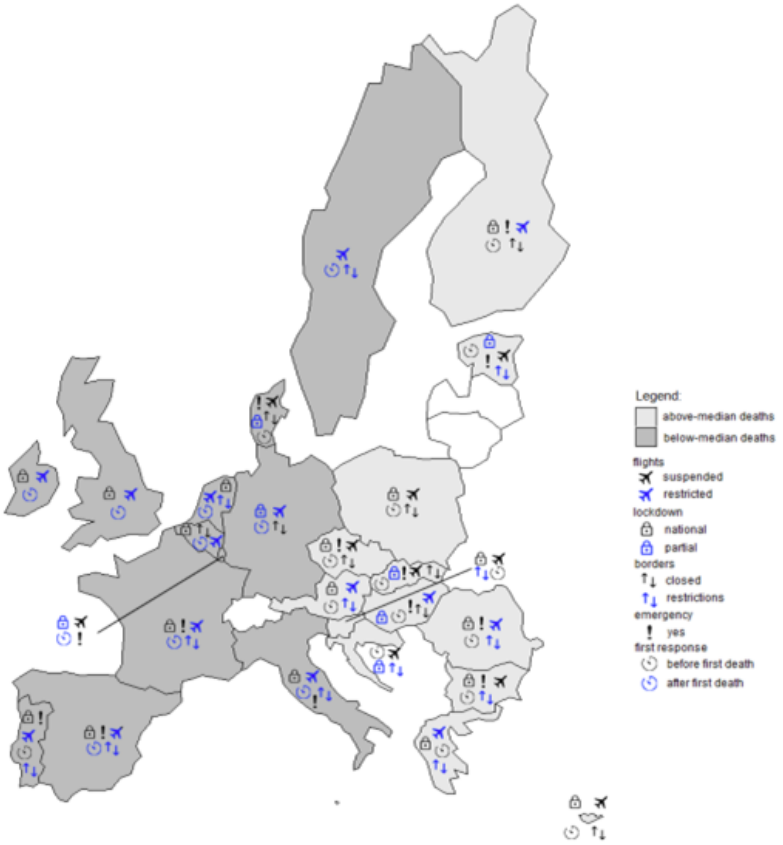


Fig. 2.1.: Covid-19 public health measures, Europe (May 2020) [PS20]

the pandemic by making it easier to implement new pandemic measures and create a fast-responding government for potential new Covid-19 variants. However, Csernatoni [Cse20] states that governments could potentially misuse this power by adopting questionable digital surveillance tools to track and trace the spread of the virus. These state-of-the-art tracking apps could lead to the harmful effect of governments misusing the technology in radical forms by creating a state-wide surveillance system that gathers more than just Covid-19 information.

2.2.2 Pandemic Measures in the Netherlands

Like the other European nations, the Covid-19 pandemic required the government of The Netherlands to intervene. The Dutch government created measures and regulations in order to relieve the nationwide healthcare system.

Fig. 2.2.: Covid-19 timeline of the Netherlands [Wee+20]

In Figure 2, the timeline of Covid-19 in the Netherlands is shown. In order to prevent the ICU from overflowing with patients, policy-making was dominated by the intelligent lockdown [Kru+20]. For businesses, the lockdown was strict. Many establishments had to close and a visitation ban was implemented. Furthermore, businesses that remained open were encouraged to work from home or keep a physical distance between the employees and customers of 1,5 meters. Finally, the government implemented economic measures for organizations that were the hardest hit by the crisis [GBB21].

All in all, governmental pandemic measures have varied between countries. Where other European countries had stricter measures at the start of the pandemic, The Netherlands implemented the intelligent lockdown. This intelligent lockdown was a combination of moderate and strict pandemic measures that relieved people during their day-to-day lives. However, the lockdown measures for organizations remained strict. Because of this, organizations had to come up with new ways to adapt to the new measures.

2.2.3 Pandemic Measures and Solutions of Organizations

As mentioned before, the unforeseen circumstances created by the Covid-19 virus resulted in substantial operational changes for employees. Because of this, businesses had to change their processes according to the new restrictions set up by the government [Chu+20]. Therefore, organizations started altering the working environment to safeguard the social distance policies, while simultaneously implementing technologies to modify existing processes.

Organizations used different digital technology measures to modify these existing processes. Some of these measures already existed within the organizations, while others were completely new [Var+21].

One of the measures an organization could implement was the usage of online video conferences. Online video conferences are meetings that take place online on a platform where multiple people could join. In this way, organizations could gather without breaking the pandemic restrictions. A study by Greenhalgh et al. [Gre+19] showed that implementing video consultations is best implemented in stages while working closely with IT support teams to quickly patch any technical procedures and settings. Although the changes during Covid-19 were rapid and larger in scale than the study described, it is best to uphold the principle of Greenhalgh et al. [Gre+19]). In order to implement technologies, such as video conferences, organizations need to take care of both the design of the technology platform and the material needed, since not all platforms offer the same amount of functionality. Different applications are developed for different organizations and businesses to implement video conferences (e.g., Microsoft Teams, Skype, and Zoom). Therefore, organizations should start with the basic and trustworthy platforms over the advanced platforms, as employees are easier to adapt to these platforms. These platforms could be implemented on various devices (e.g., laptops, computers, mobile phones) through software packages or organizational licenses. This enables employees to conduct remote consultations. An organization can also look at the software already implemented in its system when making a decision. For example, the Microsoft software package does not just provide Microsoft Word and PowerPoint, most of the time, it automatically includes Microsoft Teams. Because of this, companies do not necessarily need to invest in a new software package.

Organizational routines and workflows are also affected by the Covid-19 virus. Organizational routines and workflows are often activities that multiple different employees handle repetitively. Therefore, an organization must take measures to create new routines. Routines help employees collaborate and maintain mutual awareness while aiding in the reduction of uncertainty. Organizations can do this, for example, by making their employees book repetitive appointments with their clients on the video conference platform. Research by Wherton et al. [Whe+20] shows that implementing organizational measures could be difficult when it comes to video conference platforms [Whe+20]. Because of this, organizations should take into account that physical presence could be beneficial in specific cases [Swi+10].

Organizations can implement tool and process measures that help employees collaborate and execute routines and workflows successfully. The organization could

provide an evolved procedure that allows employees to be more efficient and make faster decisions. However, organizations could implement measures that do not require need any employee input at all. One such measure is Robotic Process Automation (RPA). Robotic Process Automation is a technology that helps organizations automate business processes and activities. RPA is a combination of software, artificial intelligence, and machine learning algorithms that try to replicate the processes and activities of employees [Aal20]. The technology produces rule-based activities and shifts the tasks from employees to software robots [WW21]. The benefits of RPA are that it cuts costs, saves time, and, most importantly, ensures business continuity during unexpected crisis events such as a pandemic. Organizations see RPA as an emerging and useful technology that could help implement new automated solutions that could be remotely and centrally managed. They think robotics prevent human error and have a higher level of consistency [Sid21].

Taking everything into consideration, starting a change within an organization requires a structured approach to ensure enough resources and support during the transition. This change could be in the form of a new system or routine. Therefore, organizations should actively engage with their IT team and employees to properly implement platforms, systems, and routines.

2.3 A Quantitative Look at the Impact of the Pandemic on Organizations and Employees

Studies and information on organizations during the Covid-19 pandemic mainly take a quantitative approach. These studies look at information through the literature or focus on the methodology of multiple case studies by collecting data from multiple organizations on a quantitative issue, such as questionnaires [Cho+20; Dwi+20]. Another way in which studies use the quantitative research method is by using surveys to gather data in a suitable manner [AA21].

Generally, most quantitative research studies rely either on previous literature data or questionnaires developed by the involved researchers [Ala20; Elt+21; HPV21; Zai22]. The results of both the literature reviews and questionnaires often correlate with the negative effect of Covid-19 on organizations. This negative effect affects sales and, in turn, affects organizational performance. One of the most important reasons for this impact is a change in customer behavior, as many customers are no longer physically able to go to organizations. This behavior weakened the environment in which organizations operate, creating challenges. These challenges

then led to a drop in customer purchasing behavior. This negative effect also affected customer behavior in E-businesses as we can see in a study done by Hasanat et al. [Has+20] in Malaysia. In the study, e-business organizations were hit as the buying power of customers decreased due to the consequences of the pandemic. However, a study done by Purba et al. [Pur+21] showed that digital marketing and E-business have a significant positive effect on the sustainability of a business. As the pandemic has changed organizations in many ways, the uncertainty created during Covid-19 resulted in an expected decrease in sales. Therefore, many organizations during the pandemic turned to electronic commerce to combat the lack of sales.

Besides performance and sales, the pandemic impacted the work-life of employees working for the organizations. This abrupt change in working conditions caught many employees off guard. Most employees were obligated to work from home, while simultaneously taking care of their home life. A study by Syrek et al. [Syr+22] showed that employees initially struggled to develop new routines. A study by Diab-Bahman and Al-Enzi [DA20] in Kuwait surveyed 192 employees on how the government and company lockdown measures impacted their personal well-being. The study compared the old work practices with the new work practices. Most employees thought that the old work practices needed to be changed, however, half of them questioned the efficiency of the new system. Although not completely satisfied with the old or new work practices, a hybrid between the two work practices did improve the employee's well-being and efficiency.

The study of Oakman et al. [Oak+20] states that the impact on the employee's physical and mental well-being varies considerably [De +21]. However, the study suggests that it is the beneficiary and the responsibility of the employer to take care of the employees' well-being by creating better working conditions. One way an organization could improve working conditions is through regular communication between employers and their employees. Regular communication prevents the feeling of isolation that employees often experience during the pandemic. Next to this, employers should take into consideration the financial impact of working at home. The pandemic required telework and required employees to use their own resources to cope with demands at work and at home. Due to this, organizations must understand the importance of organizational support and guidelines [Syr+22].

All in all, a lot of quantitative research has been done to understand the Covid-19 pandemic. As the pandemic disrupted customers' buying behavior, many organizations turned to online business to combat their drop in sales. Next to this, the work-life of employees were impacted since many had to work from home. A comparison between the old and new work practices showed that neither practice was

perfect. Therefore, organizations should take these changes into account and improve the working condition of employees through regular communication. Finally, organizations should also consider compensating their employees financially to help them cope with work and personal demands.

2.4 A Qualitative Look at the Impact of the Pandemic on Organizations and Employees and Lessons Learned from Other Industries.

Let us take a look at the qualitative research into the Covid-19 pandemic. Up to this point, most of the research on the pandemic has been quantitative in nature. However, qualitative research methods have been used and come in various forms. Therefore, we will go over the different research methods while simultaneously looking at qualitative insights into day-to-day activities and the well-being of employees.

The most common qualitative research method is in the form of semi-structured interviews. This type of research was used in a study by Jallow et al. [JRS21]. In the study, three different organizations from the infrastructure sector were interviewed. In this way, the authors could focus on adhering to the Covid-19 lockdown measures of each organization while comparing the difference in performance. During the interviews, Jallow et al. [JRS21] looked at the day-to-day activities of the different organizations. From planning to implementation, the management team organization significantly impacts the day-to-day activities. This means that when the lockdown measures were implemented, it became difficult for the management team to keep their impact. Because of this, employers did not know how to properly lead their employees. To solve this problem, Jallow et al. [JRS21] suggested using technological tools. They postulate that by implementing a technological tool, such as a video conferencing platform, the management will be able to keep in regular contact with their team. This regular communication should help the management team influence daily activities.

A study by Murphy et al. [Mur+21] showed that technological tools are not always the right solution. The reason is that not all employees have access to reliable internet and technological services. Because of this, employees will provide many services over the phone, making them feel overwhelmed. Besides, many employees did not have an unlimited telephone or data plan. The combination of these

limitations makes technological tools or working from home not always a suitable option. To solve these limitations, an organization needs to focus on the right areas. A study done by Wherton et al. [Whe+20] describes three focus areas when it comes to the Covid-19 pandemic: IT infrastructure, organizational routines and workflows, and interactional work of video consultation. The findings show that the transformation to new technologies is more than just installing and using new technologies. Therefore, organizations should provide guidance and support when it comes to the use of technological tools. In return, the organization will benefit by keeping its work processes and performances afloat. To guide and support employees, organizations should view how employees adopt new technologies. A study by Kateb et al. [Kat+22] studied the digital adaption of different processes during the pandemic. They concluded that organizations obtain a diverse set of outcomes depending on how they approached their processes and day-to-day activities. Employees either accepted the new digital technology as a new way of working, used the technology as an addition to the existing system, or resisted the widespread adoption of the technology. The latter confining the technology to a temporary workaround. A possible solution proposed was the empirically based model of Nilsen et al. [Nil+16] to provide organizations with a better insight into the rejection of the new processes. The model helps organizations categorize and track resistance over time. By implementing a co-creation process to adopt the new technology organizations could improve their organizational translation of the technology with their employees.

Another qualitative research method is the application of a narrative review approach. A study by Azizi et al. [Azi+21] used this method when looking at organizations' human resource management strategies to combat the Covid-19 pandemic. In the study, 15 articles were used to develop a conceptual framework of human resource management strategies. The results showed that the pandemic had a number of negative outcomes, including a worldwide health crisis, organizational problems in continuing corporate operations, and a decrease in employee well-being. The study concluded that implementing suitable human resource management practices would improve the well-being of the employee, as well as their productivity and motivation.

2.5 Related Work Summary and Research Questions

The related work offers us insight into the effect of the Covid-19 pandemic on organizations, illustrating that the changes in the demand of customers and the use

of new digital tools and technologies created both challenges and opportunities. These changes, combined with an economic crisis resulting from the pandemic, negatively impacted organizations, resulting in the layoff of employees and the drainage of the company's resources. Because of this, organizations needed to prepare for a potential crisis. A potential solution could be the implementation of a crisis management team. A crisis management team is not perfect, but it can slow down or stop the spread of a crisis within an organization. Therefore, management teams should support and facilitate crisis management teams before, during, and after a crisis. Organizations could do this by creating an environment that supports fast response. Fast-responding organizations excel in rapid reactions to unexpected events and reduce the need for communication.

The pandemic response measures varied across the globe. In Europe, the virus greatly strained the healthcare system due to a lack of funding, material, and human resources. Many countries closed their border and declared a state of emergency. The state of emergency made it easier for governments to implement social isolation measures. In the Netherlands, the Dutch government implemented such measures and regulations. The creation of an intelligent lockdown was strict for organizations but less strict for the general public. Organizations that remained active were encouraged to work remotely or ensure the maintenance of a physical distance. Because of this, organizations had to develop new ways to adapt to the measures and regulations. Organizations started by altering their working environment to safeguard the social distancing, and implemented new tools and technologies, such as video and online meetings. Routines and workflows were also affected by the pandemic. Therefore, organizations created new routines to support collaboration and communication between employees. Organizations needed to create a structured approach to facilitate the transition to ensure that employees have enough support and resources.

Research shows that both quantitative and qualitative studies look into the impact of the pandemic on organizations. However, most studies up to this point have primarily charted the development of higher education institutions from offline to online work practices in terms of quality and performance. Although plagued with the same problems, organizations like SMEs have been underrepresented and have often only been looked at only quantitatively by the literature.

This does not mean that qualitative research on the impact of the pandemic on organizations does not exist. However, these studies generally focus on a particular sector of an organization instead of looking at differences and similarities between multiple sectors. Studies also center themselves around the performance of an

organization rather than the employee's well-being. Due to this, it is not yet clear how these offline-to-online transitions have impacted organizations in different sectors and the experience and well-being of their employees. These are essential aspects to examine, especially given that organizations could wholly or partly transition back from online to offline.

2.5.1 Research Questions

The goal of this thesis is to investigate the effect of the pandemic and its accompanying changes in the use of digital technology at the national level across Small-Medium-Enterprises (SMEs) in the Netherlands and to identify crucial changes in their norms, work practices, and employee experience. This is formalized in the following main research question:

> **What was the effect of the pandemic on Dutch SMEs, with emphasis on technology uptake, (digital) work practices, perceived organizational and employee performance, experience, and well-being?**

To answer this main research question, the problem of the study has been broken down into the following sub-questions:

- RQ1: How have organizations adapted their **norms and work practices, as well as their use of digital tools and technologies** under the Covid-19 pandemic in their respective contexts?

This sub-question aims to investigate what norms and work practices changed for organizations in their respective contexts. The respective contexts refer to the business environment the organizations are situated in. The context of an organization includes the environment determined by external factors such as governance and resource capabilities, as well as the environment determined by internal factors such as cultural and social. This will be done by looking at the norms the organization changed to comply with the new government policies and how they adapted their work practices. The literature will be used to determine how it affected employees' day-to-day lives. The findings of the literature study are evaluated during the case studies.

- RQ2: What was the impact of changing organizational norms and work practices, as well as the digital tools and technologies adopted during the pandemic, on the **organizations' work practices, efficiency, and performance**?

In this sub-question, we will investigate the effect of the changing norms and work practices, as well as the changes in the use of digital tools and technologies, on the organizational working norms, practices, and performance. To answer this question, case studies will be conducted with multiple companies. Through interviews, managers are questioned about how their organization changed in terms of performance, efficiency, overview, and communication. The interview will include questions to see if the pandemic impacted the organizations alone or a combination of the pandemic and the new norms and work practices.

- RQ3: What was the impact of changing organizational norms and work practices, as well as the digital tools and technologies adopted during the pandemic, on the **employees' experience and well-being**?

Based on the findings during the interviews in the second sub-question and a questionnaire-based survey, we will investigate the effect of the changing norms and work practices, as well as digital tools and technologies on the well-being and experience of the employee positively or negatively. The outcome of this research question will be a list of employee experiences that affect the assessment and a list of recommendations.

- RQ4: Based on their so-far experience, what is the **plan** of the organizations **concerning the return to pre-pandemic** tools, technologies, norms, and work practices, fully or partly?

During interviews, the organizations will be asked which norms and practices they will keep applying in the organization. This will be in terms of keeping the company running smoothly while taking into account the employees' well-being. The context is based on a post-pandemic environment. The outcome of this research question is a list of norms and work practices applied by the different organizations studied and whether they fully or partly plan to keep using them.

3 Research Design

To address the research questions, a mixed-method approach will be used.

Following the preliminary literature that we have already conducted and presented in the previous section, a detailed review of the literature was performed as follows. We started by searching for relevant articles using keywords. The literature review continued using an extensive systematic literature review according to the snowballing method. Subsequently, a practical screening of the articles found was performed to determine their relevance. The results helped to set up a question framework that guided the semi-structured interview and survey design.

Next, the perspective of managers and employees of organizations within the Netherlands was investigated using qualitative and quantitative approaches. The qualitative part included semi-structured interviews with managers of various industries. The first part of the interview consisted of questions about the effect Covid-19 had on business norms and work practices and whether changes affecting these practices had to be implemented. The results of the literature review helped to set up a framework of questions for the interviews. For the quantitative part of the study, a questionnaire-based survey was used. This survey was sent to the employees of the organizations. The survey asked questions about the employee's experience and well-being, and their attitude during changes in the norms and work practices that occurred within the organization. The survey took place synchronously within each company to ensure higher consistency within the answers.

3.1 Literature Research Design

The related work in this thesis aims at summarizing all the information related to and about the topic of the study. To collect and summarize the correct literature accurately, two methods were combined using the Greenhalgh and Peacock approach [GP05]. The first method is the use of a systematic literature review approach. The systematic literature review approach follows the Kitchenham set guidelines [KC07]. This method uses a combination of planning, conducting, and reporting a review. The second method used is the snowballing method proposed by Wohlin [Woh14].

Here, one starts with a literature search, identifies a tentative starting set of papers, and uses the reference list to find a new set of papers to include in the literature review. This process iterates until no new papers are found. Afterward, all the papers were inspected and approved by their title, keywords, abstract, introduction, and conclusion. Additional sections of the articles were examined when necessary.

During the literature research, the following keywords were used: Covid-19, organization, work practices, worker well-being, remote work, work norms, employee well-being, and digital technology to name the most important ones. The search terms include "Organizations and the pandemic", "Digital technology during the pandemic", and "Organization work norms and practices during the pandemic".

The exclusion criteria during the literature research depend on the topic. When talking about the pandemic, citations of studies before 2020 were excluded. For some topics, such as restrictions and measures within Europe and the Netherlands, only references with the geographic location of the topic were used unless the other location served to make a comparison. Finally, to include the reference, it needed to be present in the Google Scholar database.

3.2 Interview Design

The interviews in this study are exploratory in nature since they aim to understand the fields in which organizations operate. Next to this, the interviews identify design opportunities for the surveys. Because of this, interviews should provide information on the process of change in the day-to-day activities of employees within an organization and the support of digital technology in that process.

3.2.1 Participants

The participants in the interviews came from various organizations in the Netherlands and with various job titles. Therefore, the target audience for both the interview and the survey had to be determined. For the interviews, the target audience was the managers who had a broad knowledge of the company and its work practices. Because of this, the participants of the interviews came with job positions such as Application Manager, Information Manager, Operations Manager, or Director. In total, four participants were interviewed, each working at a different organization.

For the interviews, a combination of Convenience and Purposive sampling was used to select Small and Medium-sized Enterprises within the Netherlands. First, the researcher used convenience sampling to provide a variety of organizations that can provide valuable information while taking into account the accessibility of the researcher. Then, Purposive sampling was used to target organizations and participants that have a specific connection to the research topic from different sectors. This combination allowed research to present a comprehensive and representative collection of SMEs in the Netherlands that have implemented some form of digital technology during the pandemic, have a manager who was available and willing to participate in an interview, and had enough employees to validate a survey.

These organizations were recruited by email, phone calls, and the personal network of the author. For each case study, an individual interview will be conducted with one of the managers in the firm. Four interviews were planned to retrieve all information necessary. After four interviews, most of the information retrieved was considered to be in the saturation stage, which is one of the stopping criteria of Wohlin et al. [Woh+14].

Before the interview, the participating organizations and managers were asked for their consent. This was done via an information sheet and a consent form that included the purpose of the study, interview duration, possible risks, potential benefits, and confidentiality information. The information sheet and consent form also explained the rights of the participants during the study and who they could contact in case of questions.

3.2.2 Interview Method

To define the interview method multiple approaches, such as the work of Gavrilova and Andreeva [GA12], were taken into account since an interview with a manager could be considered an expert analyst interview. In this research, the method of semi-structured interviews as proposed by Wohlin et al. [Woh+14] is used. Semi-structured interviews have a general outline, however, there is room for the interviewer to go more in-depth into comments and points made during the interview. This means that some interview questions were prepared beforehand but could change with the flow of the conversation. This allows for flexibility and adaptability in the conversation with a participant as it allows the interviewer to delve deeper into comments about a complex topic. Because the interviewer is not mandated to a strict pre-determined script it allows for a natural conversational flow. The natural conversational flow makes participants feel more comfortable

and motivates them to give more thorough and in-depth answers. The questions prepared before the interviews served as a sort of checklist of topics to be covered during an interview. Therefore, the interviewer was equipped with an interview guide. This guide helped the interviewer organize the interview session with the participant and consisted of a list of topics and questions to which the interviewer can steer. Figure 3.2 shows the interview guide that was used.

Before the interviews, the researcher sent out information sheets that include all the ethics procedures that were to be followed during the interview and data analysis. Participants were asked to fill out a consent form stating that they understand the information given. Before the interview started, the interviewer asked the participant for permission to record. The interviews were recorded using both a smartphone and the Teams video conferencing tool. In total, the interview lasted approximately 60 minutes.

During the interviews, the topics focused on the personal experiences of the managers during the pandemic at the organization. In the beginning, the interviewer introduced himself and explained the purpose of the interview and the research. In this way, the participant is aware of the goal and is more likely to participate. Each interview was divided into four sections. The topics discussed during the interview were in accordance with the four research questions established above.

The topics of the semi-structured interview questions revolved around:

- The adaptations of norms and work practices, as well as the use of digital tools and technologies under the Covid-19 pandemic;
- The changing organizational norms and work practices, as well as the digital tools and technologies adopted during the pandemic on the organizations' work practices, efficiency, and performance;
- The impact of the changing organizational norms and work practices, as well as the digital tools and technologies adopted during the pandemic, on the employees' experience and well-being;
- The plans concerning the return of pre-pandemic tools, technologies, norms, and work practices.

The first topic discussed the work practices and norms in general as well as the implemented digital technologies and platforms during the pandemic. This way, the interviewer tried to get a good and short overview of the implementations. It was important for the interviewer to get information about the additional and changed use of existing technology. Secondly, the interviewer asked how these changing

Interview Questions

Intro (5 minutes) – a brief explanation of the interview process by the researcher.

Part 1: General questions about your organization (5-10 minutes)

1. What kind of activities is your organization involved in?
2. In which sector is the organization active?
3. What is the sector-oriented on physical work and meetings or online?

Part 2: Rules imposed and changes implemented in the organization as a result of the pandemic (10-15 minutes)

1. What rules and restrictions were imposed on the organization at a national level (e.g. RIVM, government, etc.)?
2. What rules and restrictions were posed on the organization as a result of the sector's specificities?
3. What changes were made to norms and work practices on an organizational level in order to comply with the new rules and restrictions?
4. What measures, technologies, and platforms were implemented?

Break – 5 minutes

Part 3: Impact on employee performance (10 minutes)

1. How, in your opinion, was the performance of the employees impacted as a result of implementing these measures? (*In terms of, for example, how projects are run, communication, and business processes)*

Part 4: Impact on employee activities, experience, and well-being (10 minutes)

1. Which day-to-day activities changed for the employees, and how?
2. Specifically concerning the technological changes, how did these changes impact the activities of the employees?
3. How did the new measures impact the experience and well-being of the employees?
4. How was the physical attendance impacted by the new measures? How did this affect, in your opinion, the employees' experience and well-being?

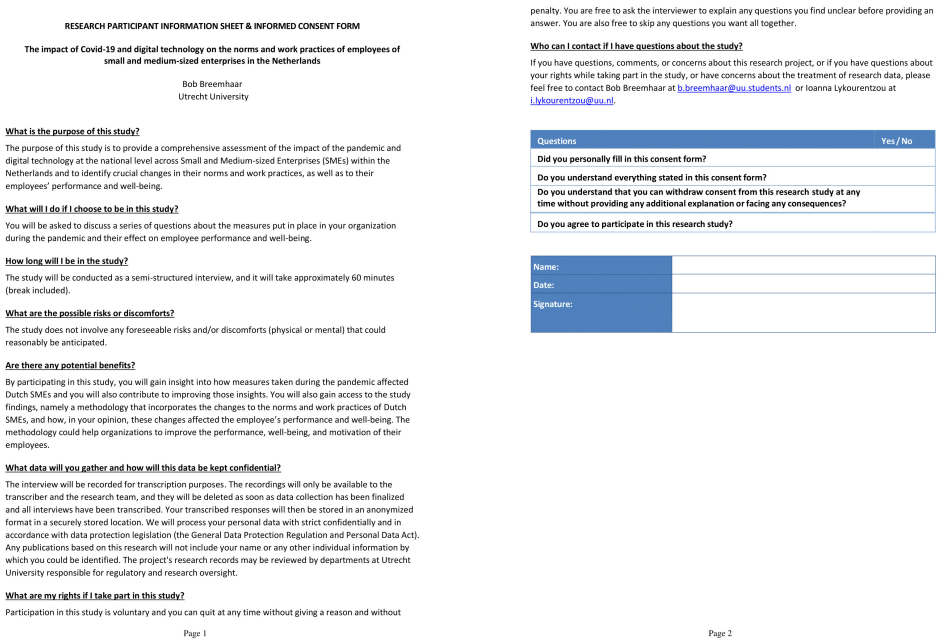
Part 5: Reflection and future perspective (10 minutes)

1. Which of the new measures (processes, activities, technologies, etc.) should in your opinion be kept, and which ones should be reverted to the ones pre-pandemic?
    a. For example, do you prefer, the physical attendance of employees or working from home, and why?
2. What are the future plans of your organization in terms of planning and implementing new processes, systems, etc. post-pandemic?

Part 6: Other comments

Fig. 3.1.: Interview Guide with a list of questions for the interviewer to steer towards.

organizational norms and work practices in combination with the digital tools and technologies affected the work practices, in terms of efficiency and performance.



RESEARCH PARTICIPANT INFORMATION SHEET & INFORMED CONSENT FORM

The impact of Covid-19 and digital technology on the norms and work practices of employees of small and medium-sized enterprises in the Netherlands

Bob Breemhaar
Utrecht University

What is the purpose of this study?

The purpose of this study is to provide a comprehensive assessment of the impact of the pandemic and digital technology at the national level across Small and Medium-sized Enterprises (SMEs) within the Netherlands and to identify crucial changes in their norms and work practices, as well as to their employees' performance and well-being.

What will I do if I choose to be in this study?

You will be asked to discuss a series of questions about the measures put in place in your organization during the pandemic and their effect on employee performance and well-being.

How long will I be in the study?

The study will be conducted as a semi-structured interview, and it will take approximately 60 minutes (break included).

What are the possible risks or discomforts?

The study does not involve any foreseeable risks and/or discomforts (physical or mental) that could reasonably be anticipated.

Are there any potential benefits?

By participating in this study, you will gain insight into how measures taken during the pandemic affected Dutch SMEs and you will also contribute to improving those insights. You will also gain access to the study findings, namely a methodology that incorporates the changes to the norms and work practices of Dutch SMEs, and how, in your opinion, these changes affected the employee's performance and well-being. The methodology could help organizations to improve the performance, well-being, and motivation of their employees.

What data will you gather and how will this data be kept confidential?

The interview will be recorded for transcription purposes. The recordings will only be available to the transcriber and the research team, and they will be deleted as soon as data collection has been finalized and all interviews have been transcribed. Your transcribed responses will then be stored in an anonymized format in a securely stored location. We will process your personal data with strict confidentially and in accordance with data protection legislation (the General Data Protection Regulation and Personal Data Act). Any publications based on this research will not include your name or any other individual information by which you could be identified. The project's research records may be reviewed by departments at Utrecht University responsible for regulatory and research oversight.

What are my rights if I take part in this study?

Participation in this study is voluntary and you can quit at any time without giving a reason and without

Page 1

penalty. You are free to ask the interviewer to explain any questions you find unclear before providing an answer. You are also free to skip any questions you want all together.

Who can I contact if I have questions about the study?

If you have questions, comments, or concerns about this research project, or if you have questions about your rights while taking part in the study, or have concerns about the treatment of research data, please feel free to contact Bob Breemhaar at b.breemhaar@uu.students.nl or Ioanna Lykourentzou at i.lykourentzou@uu.nl.

Questions	Yes / No
Did you personally fill in this consent form?	
Do you understand everything stated in this consent form?	
Do you understand that you can withdraw consent from this research study at any time without providing any additional explanation or facing any consequences?	
Do you agree to participate in this research study?	

Name:	
Date:	
Signature:	

Page 2

Fig. 3.2.: Informed Consent Information Sheet that participants need to read and fill in before the interview.

The interviewer then asked the participants what impact this had on the experience, perceived performance, and well-being of the employees. Finally, participants were asked what they think the organization's future plan will be, in terms of going back to the old day-to-day norms and work practices or sticking with the new changes and implementations. Once these topics were discussed, the interviewer concluded by making a summary of the discussion. Subsequently, the participant was invited to ask questions or make remarks to prevent miscommunication and increase their understanding of the research.

3.2.3 Data Analysis

The researcher transcribed all interviews by hand. These transcriptions served as the foundation of the rest of the research. Since the participants and interviewer were of Dutch origin, all interviews were held in Dutch. Therefore, the transcriptions are in Dutch as well.

Based on the audio and transcript of the interviews, the researcher created a list of quotes and statements from the participants relevant to the topic. The gathered quotes were subsequently organized in order to create a structured dataset, which would make it usable for data analysis.

To structure and organize the data, quotes, and statements, the Design Thinking approach was used. Design Thinking is a creative approach that breaks problems down into smaller parts, iterative testing, and creating solutions. One way to structure the quotes and statements of the participants using design thinking is to use a visual tool such as a Miro board. Miro is a digital tool that allows its users to create virtual whiteboards. The Miro board permitted visualizing, grouping, and organizing the managers' quotes and statements into emerging themes and topics. Through this visualization of themes and topics, the researcher was able to see how different participants related to the same themes and topics. This helped the researcher to identify key insights, trends, and patterns, following the Insight Combination technique [Kol10]. Insight combination involves taking multiple quotes and statements and combining them in new ways to discover patterns and insights that might not have been found otherwise. The technique was used to determine patterns to emerge per research question.

The first step was to create a Miro board. Each statement said by the participant was written on a separate post-it note and grouped together based on company, quote, concluding statement, and tool. Each organization was given a color code to distinguish the different organizations.

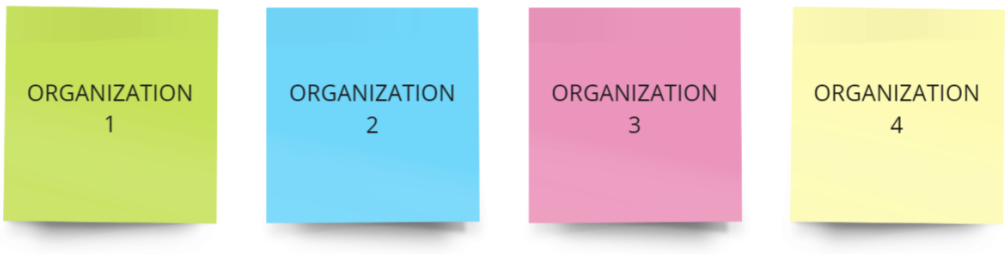


Fig. 3.3.: The color code of each organization.

Step two was the grouping of these statements on the basis of patterns. To start with, each of the statements was grouped into topics based on the sub-questions of the research paper. During the grouping of the statements into topics, all statements were analyzed with the use of a bottom-up approach to see if any patterns could be identified. The statements of an organization were interpreted and matched separately with the statements of other organizations that seemed to refer to the same topic or indicate a pattern. When all statements had been reviewed, each topic had at least three main patterns that are discussed in the results.

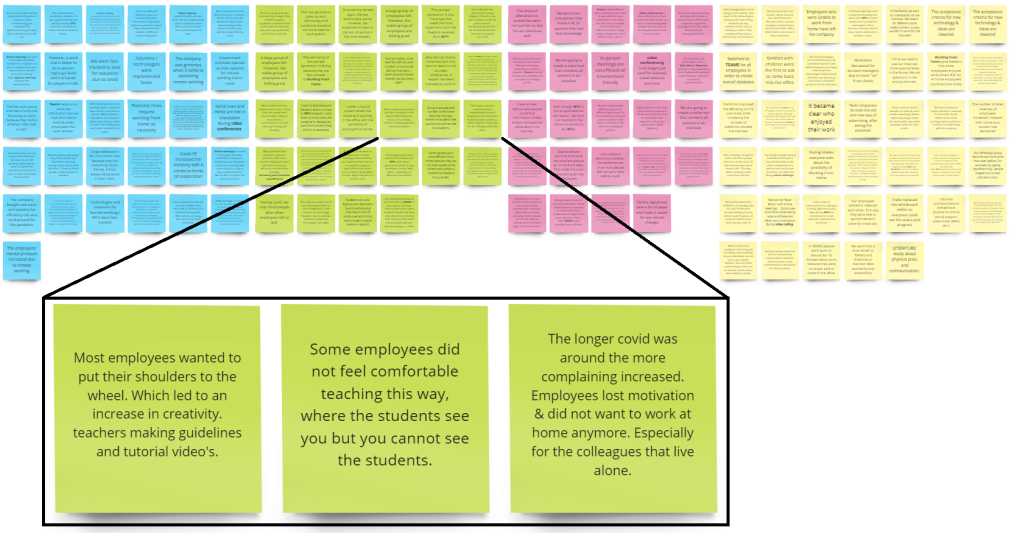


Fig. 3.4.: Step 1: Creation of post-its in Miro with all quotes and statements of participants. Each color represents a different participant.

3.3 Survey Design

A questionnaire-based survey was created using the online platform Qualtrics. The questionnaire-based survey method started as a tool for social and economic matters, but quickly spread across different research fields [SC89]. The length and duration of the survey have been taken into account during the development process. A study by Crawford et al. [CCL01] concluded that it is important to keep the completion time of a survey below ten minutes. The reason for this is that the response rate of surveys above a ten-minute completion time tends to be lower than surveys with a lower completion time.

During the preparation of the survey, the questions were based on the results and findings of the interviews. The rest of the questions were a combination of the author's knowledge and the related work. Once the survey was sent out it would no longer be possible to make adaptions. Therefore, it was important to ensure that the survey was well-prepared. In the survey, the majority of the questionnaire was based on closed-ended multiple-choice questions. However, there are some open-ended questions where participants could express specific experiences or thoughts. The survey questions were the same for all participants, across the four organizations.

3.3.1 Participants

The participants of the survey came from the interviewed organizations. The participants are employees within these organizations with various job titles. The target audience was the employees who have experienced changing norms and work practices, as well as the use of digital tools and technologies adopted during the pandemic.

In order to select the participants for the survey, convenience and purposive sampling were used. The reason for this is that convenience sampling helps the researcher select participants based on their accessibility and availability. Since the researcher already had contact with the organization during the interview the employees that work for the organization were the most accessible for the researcher. Purposive sampling was used in order to enable the researcher to select participants for specific criteria. In this case, the criteria were the employees who experienced changing norms and work practices as well as the use of digital tools and technologies adopted during the pandemic. This way, the researcher was able to gather more detailed and pertinent information.

The participants were recruited via e-mail, phone calls, and the personal network of the interviewed participants. A minimum requirement of 30 participants was foreseen for the survey to facilitate its subsequent statistical analysis. Before starting the survey, participating employees were asked to read an information page. This information page included the purpose of the study, survey duration, possible risks, potential benefits, and confidentiality. The information also explained the participants' rights during the study and who they could contact in case of questions. After reading the information, participants were asked about their understanding and consent.

3.3.2 Survey Questions

The survey questions were created on the Qualtrics platform. The majority of the questions were Likert scale-based questions. The Likert scale is a method that is used to measure the attitudes and opinions of participants by asking them to indicate their level of disagreement or agreement with a given statement. The Likert scale typically ranges from ”Strongly agree” to ”Strongly disagree”, with multiple in-between options (agree, disagree, and neither agree nor disagree). Each participant's response was given a numerical value on a scale from 1 to 7, where 1 equals ”Strongly disagree” and 7 ”Strongly agree”. This numerical value allows the

gathering of data of adequate granularity to facilitate subsequent statistical analysis. In the survey, only the questions with relevance to all employees were put in as some employees might not have the data and overview the interviewed managers have. An example of this is the hiring process. Employees were asked about what they would do if they would switch jobs, but not about how they would hire new employees.

The first question of the survey was a demographic multiple choice question asking the age range of the participant in groups of 10 years. The survey was broken into five different sections. Each section represented the same topic order as the interview. Therefore, the sections and topics represented the questions of the research paper. The participants were asked how much they agree with the patterns found by the researcher during the interview.

After the age range demographic question, the first section was about the adaptations of norms and work practices as well as the use of tools and technologies during the Covid-19 pandemic. Participants were asked how much they agreed with the change in informal communication, the loss of social cues during video conferences, and tools and technologies that changed the accessibility and availability of information. The next section was about how the change in the norms and work practices, and tools and technologies adopted during the pandemic affected efficiency, work practices, and performance. Here, questions about the efficiency and productivity of working from home were asked as to whether the participants were able to give more input during the pandemic. After this section, the participants were asked about the impact of these changes on their experience and well-being. These included questions about their motivation, energy, and whether their work became more monotone. The last part of the survey concerned the plans for a possible return to pre-pandemic tools, technologies, and work practices. The participants were asked their opinion about the possibility of maintaining working from home and whether the tools and technologies adopted during the pandemic should stay. The survey consisted of a total of 24 questions, illustrated in Figure 3.5. The question labels are used to refer to individual questions during the research and statistical tests.

3.3.3 Data Analysis

The researcher made use of the IBM SPSS statistical analysis software to analyze the Likert-scale data of the questionnaires. An Analysis of Variance (ANOVA) was used to examine whether any statistically significant differences could be found based on the age group of the participants belonged to. T-tests were used to compare the

Section	Question	Question Label
	How old are you?	Q1
Changes in Organisational Norms, Work Practices, and Digital Tool Use	My informal communication (e.g., small talk) with my colleagues shifted to online tools (e.g. WhatsApp, Teams).	Q2.1
	In my opinion, some social cues were lost during video conferences and online meetings compared to face-to-face meetings.	Q2.2
	I noticed that our work meetings became more to-the-point when using online tools compared to face-to-face meetings pre-pandemic.	Q2.3
	I think that new tools and technologies improved the accessibility and availability of information between my co-workers and clients.	Q2.4
	If I were to change jobs, I would emphasize the possibility of working from home compared to pre-pandemic.	Q2.5
Impact of Changes in Organisational Norms, Work Practices, and Digital Tool Use	I think that online meetings improved efficiency by saving (travel) time.	Q3.1
	Working remotely or from home increased my productivity and efficiency.	Q3.2
	Some processes became more sustainable and environmentally friendly, such as signing contracts, parcels, and decreasing commutes.	Q3.3
	Within the company, we shared information more and used a more focused toolset for sharing this information	Q3.4
	During the pandemic, I was able to give more input (for example in terms of solutions, tools to use, or ways to work) and became more creative.	Q3.5
	Due to the variety of implemented tools and technologies, keeping track of statuses and important work information was not always easy.	Q3.6
Impact of Changes in Organisational Norms, Work Practices, and Digital Tool Use on Employee Well-Being	Working remotely or from home gave me more freedom and flexibility.	Q4.1
	Working remotely or from home affected my mental health negatively.	Q4.2
	During video conferences & online meetings, I had the feeling that I was constantly watched.	Q4.3
	I was able to give more input during online meetings, where I may have felt out if the meeting was held in person.	Q4.4
	When working remotely or from home I felt the pressure to be constantly available.	Q4.5
	The implementation of tools and technologies made my work duller and more routine.	Q4.6
	I got less energy from my work as a result of working remotely.	Q4.7
	My motivation declined during the pandemic towards work.	Q4.8
	I found it easy to adapt to the new tools and technologies used/introduced by my company during the pandemic.	Q4.9
Future Plans Regarding Organisational Norms, Work Practices, and Digital Tool Use	I think that we should keep the possibility of working from home.	Q5.1
	I think that the tools and technologies implemented during the pandemic should stay.	Q5.2
	In the future, we should use the technologies that we started working with during the pandemic more appropriately.	Q5.3
	In the future, I think the company should introduce new tools that could benefit both the company and the employees.	Q5.4

Fig. 3.5.: List of all survey questions.

participant's answers to a hypothetical population mean of 4 on a Likert scale of 7, corresponding to the neutral ("Neither agree nor disagree") answer. Two-tailed tests were used. The p-value to establish a statistically significant difference was determined to be equal to .05, and the confidence interval equal to 95%.

4 Results

In this section, we present the results of our analysis structured as follows. We foresee one section per research question. Following the pattern discovery analysis, patterns have been grouped together in subsections based on the similarity of what they relate to. Each pattern is accompanied by a list of statements that contains one or more statements made by the interview participants. Next to this, the patterns found during the interviews are accompanied by the results of the survey in the form of descriptive analysis and statistical tests.

In total four participants were interviewed and a total of 42 responses were collected from all eligible employees during the survey. Of these 42 responses, 33 were correctly filled in. The largest response group was between the age of 35 and 44 years old, while there were no participants under the age of 18 or over the age of 65, see Figure 4.1. The detailed results from the descriptive analysis and statistical tests are presented in the Appendix.

The ANOVA tests did not return any significant differences (Figure A.5). Therefore, the patterns found during the interviews are accompanied by the results of the t-Tests, if applicable.

4.1 RQ1: Changes in Organisational Norms, Work Practices, and Digital Tool Use

The shift to digital tools during the Covid-19 pandemic impacted each organization's norms and work practices. The new tools and technologies that were implemented varied per organization. All of the organizations interviewed implemented video conferencing and digital signature tools. However, some implemented additional tools to streamline specific processes.

Since organization 1 is in the education sector, tools for taking exams online and improving their student learning environment were implemented. Organization 2 is in the consultancy sector and implemented, besides video conferencing, tools to keep track of hiring intakes and webinars to keep in touch with potential business partners.

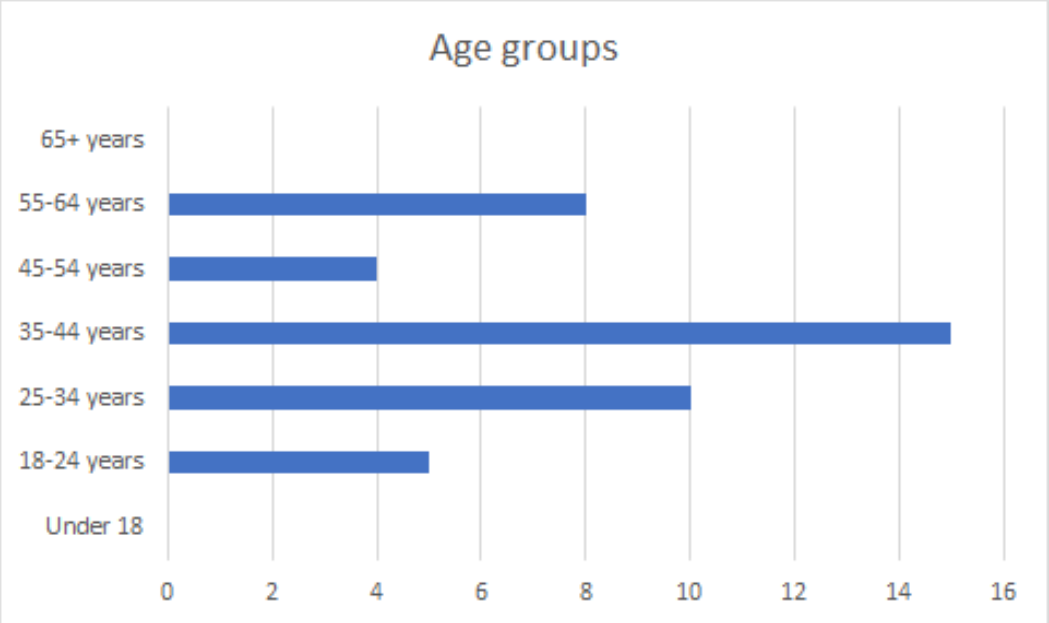


Fig. 4.1.: Number of participants per age group.

Organization 3 is in the marketing sector and therefore uses virtual whiteboards and other social media tools to stay in touch with potential clients and their audience. Finally, organization 4 is in the private real estate sector, therefore it uses niche tools for relation, facility, and estate management.

The findings show that even though the organizations are in different sectors, they still have a lot of similar views and implementation. These patterns include communicating changes, how the organizations implemented new technologies, the improvement of accessibility and availability, and the changes in hiring. We will go through these one by one, in the subsections that follow.

4.1.1 Shifts and Changes in Business Communication

Within multiple organizations, a shift in communication happened due to meetings and other activities going from offline to online.

These digital meetings changed and replaced the way organizations communicated and therefore impacted informal communication between co-workers (e.g. small talk). Before Covid-19, people used to engage in small talk and social interactions in common office spaces (water-cooler effect). Now, co-workers started to use the newly implemented digital meeting tools to keep up to date on each other's lives

[Lee13]. Especially at the start of the pandemic, digital meeting tools were used to see each other for small talk quickly. The survey results indicate a smaller impact of this change on older employees (see Figure A.6), however, this result was not statistically significant.

> **Organization 1:** "*When covid started, we implemented Teams. At the start, we mainly used internal video calling to have informal conversations, see each other, get a feeling, and bonding.*"
>
> **Organization 2:** "*A lot of the informal communication went online. Where normally our weekly meetings started off with the plans for this week, now we first ask how everyone's weekend was and what they did. Something that normally happens throughout the day.*"
>
> **Organization 4:** "*Our employees started to video call each other. This way they were able to quickly see each other for small talk.*"
>
> "*Our WhatsApp group became more alive than ever before. For example, by saying 'good morning', people stayed in contact with each other.*"

As the pandemic continued, a different pattern started to emerge at digital business meetings. Managers started noticing that online communication became more direct and to-the-point compared to traditional business meetings.

> ***Organization 4:*** *"When I came to an employee's desk, they did not always say everything. So you talked later one-on-one to go in-depth. However, because video conferencing is often one-on-one, the conversations went quickly in-depth.*"

This change in the dynamic of the business meetings made them more efficient. Since people could not see each other face-to-face, almost all business meetings were online on digital platforms. The managers remarked that this changed the nature of the business meetings. They remarked that all contact with clients during the days of the pandemic was purely business, especially during online meetings and video conferences. Specifically, participants agreed significantly more with the statement "*I noticed that our work meetings became more to-the-point when using online tools compared to face-to-face meetings pre-pandemic.*" (4.8 out of 7 on the Likert scale) than the population norm, with $t(32) = 3.076, p = .004, 95\%\ CI[.26, 1.26]$.

> ***Organization 3:*** *"During covid, all contact I had with clients was mainly about business. Especially on video conferences, people went straight to the point.*"

Most organizations saw some benefits as meetings became more efficient. Before, physical meetings started with coffee and small talk. Now, due to the limited time, the same people cut right to the case, while, at the same time, more people could join the meetings that would have otherwise been unable to physically attend the meetings due to time and distance restrictions.

> **Organization 1:** "*Later during the pandemic, we started using TEAMS to do progress meetings. These conversations were in-depth and efficient since they often have a limited time and less of the small talk you physically have over, for example, a coffee.*"

> **Organization 2:** "*Online meetings are more to-the-point and wider available for employees to join in and give their input when they are spread across the country, while physical meetings improve communication.*"

However, digital meetings do have a negative side when it comes to important topics and conversations. Online video conferences were deemed less suitable for important conversations due to the loss of social cues and change in a person's mimic during online communication. The managers found it harder to convey a person's feelings and emotions without the ability to observe both facial and body language. The participants of the survey agreed significantly more that social cues were lost during online meetings compared to face-to-face communication compared to the population norm (5.8 out of 7), with $t(32) = 9.469, p < .001, 95\%\ CI[1.45, 2.25]$.

> **Organization 1:** "*Students who are digitally less able had a hard time following class due to a lack of social cues and mimic that a student would receive in person.*"

> **Organization 2:** "*It is better for hard and important topics to be face-to-face. Online the mimic is different, people are less likely to be at ease, and more to the point. We saw the difference when we started hiring people. We hired people via online meetings which I would not have hired if I had met them in person. While someone that didn't come off great online came into our office and was more enthusiastic and I think I missed that online.*"

As a result, one of the organizations lost its "favor factor" since social cues and mimics were frequently lost in translation during sales video calling. This affected specific departments (such as sales) more than others because they depend more on observing social cues. On the other hand, certain other departments (such as accountancy) found online meetings more beneficial.

> **Organization 4:** *"We lost the "favor factor" with online meetings ... Social cues and mimic when doing sales and are often lost in translation during video calling."*

Therefore the nature of the task may play an important role when it comes to online meeting efficiency. Tasks like sales, which are more interdependent and rely more on human relationships, may be more beneficial to have in-person, compared to tasks, like accounting, which depends on processes and factual information. One manager mentioned the creation of a mental barrier due to digital meetings and video calling. Normally, colleagues sitting next to one other would ask each other quick questions regarding work.

> **Organization 4:** *"It was easier to communicate if a colleague is sitting right next to you. During Working From Home, the mental barrier to asking someone a question has increased. Instead of turning their head and talking. They needed to click to call or type in their question, which gave them time to hesitate."*

However, due to the fact that one now has to send a message, set up a digital meeting, or video call their colleague, fewer questions were asked. A study by Bounacken et al. confirms that physical proximity has an effect on knowledge sharing between people [BA19]. This could explain why, when working from home, people would ask fewer questions to their colleagues.

4.1.2 Process and Tool implementations became more rapid

Another interesting pattern within the organizations was the changes in the process and tool implementations. Before, the interviewees noted that the implementation of a tool or technology used to take a lot of time. First, they used to discuss to find out whether or not they should research the tool or technology, then discuss whether or not it should be implemented. However, this all changed during the pandemic as organizations had to implement working from home and video conferencing tools.

> **Organization 1:** *"Normally, we spend a lot of time debating whether or not to implement a new measure or technology. However, due to covid, we needed to implement technologies overnight."*

> **Organization 4:** "*We quickly switched to Teams for all meetings due to Covid-19. We were already thinking of teams before covid, however, all implementations went faster during Covid-19.*"

Simultaneously, some organizations found out that their systems or tools did not work for locations besides the physical office.

> **Organization 4:** "*During Covid, we found out that our accountancy system did not work for other locations, so we implemented a new system for these locations.*"

The reason for organizations to improve the implementation process was the change in the mentality of the older generations. Older generations became more open to new implementations not only because they wanted to, but also because they had to.

> **Organization 3:** "*The implementation of a tool used to take a lot of time, but due to covid this changed. Older generations were more open to new implementations. online signatures, a virtual front desk, and online meetings would not have been implemented as fast without covid.*"

Older generations, which often hold the position of CEO, COO, or CFO, came to realize that in order to keep the business and organizations going they had to adapt to the new reality. This turn in mindset reduced the bureaucracy within the organizations in favor of speed, while lowering the resistance to change. Digital meeting and signings tools were implemented, amongst others. This does not mean that the organizations bought new tools and technologies just to work around the pandemic problems. On the contrary, most digital tools were implemented in order to improve efficiency within the organization.

> **Organization 2:** "*We were fast-tracked to look for a solution due to covid. Solutions and technologies were implemented faster. However, the company bought new tools and systems for efficiency, not as a workaround for the pandemic.*"

4.1.3 Increasing Accessibility and Availability

The implementation of new digital tools and technologies increased the efficiency of workers within organizations. But this was not the only benefit. During the

interviews, managers agreed that the new digital tools increased the accessibility and availability of information for both employees and clients without the need for a physical location.

> **Organization 2:** "*Most consultants had to work from home. However, where clients normally would not allow access without being on the physical location, this quickly changed during covid.*"

> **Organization 1:** "*Due to Teams and other tools we remained available and accessible for both employees and students. Therefore, I think this was something needed during and after this time. An example is the WhatsApp groups teachers have with their students. Because everyone has a phone information is always available and accessible for the students*"

More employees were able to work from home, as the new technologies provided accessibility to the old and new tools and systems with the needed information. An example of this is the implementation of the tool Trello in one of the organizations. Before the pandemic, a whiteboard was used within the physical office. This meant that the information for people working in the office was not always available. Trello changed this by creating a digital whiteboard that could be accessed by all employees from any place at any time. The same goes for the video platform MS Teams. For most organizations, Teams was more than just a video conferencing platform, as it provided a shared database to multiple parties. The participants agreed significantly more with the statement "*I think that new tools and technologies improved the accessibility and availability of information between my co-workers and clients.*" (5.0 out of 7) than the population norm, with $t(32) = 5.014, p < .001, 95\% \ CI[.59, 1.41]$.

> **Organization 3:** "*Before Covid-19 we often had data on our servers. This was not always reachable for clients or suppliers. Teams ensured that the data was available and accessible for multiple parties.*"

> **Organization 4:** "*We quickly needed to put up a new database system for the multiple locations. Therefore, the implementation of TEAMS was used as data storage in order. This way, everyone was able to access the data and was always up to date on the statuses.*"

4.1.4 Hiring process

The Covid-19 pandemic had a negative effect on most organizations in terms of turnover. Employees left and new employees needed to be hired. This was a problem for managers, as social distancing rules made it hard to meet new potential hires in person. The solution was to do intake via video platforms and interview potential candidates via a video conferencing tool. The problem with interviewing a potential candidate through video conferencing tools is the limited view of the mimic and posture of the person. Therefore, a lot of social cues are lost.

> **Organization 4:** "*The hiring of people during Covid was hard, due to having a limited view on the mimic and posture of a person since social cues and mimic are often lost during online meetings.*"

As a result, managers did not hire employees they would normally have hired in person, due to coming off as less energetic and enthusiastic when on camera. Later, when these candidates were met in person these employees came off much better. The other way around was also true. People who did come off great online later came into the organization's office and were not a match for the organization.

> **Organization 2:** "*We hired people via online meetings which I would not have hired if I met them in person. While someone that didn't come off great online came into our office and was more enthusiastic and I think I missed that online.*"

Another pattern that occurred was the fact that potential candidates asked or requested the possibility of working from home, either part or full-time. This was even the case for candidates living within a 5-mile radius of the physical office. We were able to observe this in the results of the survey as well. Of the 33 participants who completed the survey more than half put increased emphasis on the possibility of working from home while only a minority disagreed.

> **Organization 1:** "*Now during intakes, some teachers only want to teach online via video conferences. A request we never had before Covid-19.*"

> **Organization 2:** "*Potential hires request working from home as a necessity.*"

> **Organization 4:** "*During intakes, everyone asks about the possibility of Working-From-Home.*"

4.2 RQ2: Impact of Changes in Organisational Norms, Work Practices, and Digital Tool Use

The change in work practices through the use of digital technologies did not just change the way people communicated, it also had an impact on employees in terms of efficiency and creativity amongst others. In this section of the interview results, we will discuss the impact and the patterns that were identified.

4.2.1 The Improvement of the Efficiency of Work Processes

The implementation of digital tools and technologies during the Covid-19 pandemic not only changed employees' work practices, it simultaneously increased the efficiency of processes within the organizations.

Video Conferencing Tools and Platforms

An example of this is video conferences. Each of the organizations implemented a video conferencing platform, such as Teams. As mentioned above, the digital meetings orchestrated on these video platforms changed the way in which employees and clients communicated. But that is not all that changed. Each of the managers concluded that video conferencing was more efficient as it saves time traveling. This makes working with multiple parties easier, saves costs, and is good for the environment as not everyone has to move to one location or physical location. The participants of the survey agreed significantly with both of these statements. Specifically, participants agreed significantly more that online meetings improved their efficiency by saving travel time (5.2 out of 7) compared to the population norm, with $t(32) = 4.724, p < .001, 95\%\ CI[.69, 1.73]$.

> **Organization 3:** "*Video conferencing is more efficient as it saves travel time. Next to this, it makes working with multiple parties easier as not everyone has to move to one location.*"

> **Organization 4:** "*Sales meetings changed to online, therefore people were less on the road. All that remained was work-home traffic. This way online meetings saved travel time and cost.*"

Next to this, video conferences and digital meetings made it easier for employees to join meetings they could not attend otherwise due to distance and travel time. Therefore, video conferences and digital meetings increased the input of employees.

> **Organization 2:** "*Online meetings are more to the point and wider available for employees. Simultaneously employees could have meetings with more clients in a day as they saved travel time. Next to this, it is better for the environment.*"

Multiple parties can work together through the use of digital meetings and video conferencing. Because of this, a new pattern appeared within multiple organizations. Due to easier access to information by everyone from everywhere, information-sharing processes became more harmonized and integrated. A direct result of this is that organizations went from one person that knew or held all the information, to the new tools that now have that same knowledge.

> **Organization 3:** "*We went from one person that knew it all, to systems that had that knowledge.*"

This made it faster and easier for organizations to share information with clients or employees working from home or a remote location. The survey participants significantly agreed more with the increase of information through the use of a more focused toolset for sharing this information (5.6 out of 7) compared to the population norm, with $t(32) = 9.043, p < .001, 95\% \; CI[1.22, 1.93]$.

> **Organization 1:** "*We had multiple clients working in different systems. This made it hard to keep track of information and meetings. Therefore, we started using TEAMS and Onedrive in order to create a database that was reachable from everywhere for everyone.*"

> **Organization 2:** "*Teams helps us to share the information that we have with clients and the other employees that work remotely.*"

Working Remotely or From Home

Working remotely or from home had a big impact on the efficiency of organizations. Different departments increased their productivity due to the elimination of travel time, the reduced need for physical presence at the location, or disruptions at work. Before, it was not profitable for the consultancy and sales departments to drive the

last hour of the day to go to another client and work for one more hour. Working remotely changed this by making it possible to swap between clients in less than a minute making every hour count.

> **Organization 2:** "*Remote working increased the productivity and efficiency of an employee as they could work for multiple clients in one day. This is because they did not have to travel. Therefore they could use the last hour of the day to work for a new client.*"

The same was the case for the accountancy department. When working from home, the accountancy department employees were able to focus more, without disruption. The participants of the survey agreed significantly more with the statement "*Working remotely or from home increased my productivity and efficiency.*" (4.8 out of 7) compared to the population norm, with $t(32) = 2.820, p = .008, 95\%\ CI[.23, 1.41]$. However, this agreement was lower than the impact of online meetings on the efficiency that we saw earlier. The reason for this is probably due to different departments' productivity being affected differently by working from home. As mentioned earlier, an example of this is that Sales departments often need other departments to function. Therefore, working from home does not always have the highest impact on the productivity of an employee.

> **Organization 4:** "*Sales meetings changed to online, therefore people were less on the road. All that remained was work-home traffic. The flexibility of Working From Home improved productivity because employees could stay home to work uninterrupted.*"

However, this does not mean that remote working benefits the productivity and efficiency of all employees. As one manager stated that some employees were unable to handle the freedom that Working From Home and remote working provide.

> **Organization 1:** "*Some people work more efficiently from home because they are not interrupted, while others are unable to handle the freedom this provides.*"

Digital Signing tools

Digital signing is one of the technologies during the Covid-19 pandemic that improved efficiency within organizations. Before, an employee went to the client and signed the contract in person or sends it by mail. This process costs a lot of paper and an employee or client could not make any last-minute adjustments.

> **Organization 2:** "*Digital signing is implemented in our own tool. This was requested by clients to improve their efficiency, but also from an environmental point of view.*"

This changed with digital signing. Managers saw that digital signing was not only environmentally friendlier, but it was also more flexible when it came to mistakes and reduced the number of physical actions needed to complete the process. This view was shared among the participant of the survey that agreed significantly more with the statement "*Some processes became more sustainable and environmentally friendly, such as signing contracts, parcels, and decreasing commutes.*" (5.9 out of 7) than the population norm, with $t(32) = 12.000, p < .001, 95\%\ CI[1.59, 2.23]$..

> **Organization 1:** "*We implemented a tool to digitally sign contracts. Before, this was still on paper. This is a by-product of Covid-19 because we saw that we needed to be smarter in certain aspects. Digitally signing save us a lot of physical actions and was more accurate, thereby improving efficiency.*"

> **Organization 3:** "*Before we went to the client and signed the contract in person. However, due to covid, we started to send contracts via e-mail to sign digitally. This saves a lot of paper and makes it easier for employees to make last-minute adjustments.*"

4.2.2 The Change of Performance within Organizations

Not all managers were able to determine the perceived performance of their employees before and during the Covid-19 pandemic. One of the reasons for this is that some organizations had a high turnover of employees during the pandemic. A returning phenomenon for most of the organizations was the increase in sales meetings but a decrease in their conversion and success rate. A reason for this was that due to digital meetings, time saved not traveling could be used to do extra sales meetings. However, during the pandemic organizations in certain sectors became more anxious, leading to a lower conversation rate per sales meeting.

> **Organization 4:** "*The number of sales meetings of employees increased, however, their conversion success rate decreased.*"

The manager within the education sector was not able to determine the performance of the employee at first, due to governmental interference. However, once part of the restrictions was lifted a lot of students left and therefore dropout rates increased.

Then, once testing started again the results were worse than before covid. This was not the fault of the employee performing on a lower level, but due to the lack of testing during part of the pandemic.

> **Organization 1:** "*Due to the fact that government testing stopped. Therefore, we were unable to track the performances. Simultaneously we lost a lot of students that left. Therefore, the dropout rate increased. Once testing started again, the test results were worse. However, we expected this due to the lack of testing in the time between.*"

4.2.3 The Creativity and Business Opportunities within Organizations

The pandemic had a profound impact on the processes of organizations and the way employees practiced their work. This impact forced organizations to adapt to new challenges posed by the pandemic. Most managers agreed that increased flexibility, freedom, and autonomy positively affected the creativity of employees. Employees came up with new tools to increase efficiency and teachers came up with ideas for interactive teaching. Examples of this are the gamification created by organizations and the creation of video tutorials to introduce and prepare a new hire for the organization.

> **Organization 1:** "*Most employees wanted to put their shoulders to the wheel. Which led to an increase in creativity. teachers making guidelines and tutorial videos.*"

> "*What you see is that everyone started to become a little more creative. Employees came with tools to increase efficiency and interactive teaching. Activating work methods/gamification.*"

This increase in creativity could be attributed to a number of factors. The increased flexibility of digital meetings increased the availability of these meetings to more employees. In turn, this gave the employees the opportunity to propose their ideas and approaches. However, this view is not shared amongst the employees that participated in the interview. Results show that the employees actually neither agreed nor disagreed with the fact that they were able to give more input during the pandemic (3.7 out of 7).

> **Organization 2:** *"Maybe covid has something to do with becoming more efficient and creative. Before it was just the application manager coming up with new things. But consultants who are working remotely or at another location are able to join the conference online and give their input."*

The managers stated that, due to the increase in creativity, the organizations came up with new business opportunities, leading to new products, services, and processes that have had lasting impacts. An example of this is online and social advertising. Before, physical packages made the most profit. However, unable to reach their target audience, clients came to see the benefits of online and social media advertising. After seeing the potential, clients use both old and new ways of advertising.

> **Organization 4:** *"Because of covid our clients asked for a new way to reach their clients. Online social media packages were created as a new form of advertising with the company"*

> *"Clients came to see the benefits of online and social media advertising. Before physical packages made the most profit, now online packages make the most profit. Now companies do both the old and new way of advertising, after seeing the potential."*

The time organizations saved not traveling to physical could be used to do other work processes. With the help of digital meetings and remote working, one of the organizations increased the number of clients an employee could work for in a day. This increased the number of billable hours per employee for the organization which in turn helped them hire more new employees during the Covid-19 pandemic, increasing their growth.

> **Organization 2:** *"Online meetings are more to the point and wider available for employees. Simultaneously employees could have meetings with more clients in a day as they saved travel time. This in turn helped us hire new more employees during covid which increased our growth."*

4.2.4 Impact of Digital Tools on the Overview of Employees

The introduction of many new tools and technologies had a huge impact on the overall overview of the employees within the organizations. On the one hand, digital tools helped employees to increase their efficiency by improving the overview.

An example of this is a tool to smooth out the hiring process, keeping resumes, motivation letters, and intake interviews in one place.

> **Organization 2:** "*We implemented a recruitment software. To get a good overview and privacy security. OTIS created an overview for intakes that were not there before.*"

Another organization improved its overview by creating an overall database in MS Teams to retrieve information, as well as using the virtual whiteboard Trello to keep employees updated on the status of projects.

> **Organization 4:** "*We switched to TEAMS for all employees in order to create an overall database. This way employees have a good overview of all the information. Next to this, we implemented Trello for improving the overview of tasks and statuses.*"

On the other hand, a decrease in the level of overview occurred. It became unclear in some organizations where information could be found. Especially with the fast number of conferencing tools and video platforms it could become clouded where the meeting or information of the meetings could be found. When the participants of the survey were asked about the statement "*Due to the variety of implemented tools and technologies, it was not always easy to keep track of statuses and important work information.*" they agreed significantly (4.8 out of 7) compared to the population norm, with $t(32) = 3.638, p < 001, 95\%\ CI[.35, 1.23]$.

> **Organization 2:** "*The many different platforms gave us a clouded overview. Sometimes I forgot what platform sometime is from. Especially with the fast number of different conferencing tools.*"

> **Organization 3:** "*It was unclear before where people could find information. Gap analysis showed the same data in six sources.*"

> **Organization 4:** "*Some clients use one tool while other clients used another. This in combination with all the new tools and technologies implemented by the employees started to lose the overview. Employees need to check their mailbox, WhatsApp, and Trello. And where was the needed information.*"

4.3 RQ3: Impact of Changes in Organisational Norms, Work Practices, and Digital Tool Use on Employee Well-Being

Digital tools, such as digital signatures, remote working, and video conferencing have revolutionized the way in which employees work and communicate with each other. The benefits of digital tools and technologies are numerous as seen in the sections above. However, digital tools and technologies could also have a negative effect on the employee. In this section, we will explore the impact of digital tools on the well-being of employees.

4.3.1 The Impact of Freedom and Flexibility on Employee Well-Being

The introduction of digital tools enabled employees much greater freedom and flexibility. This freedom and flexibility could have positive effects on the well-being and experience of employees. The managers noted that some employees loved the freedom working from home or remotely provided as they were able to do hikes and workouts during work. Other employees were happy since they did not have to waste time traveling. This flexibility reduced their stress level, as it allowed these employees to make decisions and take responsibility without the constant need to consult with their supervisor.

The participants of the survey agreed significantly more that working from home or remotely increased flexibility and freedom (5.2 out of 7) compared to the population norm with $t(32) = 4.163, p < 001, 95\% \ CI[.63, 1.85]$.

> **Organization 1:** "*The younger generation wants more freedom and Working From Home, while older generations prefer a cozy workspace, contact with others, and being in a different environment.*"

> **Organization 2:** "*Some employees loved the freedom of Working From Home. They were able to do hikes and workouts during work. While others are happy that they do not have travel time.*"

However, not all employees felt this way. Adolescents and families with kids (the younger generations) fell into some sort of ”black hole”, especially adolescents. Sports and school stopped, they were no longer able to see friends, and they remained indoors. This lack of social events made adolescents feel isolated and disconnected from the rest of the world. Leading to feelings of depression, anxiety, and loneliness. Although the survey results do not show that working from home or remotely affects the mental health of the employees negatively, there are differences between the age groups. The survey does confirm the trend that young people suffered from isolation and anxiety, as the age group of interviewees between 18-24 agreed by far the most with the statement that working from home or remotely negatively impacted their health. Further research is however needed to confirm this point, as the ANOVA result was not significant.

> **Organization 2:** "*Single adolescents fell into a black hole. Because they lost everything. Sport, friends, school. Always being alone in their room.*"

> **Organization 4:** "*Working From Home gave freedom that some employees enjoyed while others did not. At home, employees could become lonely.*"

Working from home profoundly impacted families with younger kids as well, as many young parents had to juggle childcare and work. Therefore, it became essential to support these families with help and guidance for children.

> **Organization 2:** "*Families with young kids had a hard time focusing on work because they had to entertain their kids as well.*"

> **Organization 4:** "*Families with children were the first to ask to come back into the office.*"

4.3.2 The Constant Need of Availability

Working from home or remotely has its benefits, however, there are some drawbacks organizations need to take into consideration. One of the issues employees deal with when working remotely is the expectation that they must be constantly available. It became apparent that employees felt their mental pressure increase as, according to the managers, these employees felt constant pressure to be at work. In contrast, they would have time in the office to chat with colleagues at the water cooler. This feeling of being constantly watched made it difficult for employees to take breaks or switch off at the end of the day.

> **Organization 1:** "*Some employees did not feel comfortable teaching this way, where the students see you but you cannot see the students.*"

> **Organization 2:** "*On a screen, people feel like being constantly watched.*"

This need for availability can cause feelings of anxiety and stress, which have a negative effect on the well-being of an employee. Therefore, it is essential for organizations that employees both have and feel the freedom and flexibility to switch off from their work, take regular breaks, and stop at the end of the day to prevent these issues from rising. Although the managers noted being constantly watched, the employees did not share this feeling. On average, the participants of the survey disagreed with the statements "*During video conferences and online meetings I had the feeling that I was constantly watched*" (3.5 out of 7) and "*When working remotely or from home I felt the pressure to be constantly available*" (3.4 out of 7); however, this result was not statistically significant. This might have been because only the person speaking has their camera and microphone on, while the others use a blank screen not to be distracted. As the interviewees are managers at the organizations, they could have had their cameras constantly on like a teacher in front of a class. Through this, they might have projected the feeling of being continuously watched by their employees.

4.3.3 The Decrease in Motivation and Energy of Employees

The managers noted that working from home or remotely had other adverse effects. Due to the lack of social communication, more monotone work, and increased boredom, many employees felt decreased motivation and energy.

> **Organization 1:** "*The longer covid was around the more complaining increased. Employees lost motivation and did not want to work at home anymore. Especially colleagues that live alone.*"

This feeling of boredom and lack of engagement can lead to a decrease in job satisfaction and productivity. It became clear who did and who did not enjoy their work. An example of this is sales managers, who get a lot of energy from traveling. During the pandemic, this aspect of the job was gone and all they needed to do was repetitive tasks, such as writing up orders. Another example is the account managers of one of the organizations. During the pandemic, account managers received more declines from their offers. This increase in the number of declines, in turn, led to decreased motivation. The survey participants agreed significantly

more with the statement "*The implementation of tools and technologies made my work more dull and routine.*" (4.7 out of 7) compared to the population norm, with $t(32) = 2.616, p = 0.013, 95\%\ CI[.15, 1.24]$. However, they neither agreed nor disagreed with the statements that they got less energy from working remotely or a decrease in motivation during the pandemic towards work.

> **Organization 2:** "*Sales managers get a lot of energy from traveling. That aspect of the job was gone during covid. now all they needed to do was repetitive tasks, such as writing up orders. They complained that it got a little boring and monotone.*"

4.4 RQ4: Future Plans Regarding Organisational Norms, Work Practices, and Digital Tool Use

As organizations continue to adopt new digital tools and technologies, they should consider the effect of tools on the well-being of their employees. The implementation of this could be challenging. Therefore, the organization must carefully consider its plans regarding the use of digital tools. This section discusses the future of digital tools implemented during the Covid-19 pandemic and what new tools and technologies present opportunities and challenges for the future.

4.4.1 Remote working or from home will stay

Although working from home or remotely was not applicable for all organizations, the managers agreed that it is important to have the possibility to do so. This is because some organizations see that employees perform better when working from home while others need the office to function properly. Other organizations enjoy the flexibility working from home brings, making employees happier and more productive. The freedom that working from home gives helps not only employees but also organizations. However, all managers agreed that working from home or remotely should not be the main goal. A hybrid system is needed where working in the office forms the baseline while working from home is a possibility. The participants of the survey agreed significantly more that the possibility of working from home should be kept (5.6 out of 7) compared to the population norm, with $t(32) = 6.335, p < .001, 95\%\ CI[1.09, 2.12]$.

Organization 1: "*I want to give everyone freedom when it comes to Working From Home; however I want them to know what the baseline is. People can work from home if they think it is necessary ... I prefer a hybrid system where the baseline is working in the office with the possibility of working from home.*"

Organization 2: "*Remote working will partly stay. Some people just work better working remotely, while others need the office. I think for those people a hybrid system is needed.*"

Organization 3: "*Even though Working From Home is not as applicable to our sector, I do think it is important that there is a possibility for Working From Home.*"

Organization 4: "*I think we especially need to keep the flexibility that comes with Working From Home. It makes people more productive and happier. This is because coming to work five days a week could start to feel like a chore.*"

4.4.2 The implementation of new tools and technologies

Organizations implemented a lot of new tools and technologies during the Covid-19 pandemic. We should keep in mind that most of these tools and technologies were not just implemented as a workaround during the pandemic. More often than not, organizations implement these tools to increase the organizations' efficiency or solve other problems. Therefore, most tools and technologies will remain in use after the pandemic, although to a lesser degree. Processes that implemented tools and technologies as a workaround during covid will mainly go back to their old ways. However, these tools and technologies will stay used as an ace up the sleeve. The participants agreed significantly with these statements. Specifically, the participants agreed significantly more with the statement "*I think that the tools and technologies implemented during the pandemic should stay.*" (6.1 of 7) compared to the population norm, with $t(32) = 11.530, p < .001, 95\%\ CI[1.72, 2.46]$. However, the participants also agreed significantly more with the fact that in the future, these tools and technologies implemented during the pandemic should be used more appropriately (5.9 out of 7) than the population norm, with $t(32) = 10.245, p < .001, 95\%\ CI[1.51, 2.25]$.

Organization 1: "*We will keep using technologies such as Teams that save time and are more efficient. However, we stopped online testing and went back to physical tests. The same goes for the intake of new students. This is also due to privileged information. However, there are exceptions, such as sickness. Therefore, it will remain an ace up our sleeve.*"

Organization 2: "*The company bought new systems for efficiency, not as a workaround for the pandemic. Therefore, all the tools implemented during covid will remain in use. However, technology such as webinars and online meetings will partly go back to the physical aspect.*"

Organization 3: "*The new tools and technologies such as Wish, Brics and Pipedrive will stay as they would have been implemented without covid. However, covid fast-tracked the implementation.*"

Organization 4: "*The new technologies increased efficiency and overview of specific tasks while employees are happy to work with the technologies implemented. Therefore, we will not go back to pre-covid work practices for the most part.*"

4.4.3 Plans for the future

As the future of the organizations is not covid-related, many organizations are not looking for new workaround tools. The most prominent issue organizations face now is the lack of overview due to the many new tools and technologies. Consequently, most organizations plan to improve their tool overview. Organizations want to create an interface that connects all tools and technologies implemented to solve this problem. Most managers want to use their channels of communication more appropriately as well in the future since project statuses, information, and meetings are spread over several channels. Finally, some organizations want to implement sector-specific digital tools and technologies, such as an online learning environment for students or a rating system for employees to pick an employee of the month. The survey participants significantly agree more with the statement "*In the future, I think the company should introduce new tools that could benefit both the company and the employees.*" (5.7 out of 7) compared to the population norm, with $t(32) = 10.246, p < .001, 95\%\ CI[1.36, 2.03]$.. They view that the implementation of new tools could benefit the organizations as well as the employees themselves.

Organization 1: *"In the future, we want to implement an online learning environment for our students where there is no need for a physical book. Where one meets once or twice a week with a teacher. Right now, this is a market need."*

Organization 2: *"Our future plans are not really covid related, but because we are still growing. Right now we want to implement interfaces to connect all tools, in order to improve the overview."*

Organization 3: *"In the future, we want to implement an employee rating system for employee of the month. Next to this, we are trying to implement a new technology that helps with the maintenance of buildings, where people can scan a QR code and tell what the problem is."*

"I think we need to use our channels more appropriately in the future. We ask questions in the wrong channels."

Organization 4: *"In the future, we want an interface for all the channels. We have it for different social media content, so why wouldn't it work for the channels?"*

5 Discussion, Limitations and Further Work

This section will discuss the patterns and go over the design recommendations that were developed based on the literature study, interviews, and survey-based questionnaires. Each design recommendation will be grounded to one or more patterns among the ones identified, followed by discussion. Lastly, the limitations and further work of this research project will be discussed.

This research aimed to evaluate the impact of the Covid-19 pandemic and digital technology on the norms and work practices of employees of small and medium-sized enterprises in The Netherlands. Digital technology is considered an integral part of changes that happened to the norms and work practices of organizations with a significant impact on the employee's performance, efficiency, experience, and well-being. However, the impact of the tools and technologies implemented has rarely been researched. In this research, digital tools and technologies implemented and adopted during the pandemic have been evaluated in terms of their impact on performance, productivity, experience, and well-being. We found that many of the digital technologies resulted in an improvement in the productivity and performance of the employees. However, the results also show that these digital tools and technologies did not always have a positive impact on the experience and well-being of the employees.

The shift to digital meeting tools made everyday work communication more efficient and straight-to-the-point, while at the same time, these tools were deemed less appropriate for critical conversations (e.g. signing of contracts) due to the loss of social cues and the change in mimic behaviors that they entail. This affects specific departments (such as sales) more than others because they depend more on the observation of such cues. On the other hand, other departments (such as accountancy) found the shift to digital more beneficial. This may be due to the nature of the task, i.e., sales departments deal with more interdependent tasks and human relationships while accountancy departments deal with tasks that depend on processes and more factual information.

The implementation of processes and tools before the Covid-19 pandemic used to take a lot of time. However, this all changed due to improvements in the organizations' implementation process. Older generations started to realize the need for a reduction in bureaucracy in favor of speed, lowering the organizational resistance to change. The new tools were not just a workaround for the pandemic but mainly to increase efficiency. Besides efficiency, the new tools also increased the accessibility and availability of information. Due to more and more employees working from home, new digital technologies are needed to provide information from every location. The managers and employees saw that the implementation of the increased accessibility and availability of information significantly between co-workers and clients.

When it comes to the impact of changes on organizational norms, work practices, and digital tools, the improvement of the efficiency of work processes accelerates due to the implementation of digital tools and technologies. Video conferencing made it easier to work with multiple parties, save costs, is good for the environment, and removed the travel time needed to join the meetings. Working remotely or from home increased productivity due to the disappearing of travel time and disruptions at work. Productivity due to the ability to work for multiple clients in one day increased. However, working remotely or from home does not increase productivity and efficiency for all employees as some were unable to handle the freedom working remotely or from home provided.

Organizations came up with new business opportunities to lead to the creation of new products, services, and processes. Clients quickly came to see the benefit of these new products and services. When it comes to performance, not all managers were able to determine or compare the perceived performance of their employees before and during the pandemic. A reason for this is the high turnover rate of employees. However, most organizations increased their sales while simultaneously decreasing their conversation rate per sales meeting. At the same time, managers saw an increase in employees' flexibility, freedom, and autonomy positively affecting their creativity, an opinion that was not shared amongst the employees.

The impact of digital tools on employees came in many forms such as the overall overview of the employees within the organizations. Digital tools helped with the increase in efficiency by improving the overview. Examples of this are the creation of a digital database in Teams for information or the use of a virtual whiteboard to keep employees updated. On the other hand, due to the many different tools and technologies, it became unclear where each piece of information was stationed and the employees significantly agreed. Digital tools and technologies have numerous

benefits, however, they could also harm the employees of the organization. The introduction of digital tools to work from home or remotely increased the freedom and flexibility of employees, which positively affected their experience. Managers noted that the flexibility reduced the stress level of employees and they got to take responsibility without the need to consult with a supervisor. However, this was not the case for all employees, as the loss of social life made younger generations feel isolated and disconnected. This results in feelings of depression anxiety and loneliness. The survey results confirm this as people between the ages of 18-24 agreed most with the statement that working from home negatively impacted their health.

One of the issues employees potentially had to deal with is the expectation that needs to be available. The employees that participated in the survey did not significantly agree or disagree, however, managers reported that mental pressure on the employees increased as they felt constant pressure to be at work. Next to this, Managers noted that working from home or remotely had a negative effect on the motivation and energy of employees, due to the lack of social communication, monotone work, and an increase in boredom. Although the survey results were not significant, managers saw a clear difference in who enjoyed their work and who did not. One of the reasons could be that due to the pandemic, people were less socially active with clients, and new tools and technologies implemented made tasks more repetitive. This view was shared amongst the employees. A decrease in the conversion rate per sales meeting might have been attributed as well.

In the end, organizations will continue to adopt and adapt to new tools and technologies. The tools and technologies in place right were not just used as a workaround but mainly to increase productivity and efficiency within organizations. Managers and employees enjoy the flexibility and freedom of Working from home or remotely bring while increasing the productivity and well-being of the majority of employees. This does not mean that the work basis should be working from home. The managers agree that working from home should be a possibility or that a hybrid system should be in place.

Processes around the implementation of workaround tools and technologies will mainly go back to their old ways. However, the technologies will stay in place to be an important ace up the sleeve of organizations if the pandemic returns. Although the employees do agree with the fact that the adopted technologies benefit them for the most part, organizations should be more mindful when implementing these technologies. In the future, organizations will try to improve the lack of overview caused by new tools and technologies, while simultaneously implementing more

technologies that benefit both the organization as well as the employees. An example of this could be the creation of an interface that connects all tools, information, and channels.

5.1 Recommendations

The participants of both the interviews and surveys indicated that there are multiple opportunities for improvement within the organizations when it comes to the use and implementation of digital tools and technologies. In this section of the research, we will make a list of recommendations that the organization could take into account when implementing new digital tools and technologies.

Recommendations for organizations.

1. **Implementation time: Organizations should minimize business disruption and reduce bureaucracy in favor of speed**
   During the pandemic, bureaucracy and decision-making time for implementing new tools and technologies were reduced in favor of speed. In today's rapidly changing business environment, this is a positive feature. However, organizations need to consider the effects of implementing a new tool or technology on other processes and on the employee's well-being. Therefore, organizations should look at the time required to implement the technology and plan accordingly to minimize disruption to business operations.

2. **Shift in communication: Organizations should leave room for tools and technologies that facilitate both informal and business communication**
   Some tools and technologies improve how employers, employees, and clients communicate by creating direct and straight-to-the-point communication. However, organizations should leave room for informal conversations as well. Therefore, organizations should consider how tools and technology will change communication within the organization and plan to support the shift in communication with the appropriate training and support.

3. **Overview paradox: Streamline new tools and technologies to improve employee overview**
   Many tools and technologies improve the overview of employees by streamlining processes and keeping the information in one place. However, some tools and technologies clutter the overview by spreading information, meetings, and statuses across different platforms. This cluttered overview could make it hard

for employees to find a meeting on the different platforms or information in the correct location. Therefore, organizations must weigh the pros and cons of implementing new tools and technologies with regard to the overview of the employee or create an interface that integrates all tools and technologies.

4. **Improve Accessibility and Availability: Make information accessible and available from any place at any time**
   Employees are working more remotely, and clients come to the physical location less often, opting instead opt to join an online meeting. Because of this, organizations need to increase the accessibility and availability of information for both employees and clients without needing to be at a physical location. For example, video conferencing platforms, virtual whiteboards, and digital signing tools help increase the accessibility and availability of data as they provide a shared database among multiple parties that can be reached at any place at any time.

5. **Working remotely or from home: Working in the office as the baseline, with the possibility to work remotely**
   Working remotely or from home positively impacts the efficiency of organizations. However, the effect differs per department. Next to this, while some employees thrive when working remotely or from home, others cannot handle the freedom it provides. Therefore, organizations should create a hybrid system where the standard is working at the office with the possibility to work remotely if the job nature permits it.

6. **Improve the motivation and energy: Prevent too much repetitive work due to the efficiency of new tools and technologies**
   The implementation of tools and technologies made work more dull and routine. Therefore, organizations must look at the processes improved by the tools and technologies to see whether or not these processes have become largely repetitive. If a process has become repetitive, an organization could give an employee other tasks as well if possible. This way, organizations could combat boredom and lack of engagement that can lead to decreased job satisfaction and productivity.

5.2 Limitations

This research faced several limitations. First, it was not possible to perform longitudinal case studies, which could have allowed the researcher to track the performance,

productivity, and employee well-being before, during, and after the Covid-19 pandemic.

Another limitation is the number of case studies performed and the small sample size. Only a limited number of interviews were conducted. Therefore, the interviews may not provide a representative sample of all Small and Medium-sized Enterprises in The Netherlands. This limitation decreases the generalizability of the findings. Besides, the small sample size of organizations makes it harder to detect the smaller patterns or differences in both the data and population, which could have a significant impact on the conclusions of the research. Therefore, to increase the robustness and reliability of the research, it would have been helpful to conduct more interviews.

There is also a limitation due to the small sample size of survey participants. By choosing four SMEs in the Netherlands it is not uncommon to have a small sample size. However, the sample of this thesis may not be representative of the population of SMEs in The Netherlands. Therefore, due to the limited number of survey participants, it might be difficult to generalize the results and findings. Next to this, this smaller sample size increases the possibility of a sampling bias. The sample size reduces the study's statistical power and this lack of statistical power decreases the feasibility of the results. Together the small sample sizes for both the interview and survey participants increase the risk of outliers or failure to detect a statistically significant difference between the population and sample mean, so-called Type II errors. These limitations emphasize the need for more research with larger sample sizes to support the results of this study.

Another limitation is the potential self-selection bias of this research. The participants recruited for the case studies were recruited on the basis of their accessibility and the personal network of the researcher and may not be representative of the general population. This self-selection could bias the results, impact the study's external validity and limit its generalizability to the larger population.

Another potential limitation is the bias during the interview and survey process. The interviewer may have unconsciously influenced the participants' responses, leading to a bias in the results. The participants may be influenced by the questions and questions types, which could have been leading. Simultaneously, the survey and interview process may have caused participants to provide more socially desirable responses to seem more likable, skewing the results.

Finally, the research performed in this study was conducted during the Covid-19 pandemic. Therefore, the results may have been impacted by participants being under increased stress which influenced their responses.

In conclusion, this study has several limitations that should be considered when reading the results and highlighting their importance for future work.

5.3 Future Work

This study aimed to identify the pandemic's effect on Dutch SMEs, with emphasis on technology uptake, (digital) work practices, perceived organizational and employee performance, experience, and well-being. Having investigated multiple organizations and their employees, we analyzed the shared patterns among these organizations.

Future research is needed to go more in-depth on implementing these patterns. First, there are possibly more patterns that can be identified amongst the SMEs in The Netherlands. Since only a handful of organizations were used as case studies during the research, new patterns could be found when interviewing different organizations. Moreover, studying and examining the patterns found during this research at other companies and organizations would be interesting. This way, further research might help find new advantages, disadvantages, and problem-solving techniques entailed in these patterns that are not identified in this research.

Additionally, future research could extend the number of organizations that have been used as case studies during this research. As mentioned earlier, only a handful of case studies have been performed in this study. Although these case studies include multiple sectors within the Netherlands, there are still a lot of sectors that are not included. Next to this, only one organization is taken per sector. This means we cannot find patterns within a specific sector or retrieve more precise results. By increasing the number of case studies per sector and adding more sectors to the research scope, future research could improve the generalizability of the study and the precision of the results. Future research can also expand the scope of tools and technologies used to monitor digital technology's impact on individual organizations. Digital technology focused in this study mainly focused on working from home or remotely, digital signing, and online meetings. Investigating specific tool usage at organizations might give valuable information for future tools and technologies by providing the pros and cons of different aspects of a tool or technology.

Another suggestion for future research is to expand the current research by conducting a longitudinal study. Due to the limited time during this research, the researcher could not complete a longitudinal study over multiple years. By monitoring organizations over an extended period, we might get a better understanding of the impact of digital tool use and pandemics. A few examples are tools and technologies such

as Digital Twins, Artificial Intelligence, and the Internet of Things. Finally, it might be interesting for future research to investigate the impact of technology on different aspects of life, such as education and social interactions. In this research, we saw that the pandemic and implementations such as working from home impacted the social life of a large number of employees. Adolescents were especially struck as they lost almost all social interactions due to the pandemic. Therefore, researching how the input of new technologies alters the learning and communication between employees and potentially their clients could shed light on the effects of changing education and social interactions.

6 Conclusion

The research studied the impact of the Covid-19 pandemic and the effect of digital tools on the norms and work practices of employees of small and medium-sized enterprises in The Netherlands. To do this, a literature review was conducted to analyze the related works. Next, a methodology was created to perform multiple case studies across different organizations. Interviews and questionnaire-based surveys were performed with four different organizations to extract relevant data, and this data was used to understand the effects of digital tools. This thesis section will conclude the research by answering the research question. To answer the main research question of the thesis, we first need to answer each of the sub-questions presented.

- *RQ1: How have organizations adapted their norms and work practices, as well as their use of digital tools and technologies under the Covid-19 pandemic in their respective contexts?*

This sub-question is answered by studying the related literature and the interviews. The literature reviews showed that most methods and techniques rely on altering the work environment to safeguard social distance policies while simultaneously using tools and technologies to modify existing processes. Measures such as the usage of online video conferences and consultations were taken. These measures were best implemented while working closely with IT support teams to help with any arising technical procedures and settings. Organizations need to consider the design of both the tool and technology platform and the physical material required, as these platforms could be implemented on various devices. Next to this, organizations took measures to create new routines by taking into account the benefit of physical presence. A measure such as the Robotic Process Automation technology helped organizations to produce rule-based activities and shift the tasks from employees to software. This was confirmed during the interviews where all organizations had implemented video conferencing platforms and other tools that created new norms and work practices that affected communication and collaboration amongst employees and clients. Implementing these tools and technologies created a shift in communication due to meetings and other activities going from online to offline. At first, this created a shift of informal communication going from offline, while later

on, communication became more direct and to the point due to the limited time of an online meeting. However, organizations had to alter their business strategy, and sales talk as social cues and changes in a person's mimic were often lost during online communication. A positive change in the work practices of organizations was a decrease in bureaucracy when implementing new tools and technologies. Before, top management and IT would take months to discuss and implement new tools and technologies. Now, the change in urgency and mentality in favor of speed created an environment where tools and technologies would be implemented overnight.

- *RQ2: What was the impact of changing organizational norms and work practices, as well as the digital tools and technologies adopted during the pandemic, on the organizations' work practices, efficiency, and performance?*

By studying the results of both the interviews and the questionnaire-based survey, we could see that the changing norms, work practices, and digital tool use impacted the organizations. The changes improved the organizations' efficiency during the pandemic as tools, such as video conference platforms, save costs and travel time and are better for the environment. Another changing work practice, due to the implementation of video conferencing platforms, was the increased accessibility and availability of information for both employees and clients. Now all employees could join meetings, even when spread across the country. The accessibility and availability of information helped organizations and clients to work better together as the information was easily accessible for all parties involved, increasing efficiency. A direct result is that information was no longer residing within a person but within a tool. The changing work practice of working from home or remotely increased employees' productivity by eliminating travel time. Although this led to an increase in the efficiency of all departments, the sales department had a lower conversion success rate due to the pandemic. Digital signing tools cut costs and change the work practice of signing contracts. Now contracts could be signed instantly, without being in person, and last-minute changes could be easily made. Another organizational norm that changed due to adopting tools and technologies concerns the overview. New tools smoothed the hiring process and information retrieval due to a comprehensive database that kept the information of all the process statuses and intake interviews in all. However, the large number of different video conferencing platforms simultaneously divided the information over multiple tools, making it harder for employees to keep track of important work and appointments. All in all, most new tools and technologies increased efficiency and productivity, although this did not directly impact organizational performance. On the other hand, organizational overview both increased and decreased due to the presence of many new tools.

- RQ3: What was the impact of changing organizational norms and work practices, as well as the digital tools and technologies adopted during the pandemic, on the employees' experience and well-being?

The experience and well-being of employees were impacted due to the changing norms and work practices and the adopted digital tools and technologies. First, working from home and remotely gave many of the employees more freedom and flexibility compared to working with the constant need for consultation. Not all employees enjoyed this freedom, especially adolescents, since this was one of many changes during the pandemic that took away most of their social interactions leading to feelings of depression, anxiety, and loneliness. These employees suffered from isolation. Working from home also majorly impacted young families since they had to balance childcare and work completion. A decrease in energy and motivation due to the feeling of boredom and lack of engagement was also seen by the organizations. Employees agreed that tasks and processes became duller and more monotone due to the implementation of new tools and technologies and it became clear to the managers who did and who did not enjoy their work, leading to a decrease in job satisfaction and productivity. Next, a more significant number of declined offers negatively affected the sales department. Finally, both managers and employees had to deal with the constant need for availability. One of the issues while working remotely is that it could give employers and employees the feeling of needing to be constantly available. While in the office, people would take breaks at the coffee machine or co-workers would interrupt them to go eat lunch. This was not the case when working from home. The need for availability can cause feelings of anxiety and stress for both managers and employees. Therefore, organizations must help employees switch off and take regular breaks.

- RQ4: Based on their so-far experience, what is the plan of the organizations concerning the return to pre-pandemic tools, technologies, norms, and work practices, fully or partly?

A combination of interviews and survey results answers this sub-question. The new tools and technologies organizations implemented during Covid-19 were mostly to increase efficiency and not as a workaround. Therefore, organizations agree that the possibility for measures such as working from home or remotely should stay, however, they also agree that it should not be the main goal. Most organizations favor a hybrid system where working in the office is the baseline and working from home is a possibility, to increase flexibility and freedom. Other tools and technologies implemented will also remain in use. The only norms and work practices that will go back to their old ways are the ones that used tools and technologies as

a workaround during the pandemic. This does not mean that those tools will completely disappear. These tools and technologies will be archived so that they could be easily re-implemented if a new situation arises. The only note made by both employees and organizations is the fact that new tools and technologies should be implemented more appropriately. All in all, the future of most organizations is not related to the pandemic. The biggest problem in the near future is to find a way to bring all tools and technologies together to improve organizational overview through, for example, an interface.

6.1 Research Conclusion

Returning to the main research question of this research:

- **What was the effect of the pandemic on Dutch SMEs, with emphasis on technology uptake, (digital) work practices, perceived organizational and employee performance, experience, and well-being?**

The research reveals that Small to Medium-sized organizations within The Netherlands were heavily affected during the recent Covid-19 pandemic and implemented a large number of tools and technologies during this time. Managers and employees saw an increase in efficiency and productivity due to these tools and technologies through enabling digital work (e.g. working from home or remotely) and changing norms and work practices. However, this increase in efficiency and productivity did not always improve the perceived performance of the organizations and employees. An example of this is the higher efficiency in the work processes allowing employees to send out more invoices or plan more meetings with the client online. Simultaneously the conversion rate per sale decreased.

Finally, the well-being of the employee was also affected. Some employees found that working from home or remotely gave them freedom and improved their well-being. However, organizations saw that the new tools and technologies decreased the energy and motivation of employees by creating duller and more routine work. Although employees did not agree significantly with the decrease in energy and motivation, they did agree that their work became more monotonous. Especially the well-being of adolescents and young families was hit hard during the pandemic according to the interviewees. During working from home, young parents had to work while simultaneously taking care of their children, which increased stress levels. On the other hand, adolescents lost social connections and suffered from

isolation and anxiety. In both these cases, working from home negatively impacted the employee's well-being.

In the future, organizations aim to maintain work in the office as the baseline with the possibility of working remotely. Next to this, organizations seek to streamline the tools and techniques implemented during the pandemic, considering employee experience.

In conclusion, organizations must be able to effectively use digital technology to achieve their goals. A list of recommendations for organizations in terms of digital technology, such as the one proposed by this study, can help organizations assess their goals, understand the technology, select the right technology, implement and integrate the technology, and monitor and evaluate its use. By following these recommendations, organizations can optimize the use of digital technology to achieve success.

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Appendix

A

A.1 All Relevant Figures used During the Research

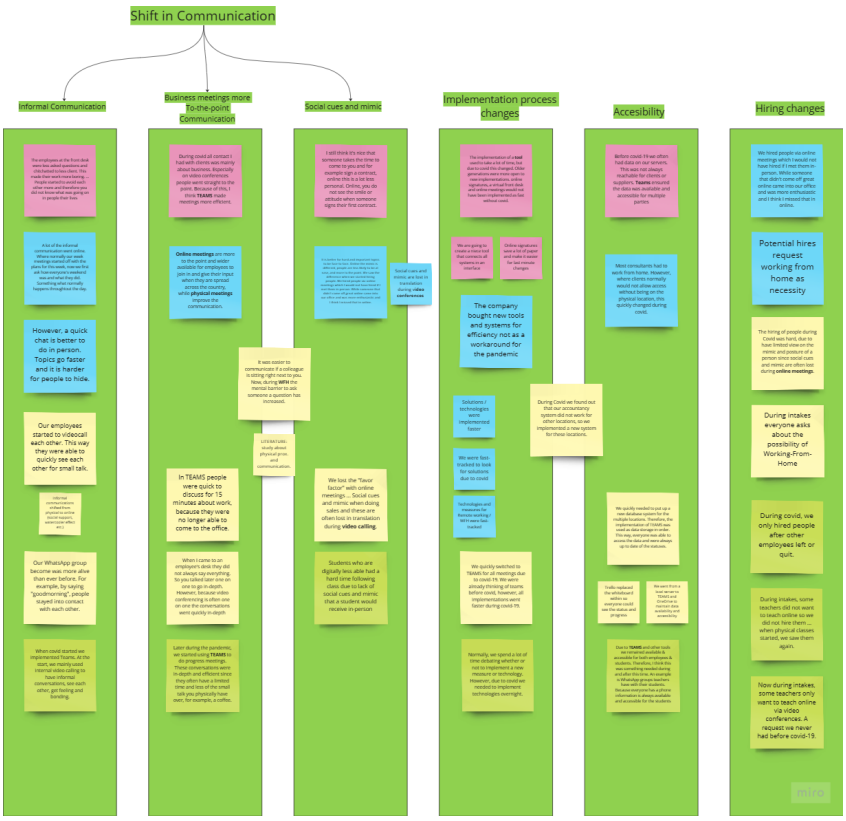

Fig. A.1.: Statements on how have organizations adapted their norms and work practices under the Covid-19 pandemic in their respective contexts.

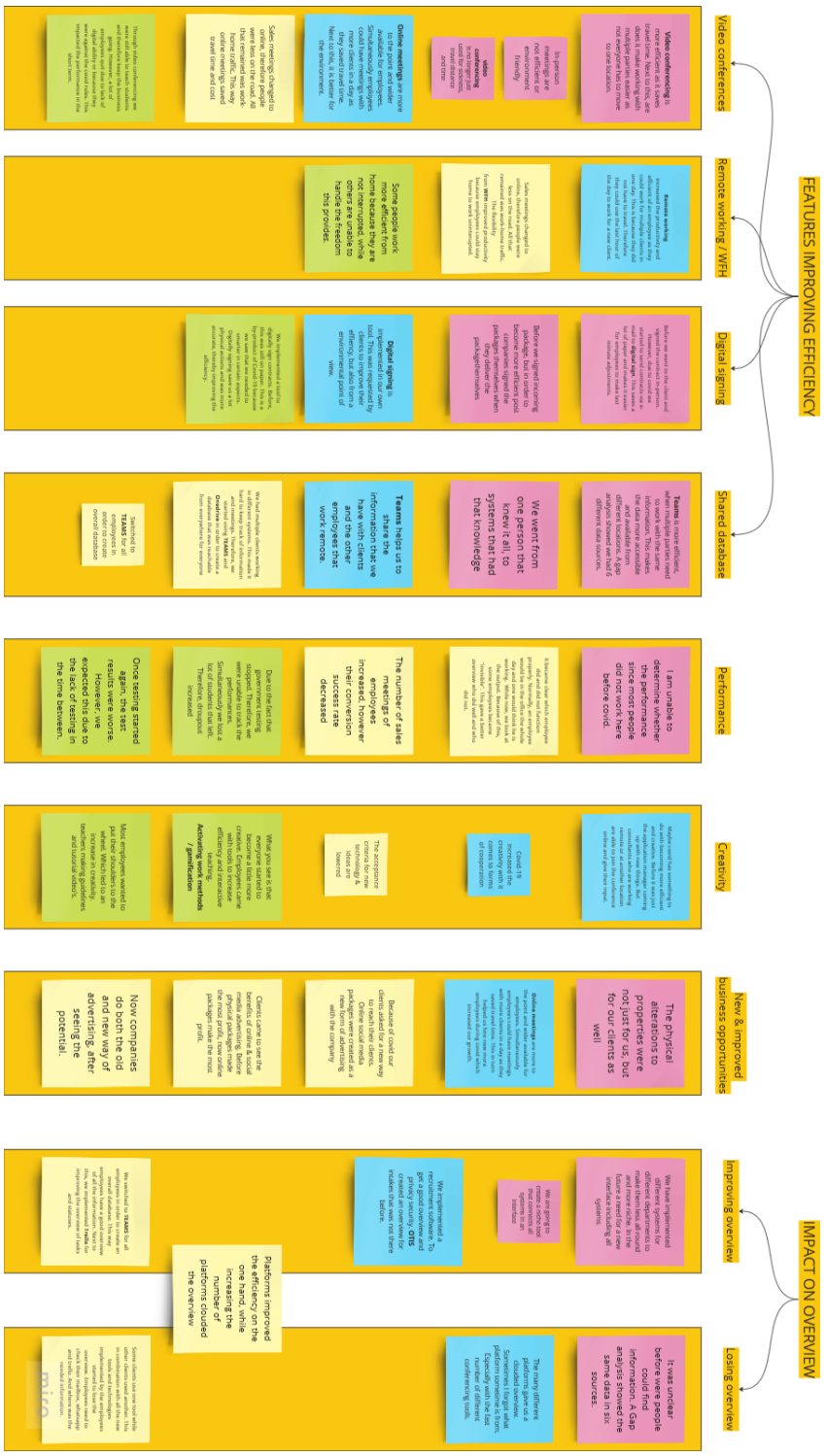

Fig. A.2.: Statements on what was the impact of changing the work practices from offline to online on the employees' perceived performance.

Fig. A.3.: Statements on based on their so-far experience, what is the plan of the companies concerning the return of pre-pandemic norms and practices, fully or partly.

A.2 Statistical Test Results

	Test Value = 4						
	t	df	Significance One-Sided p	Significance Two-Sided p	Mean Difference	95% Confidence Interval of the Difference Lower	95% Confidence Interval of the Difference Upper
Age	.000	32	.500	1.000	.000	-.44	.44
Q2.1	.830	32	.206	.413	.242	-.35	.84
Q2.2	9.469	32	<.001	<.001	1.848	1.45	2.25
Q2.3	3.076	32	.002	.004	.758	.26	1.26
Q2.4	5.014	32	<.001	<.001	1.000	.59	1.41
Q2.5	1.391	32	.087	.174	.485	-.22	1.19
Q3.1	4.724	32	<.001	<.001	1.212	.69	1.73
Q3.2	2.820	32	.004	.008	.818	.23	1.41
Q3.3	12.000	32	<.001	<.001	1.909	1.59	2.23
Q3.4	9.043	32	<.001	<.001	1.576	1.22	1.93
Q3.5	-1.512	32	.070	.140	-.333	-.78	.12
Q3.6	3.638	32	<.001	<.001	.788	.35	1.23
Q4.1	4.163	32	<.001	<.001	1.242	.63	1.85
Q4.2	.647	32	.261	.522	.242	-.52	1.01
Q4.3	-1.418	32	.083	.166	-.545	-1.33	.24
Q4.4	-1.666	32	.053	.105	-.576	-1.28	.13
Q4.5	-.754	32	.228	.456	-.212	-.78	.36
Q4.6	2.616	32	.007	.013	.697	.15	1.24
Q4.7	.262	32	.397	.795	.091	-.61	.80
Q4.8	-.442	32	.331	.662	-.152	-.85	.55
Q4.9	5.585	32	<.001	<.001	1.576	1.00	2.15
Q5.1	6.335	32	<.001	<.001	1.606	1.09	2.12
Q5.2	11.530	32	<.001	<.001	2.091	1.72	2.46
Q5.3	10.245	32	<.001	<.001	1.879	1.51	2.25
Q5.4	10.246	32	<.001	<.001	1.697	1.36	2.03

Fig. A.4.: The T-Tests results for each of the survey questions. The reference labels can be found in Figure 3.5.

ANOVA

		Sum of Squares	df	Mean Square	F	Sig.
Q2.1	Between Groups	16.094	4	4.024	1.025	.412
	Within Groups	109.966	28	3.927		
	Total	126.061	32			
Q2.2	Between Groups	33.522	4	8.381	1.913	.136
	Within Groups	122.659	28	4.381		
	Total	156.182	32			
Q2.3	Between Groups	2.957	4	.739	.428	.787
	Within Groups	48.376	28	1.728		
	Total	51.333	32			
Q2.4	Between Groups	13.850	4	3.463	1.392	.262
	Within Groups	69.665	28	2.488		
	Total	83.515	32			
Q2.5	Between Groups	18.057	4	4.514	1.190	.337
	Within Groups	106.185	28	3.792		
	Total	124.242	32			
Q3.1	Between Groups	13.484	4	3.371	.833	.515
	Within Groups	113.244	28	4.044		
	Total	126.727	32			
Q3.2	Between Groups	13.737	4	3.434	1.260	.309
	Within Groups	76.323	28	2.726		
	Total	90.061	32			
Q3.3	Between Groups	14.269	4	3.567	.747	.569
	Within Groups	133.791	28	4.778		
	Total	148.061	32			
Q3.4	Between Groups	4.328	4	1.082	.244	.911
	Within Groups	123.915	28	4.426		
	Total	128.242	32			
Q3.5	Between Groups	8.400	4	2.100	.883	.487
	Within Groups	66.570	28	2.377		
	Total	74.970	32			
Q3.6	Between Groups	12.363	4	3.091	1.674	.184
	Within Groups	51.698	28	1.846		
	Total	64.061	32			
Q4.1	Between Groups	3.081	4	.770	.464	.761
	Within Groups	46.434	28	1.658		
	Total	49.515	32			
Q4.2	Between Groups	7.133	4	1.783	.611	.658
	Within Groups	81.776	28	2.921		
	Total	88.909	32			
Q4.3	Between Groups	3.113	4	.778	.560	.693
	Within Groups	38.887	28	1.389		
	Total	42.000	32			
Q4.4	Between Groups	12.106	4	3.026	1.476	.236
	Within Groups	57.409	28	2.050		
	Total	69.515	32			
Q4.5	Between Groups	2.507	4	.627	.192	.941
	Within Groups	91.554	28	3.270		
	Total	94.061	32			
Q4.6	Between Groups	7.539	4	1.885	2.152	.101
	Within Groups	24.522	28	.876		
	Total	32.061	32			
Q4.7	Between Groups	3.019	4	.755	.261	.901
	Within Groups	81.041	28	2.894		
	Total	84.061	32			
Q4.8	Between Groups	16.408	4	4.102	2.231	.091
	Within Groups	51.471	28	1.838		
	Total	67.879	32			
Q4.9	Between Groups	4.662	4	1.166	1.343	.279
	Within Groups	24.308	28	.868		
	Total	28.970	32			
Q5.1	Between Groups	5.962	4	1.491	1.217	.326
	Within Groups	34.280	28	1.224		
	Total	40.242	32			
Q5.2	Between Groups	9.067	4	2.267	2.400	.074
	Within Groups	26.448	28	.945		
	Total	35.515	32			
Q5.3	Between Groups	1.368	4	.342	.378	.823
	Within Groups	25.359	28	.906		
	Total	26.727	32			
Q5.4	Between Groups	1.803	4	.451	1.872	.143
	Within Groups	6.743	28	.241		
	Total	8.545	32			

Fig. A.5.: The ANOVA results for each of the survey questions. The reference labels can be found in Figure 3.5.

	Q2.1	Q2.2	Q2.3	Q2.4	Q2.5
18-24	3,8	5,5	5,0	5,3	4,3
25-34	4,4	6,1	4,3	4,6	5,1
35-44	3,8	5,9	4,3	5,1	4,2
45-54	3,7	4,7	5,3	5,7	4,7
55-64	5,5	6,2	5,8	4,8	4,3

Fig. A.6.: Average answers per age group for questions Q2.1 to Q2.5

A.3 List of all relevant statements

A.3.1 All Relevant Statements Made by Organization 1

When covid started we implemented Teams. At the start, we mainly used internal video calling to have informal conversations, see each other, get a feeling, and bonding

Later during the pandemic, we started using TEAMS to do progress meetings. These conversations were in-depth and efficient since they often have a limited time and less of the small talk you physically have over, for example, a coffee.

Students who are digitally less able had a hard time following class due to a lack of social cues and mimic that a student would receive in person.

Normally, we spend a lot of time debating whether or not to implement a new measure or technology. However, due to covid, we needed to implement technologies overnight.

Due to Teams and other tools we remained available and accessible for both employees and students. Therefore, I think this was something needed during and after this time. An example is the WhatsApp groups teachers have with their students. Because everyone has a phone information is always available and accessible for the students.

Now during intakes, some teachers only want to teach online via video conferences. A request we never had before covid-19.

We had multiple clients working in different systems. This made it hard to keep track of information and meetings. Therefore, we started using TEAMS and Onedrive in order to create a database that was reachable from everywhere for everyone.

Some people work more efficiently from home because they are not interrupted, while others are unable to handle the freedom this provides.

We implemented a tool to digitally sign contracts. Before, this was still on paper. This is a by-product of Covid-19 because we saw that we needed to be smarter in certain aspects. Digitally signing save us a lot of physical actions and was more accurate, thereby improving efficiency.

Due to the fact that government testing stopped. Therefore, we were unable to track the performances. Simultaneously we lost a lot of students that left. Therefore, the dropout rate increased. Once testing started again, the test results were worse. However, we expected this due to the lack of testing in the time between.

Most employees wanted to put their shoulders to the wheel. Which led to an increase in creativity. teachers making guidelines and tutorial videos.

What you see is that everyone started to become a little more creative. Employees came with tools to increase efficiency and interactive teaching. Activating work methods/gamification.

The younger generation wants more freedom and Working From Home, while older generations prefer a cozy workspace, contact with others, and being in a different environment.

Some employees did not feel comfortable teaching this way, where the students see you but you cannot see the students.

The longer covid was around the more complaining increased. Employees lost motivation and did not want to work at home anymore. Especially colleagues that live alone.

I want to give everyone freedom when it comes to Working From Home however I want them to know what the baseline is. People can work from home if they think it is necessary ... I prefer a hybrid system where the baseline is working in the office with the possibility of working from home.

We will keep using technologies such as Teams that save time and are more efficient. However, we stopped online testing and went back to physical tests. The same goes for the intake of new students. This is also due to privileged information. However, there are exceptions, such as sickness. Therefore, it will remain an ace up our sleeve.

In the future, we want to implement an online learning environment for our students where there is no need for a physical book. Where one meets once or twice a week with a teacher. Right now, this is a market need.

A.3.2 All Relevant Statements Made by Organization 2

A lot of the informal communication went online. Where normally our weekly meetings started off with the plans for this week, now we first ask how everyone's weekend was and what they did. Something that normally happens throughout the day.

Online meetings are more to-the-point and wider available for employees to join in and give their input when they are spread across the country, while physical meetings improve communication.

It is better for hard and important topics to be face-to-face. Online the mimic is different, people are less likely to be at ease, and more to the point. We saw the difference when we started hiring people. We hired people via online meetings which I would not have hired if I met them in person. While someone that didn't come off great online came into our office and was more enthusiastic and I think I missed that online.

We were fast-tracked to look for a solution due to covid. Solutions and technologies were implemented faster. However, the company bought new tools and systems for efficiency, not as a workaround for the pandemic.

Most consultants had to work from home. However, where clients normally would not allow access without being on the physical location, this quickly changed during covid.

We hired people via online meetings which I would not have hired if I met them in person. While someone that didn't come off great online came into our office and was more enthusiastic and I think I missed that online.

Potential hires request working from home as a necessity.

Online meetings are more to the point and wider available for employees. Simultaneously employees could have meetings with more clients in a day as they saved travel time. Next to this, it is better for the environment.

Teams helps us to share the information that we have with clients and the other employees that work remotely.

Remote working increased the productivity and efficiency of an employee as they could work for multiple clients in one day. This is because they did not have to travel. Therefore they could use the last hour of the day to work for a new client.

Digital signing is implemented in our own tool. This was requested by clients to improve their efficiency, but also from an environmental point of view.

Maybe covid has something to do with becoming more efficient and creative. Before it was just the application manager coming up with new things. But consultants who are working remotely or at another location are able to join the conference online and give their input.

Online meetings are more to the point and wider available for employees. Simultaneously employees could have meetings with more clients in a day as they saved travel time. This in turn helped us hire new more employees during covid which increased our growth.

We implemented a recruitment software. To get a good overview and privacy security. OTIS created an overview for intakes that was not there before.

The many different platforms gave us a clouded overview. Sometimes I forgot what platform sometime is from. Especially with the fast number of different conferencing tools.

Some employees loved the freedom of Working From Home. They were able to do hikes and workouts during work. While others are happy that they do not have travel time.

Single adolescents fell into a black hole. Because they lost everything. Sport, friends, school. Always being alone in their room.

Families with young kids had a hard time focusing on work because they had to entertain their kids as well.

On a screen, people feel like being constantly watched.

Sales managers get a lot of energy from traveling. That aspect of the job was gone during covid. now all they needed to do was repetitive tasks, such as writing up orders. They complained that it got a little boring and monotone.

Remote working will partly stay. Some people just work better working remotely, while others need the office. I think for those people a hybrid system is needed.

The company bought new systems for efficiency, not as a workaround for the pandemic. Therefore, all the tools implemented during covid will remain in use. However, technology such as webinars and online meetings will partly go back to the physical aspect.

Our future plans are not really covid related, but because we are still growing. Right now we want to implement interfaces to connect all tools, in order to improve the overview.

A.3.3 All Relevant Statements Made by Organization 3

During covid, all contact I had with clients was mainly about business. Especially in video conferences, people went straight to the point.

The implementation of a tool used to take a lot of time, but due to covid, this changed. Older generations were more open to new implementations. online signatures, a virtual front desk, and online meetings would not have been implemented as fast without covid.

Before covid-19 we often had data on our servers. This was not always reachable for clients or suppliers. Teams ensured that the data was available and accessible to multiple parties.

Video conferencing is more efficient as it saves travel time. Next to this, it makes working with multiple parties easier as not everyone has to move to one location.

We went from one person that knew it all, to systems that had that knowledge.

Before we went to the client and signed the contract in person. However, due to covid, we started to send contracts via e-mail to sign digitally. This saves a lot of paper and makes it easier for employees to make last-minute adjustments.

It was unclear before where people could find information. Gap analysis showed the same data in six sources.

Even though Working From Home is not as applicable to our sector, I do think it is important that there is a possibility for Working From Home.

The new tools and technologies such as Wish, Brics and Pipedrive will stay as they would have been implemented without covid. However, covid fast-tracked the implementation.

In the future, we want to implement an employee rating system for employee of the month. Next to this, we are trying to implement a new technology that helps with the maintenance of buildings, where people can scan a QR code and tell what the problem is.

"I think we need to use our channels more appropriately in the future. We ask questions in the wrong channels.

A.3.4 All Relevant Statements Made by Organization 4

Our employees started to video call each other. This way they were able to quickly see each other for small talk.

Our WhatsApp group became more alive than ever before. For example, by saying 'good morning', people stayed in contact with each other

When I came to an employee's desk they did not always say everything. So you talked later one on one to go in-depth. However, because video conferencing is often one-on-one the conversations went quickly in-depth.

We lost the "favor factor" with online meetings ... Social cues and mimic when doing sales and are often lost in translation during video calling.

It was easier to communicate if a colleague is sitting right next to you. During Working From Home the mental barrier to asking someone a question has increased. Instead of turning their head and talking. They needed to click to call or type in their question, which gave them time to hesitate.

We quickly switched to Teams for all meetings due to covid-19. We were already thinking of teams before covid, however, all implementations went faster during covid-19.

During Covid, we found out that our accountancy system did not work for other locations, so we implemented a new system for these locations.

We quickly needed to put up a new database system for the multiple locations. Therefore, the implementation of TEAMS was used as data storage in order. This way, everyone was able to access the data and was always up to date on the statuses

The hiring of people during Covid was hard, due to having a limited view on the mimic and posture of a person since social cues and mimic are often lost during online meetings.

During intakes, everyone asks about the possibility of Working-From-Home.

Sales meetings changed to online, therefore people were less on the road. All that remained was work-home traffic. This way online meetings saved travel time and cost.

Sales meetings changed to online, therefore people were less on the road. All that remained was work-home traffic. The flexibility of Working From Home improved productivity because employees could stay home to work uninterrupted.

The number of sales meetings of employees increased, however, their conversion success rate decreased.

Because of covid our clients asked for a new way to reach their clients. Online social media packages were created as a new form of advertising with the company

Clients came to see the benefits of online and social media advertising. Before physical packages made the most profit, now online packages make the most profit. Now companies do both the old and new way of advertising, after seeing the potential.

We switched to TEAMS for all employees in order to create an overall database. This way employees have a good overview of all the information. Next to this, we implemented Trello for improving the overview of tasks and statuses.

Some clients use one tool while other clients used another. This in combination with all the new tools and technologies implemented by the employees started to lose the overview. Employees need to check their mailbox, WhatsApp, and Trello. And where was the needed information.

Working From Home gave freedom that some employees enjoyed while others did not. At home, employees could become lonely.

Families with children were the first to ask to come back into the office.

I think we especially need to keep the flexibility that comes with Working From Home. It makes people more productive and happier. This is because coming to work 5 days a week could start to feel like a chore.

The new technologies increased efficiency and overview of specific tasks while employees are happy to work with the technologies implemented. Therefore, we will not go back to pre-covid work practices for the most part.

In the future, we want an interface for all the channels. We have it for different social media content, so why wouldn't it work for the channels?