REMOTE WORK IN INFORMATION TECHNOLOGY

How has the new wave of remote work affected employees in an IT company?

Abstract

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Abstract

How do employees adjust to working remotely when a rapidly developing global pandemic forces them into it? Is remote work the future of work, or is it just a necessary evil that must be endured for the duration of the pandemic?

Before conducting a deductive study in the thesis, it was necessary to study past remote work studies. Based on them, the following hypothesis was formed. Remote working is a good option for some employees, but others might struggle with work-life balance issues and loneliness. Furthermore, with the pandemic forcing people to adjust to the new work situation rapidly, the results were expected to be more mixed than otherwise.

A question form was created to gather data from the company. Around half of the organization's employees ended up responding to it. Not as many as would have been hoped, but enough to give a reasonably good, albeit not complete, view of the whole organization's perspective on remote working.

The data was gathered in both numerical and text form. First, the numerical data was colour-coded and analyzed for different groups and behavioural models. Then the text-based data was searched for themes using thematic analysis. Finally, these themes were quantified.

The analysis shows that the organization's employees adjusted well to remote working. Most saw an improvement in their motivation, particularly those who had struggled in the past. The respondents liked remote working so well that all of them would want to continue to work remotely in the future. The largest issues are with the distractions respondents had at home. As a follow up to the thesis work, these distractions could be studied in more detail, and their impact on work-life balance and work welfare should be assessed. Remote working can be a permanent policy for many organizations, but its impact should be assessed for a longer period of time.

CONTENTS

1   INTRODUCTION

Around February and March 2020, coronavirus began to spread rapidly throughout the world. Out of the European countries, Italy and Spain were the hardest hit, but soon it also spread to every other European nation. In Finland, the response was to shut down the country in late March. As a result, many companies decided to allow their employees to work from home. This unexpected change in people's work forced many to change how they work and many organizations to digitalize rapidly.

The author worked as an intern at Avenla, a Lahti based software development company, when this news hit and, like everyone else, had to work the remaining two months entirely remotely. To the author, remote working had both benefits and downsides. Elimination of commuting saved over an hour each day, and working on a more familiar home PC was much easier. However, on the other hand, the home office had many distractions that slow down work and keeping in contact with other interns was not always easy.

Remote work is often advertised as an innovative and better way to work, and speaking from experience, the IT industry seems to be very well suited for it. When the work is mainly done with a computer, it looks easy to transfer everything home and keep working there. However, it might not be as easy in all organizations and might cause some unforeseen issues. In addition to issues mentioned in the previous chapter, the author experienced operating system incompatibilities when moving certain software to their home PC.

This study aims to complete a survey of Avenla employees to determine if any such issues have risen for them and investigate how they have adjusted to working from home from the perspective of work welfare and work-life balance.

2   STUDY DESCRIPTION

2.1   Research question

Coronavirus has forced an unprecedented number of workers to move to work remotely. In every career path where possible, doing work from home is one of the most effective ways of avoiding physical contact and thus limiting the risk of being exposed to coronavirus. IT seems particularly well prepared for such a move. Most of the work is done through computers already, and parts that are not – such as customer meetings – can also be done via online communication services like Zoom. It is essential to know how this sudden change affects employees. Will they suffer from isolation when they are not able to see their colleagues? Will they triumph when the distractions of office are eliminated from the equation? Finding answers is important since many companies have announced they will have remote work as a permanent option for their workers. Among these are large corporations like Facebook, Twitter, Shopify, and Slack. (Beneveniste 2020) Looking at those companies, noticeably, they are all companies operating primarily in the IT sector, providing electronic services to their customers. Other fields could benefit from remote working, but IT is well prepared for it.

This thesis studies how the sudden move to remote working affects the employees at Avenla and highlights any issues it has caused. It is essential for the company management to know how their employees are doing, even when they are not working at the office, and this study helps to get a general picture of that. In addition, remote working has sometimes been promoted as the way of the future, and it helps to see if Avenla could make use of it as a permanent option for its employees.

The research question:

How has the new wave of remote work affected employees in an IT company?

Supporting questions that help define the research question:

How has the change to remote work affected employees' work welfare?

What issues have arisen while working remotely?

This question gets across the point that the study is specifically focused on the effects of remote working, that is, how working remotely compares to traditional office work and how it has affected the employees, not the company. The employees' work welfare and work-life balance are important and are given a significant focus in the study. However, this is not a work welfare survey. The goal is not to map the level of work welfare in the company

but instead to compare how people's well-being, effectiveness, and overall work situation changes from their perspective when switching from traditional office work to working remotely.

Previous studies on the topic have collected their data with interviews and various question polls. They also show a clear trend that allows a clear hypothesis to be formed; hence this will be a deductive study. The focus is not just to observe the employees' experiences but also to see how they compare to findings of similar studies. Most of the older studies seem to have been quantitative ("This many people thought this of remote work…"), with the analysis focused purely on the numbers. This study draws inspiration from those studies but tries to take a more qualitative approach. With the smaller focus group, this approach should give more interesting results from the analysis.

The survey is conducted with Avenla, a Lahti-based IT company with around 40 employees working at their offices. When the coronavirus started to spread, they encouraged their workers to work remotely. Thus, all meetings and communication were moved to online platforms, and most of the work was done from home. This arrangement continued for the rest of the year 2020 and into 2021.

With only 40 employees, the study's focus group is small, limiting the applicability of the study. In addition, IT is very different from many other fields in that most of the work is done on a computer, which makes transitioning to remote working easier. Therefore, the results of this study cannot be directly applied to any other field nor any other company.

Additionally, the working methods at a small IT company can differ from those of the larger ones, which means that significantly larger IT companies could also have different results. However, similarly sized companies, where most of the work is already done on computers might expect to see similar results and thus benefit from this study. Company culture and methods will also play a large part in how applicable these results are. With remote working, the home environment also plays a part. It cannot be directly controlled by the company or their policies. For this reason, the results from similar studies done at very similar companies can differ significantly. The results could be different in a company with larger groups working together on a single project as that places more emphasis on teamwork and team communication, something that is significantly different when working remotely. The greatest benefit is for Avenla itself, as they can use the results of this study to align their future policy towards remote working with the viewpoint of their employees.

2.2   Tools of the study

This study conducts empirical research. First, data is collected to measure a specific phenomenon, remote working in this instance. This data is then compared with a hypothesis that is formed based on information gathered by older studies. This hypothesis utilizes data from several studies on remote working and is constructed in chapter 3.7. Before the comparison, the data is refined and analyzed. This approach to research of testing an existing hypothesis is called deductive research.

The data is collected using a Google Forms question poll that is sent to every employee. The form is open for the employees for at least two weeks to give them enough time to respond. It is essential to get as many responses as possible so that the results provide a helpful picture of the situation at the company.

The question form has split the questions into larger categories. These are work welfare, leadership, work-life balance, efficiency, issues. The poll also gathers respondents' age groups and genders, making it possible to analyze any possible variance between them. The answer options are mainly on a 1 to 5 linear scale, with 1 being the worst or smallest outcome and 5 being the best or largest. There are also free-form questions that help answer some topics better. An example of such a question would be, "*What kind of disturbances (that have an impact on your work) do you have at home?*". The analysis process for these questions is naturally different from the numerical data. The employees are also given an email to send any additional thoughts and questions if they so choose.

The process of analyzing the data begins by moving the data to Excel for refinement. For the numerical data, this means colour-coding to make it more readable and calculating each question pair's changes. This data is not in the final report, but it makes further analysis more manageable. After this, the data is searched for patterns. For example, how did the results of those with low motivation at the office change once they moved to remote work? If it is possible to form any such "behavioural models", specific starting points consistently leading to the same end results. These groups, if found, are named appropriately and described in detail.

The process for free-form answers is different. There are only a handful of these questions in the poll, and they all relate to the "Distractions" category. The goal is to sort the data into themes. This process is known as thematic analysis, and it is one of the most frequently used methods in qualitative research (The University of Auckland 2021). Examples of possible themes for the question "*What kind of disturbances (that have an impact on your work) do you have at home?*" would be "Family", "Neighbors", or "Mental health

challenges". These themes are also quantified to help explain the significance of each theme.

Finally, the study results are compared to previous studies about remote working and the hypothesis based on them. The plethora of existing studies already form a good picture of how switching to remote work usually affects employees. Some of them are older, but there are many recent studies as well, even some completed during the coronavirus pandemic. Chapter 3.6 covers these studies in more detail and builds the hypothesis.

3   THEORETICAL BACKGROUND

The research question "How *the new wave of remote work has affected employees in an IT company?*" contains some elements that need defining. This chapter and its subchapters will define all those relevant concepts. In addition, previous studies on work welfare and remote work will also be investigated and covered in this chapter. Finally, a hypothesis will be formed in chapter 3.7.

3.1   Work welfare

Work welfare (fin. *työhyvinvointi)* is a term that is difficult to translate directly. In essence, it means a combination of good work practices, the employees' health and the organization, leadership, employee happiness, and good work-life balance. Work welfare is an essential investment for all companies, as it has a positive effect on factors such as employee productivity, worker retention, net profit, absenteeism, and customer satisfaction. (THL 2020.)

The organization is responsible for many aspects of work welfare, but that does not mean that the employee cannot improve their well-being by themselves. A healthy lifestyle (both mentally and physically), passion for their work, good work-life balance, and maintenance of their skills play a vital part in improving work welfare. Organization and leaders can focus on creating a healthy work environment and maintaining good leadership practices. Good workplace community, office space, ergonomics, and reasonable working hours together form a healthy workplace environment. One of the significant challenges of remote working is adjusting to the fact that the organization should provide these for people who are not working in the same place physically. Good leadership includes quality feedback, openness, transparency, and support of the employee both in and outside work (Lockwood, 2003, 5-6; THL 2020.)

As illustrated in Figure 1, the Center for Occupational Safety believes in five steps that together support work welfare. These steps can be supported by both the organization and the employee. First is health, a fundamental need for everyone. The organization can support the employee's health by providing work sponsored healthcare, having healthy meals at work, and ensuring the work is not too overloading. In the end, the employee is responsible for their own health, and they can maintain it with a healthy lifestyle. The second step is *safety*. The employer provides this with proper working conditions and a good contract, and the employee guarantees it by following safe work practices and working ergonomically. The third step is *community*. Most people feel the need to be part of a community. A work organization can provide this through sound leadership, helping their employees

network, and supporting social relationships between employees. The fourth step is called *appreciation.* This is reinforced by the organization leadership in the form of feedback, rewards, and performance appraisals. The values of the organization can also play a part in reinforcing or weakening this step. The employee can also help themselves by taking an active role in the organization. The fifth and final step is *Professionalism.* Both organization and employee can support this by maintaining and developing the employees' skills. Additionally, allowing employee freedom and creativity in their work boosts this final step. (Rauramo 2009, 3.)
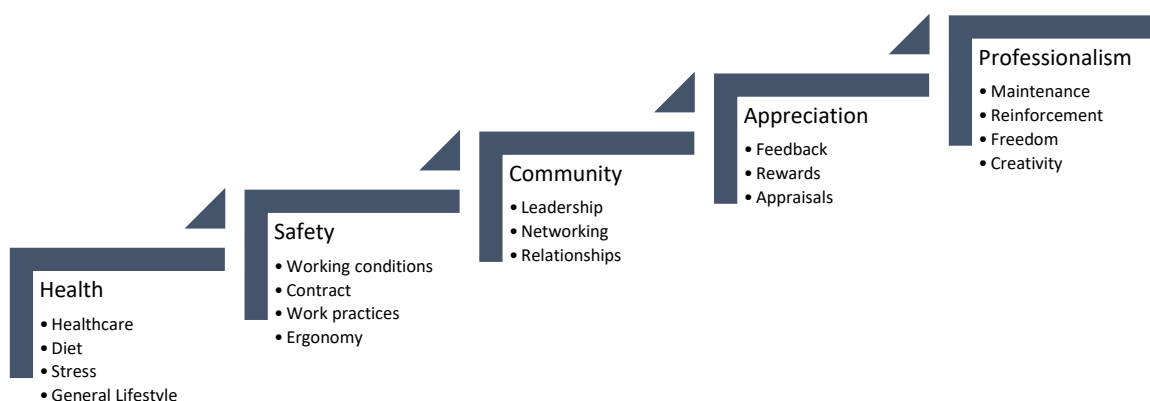

Figure 1. The five steps of work welfare according to the COS. (TTK 2009, 3.)

These steps go up in the order of importance, with basic needs like health and safety being the most important, and appreciation and professionalism coming last. However, all these together are essential in forming a healthy working community and allowing the employees to have good work welfare. (Rauramo 2009, 2-3.)

Studies evaluating an organization's work welfare (or work-life balance) need to gather data from the entire organization. Past studies have utilized question forms, interviews, and group discussions to get this data (Mikkonen 2011, 26-28.). The "Five steps of work welfare" by the Center of Occupational Safety, for example, is just a part of a training package that helps the organization understand and improve the work welfare situation at their workplace. (Rauramo 2009, 1.)

3.2 Work-life balance

Work-life balance is a broad term that is difficult to define accurately. Lockwood defines it as meaning different things to different people. One of the older definitions is work/family balance, referring to the managing of work and family responsibilities. However, this definition is not used as commonly today because it only applied to people with families. Therefore, the more commonly used term is work-life balance, as it applies more generally

to everyone. For example, to one person, it can mean balancing work responsibilities with family commitments, whereas to another, it can mean managing conflicts between work and one's hobby. (Lockwood 2003, 2-3.)

Work-life balance can be disturbed from both ends. Work-to-life issues are caused by employers that are unsupportive of worker's lives beyond their work. This conflict can be reduced by a supportive network outside of work. Unsupportive partners often cause Life-to-work conflicts, and it can be remedied by the employer's family-friendly policies. (Lockwood 2003, 4.)

When there are issues with this balance, employees often suffer from too high stress levels. High stress can cause many health issues, such as sleep difficulties, depression, substance abuse, and social isolation (Mattila 2018). An employer can help prevent these issues through work-life programs and good organizational policies. Good organization policies should consist of the following. Work hours that do not bother family life, employees' career can advance without adverse effects on family life, and the organization leadership is flexible and interested in the well-being of the employee and their family. (Lockwood 2003, 4-5.)

The benefits of a good work-life balance are numerous. Employees have lower stress levels, can have a better relationship with their family and spend more time with their hobbies. This translates to benefits for the employer as well. Workers with a good work-life balance are more productive, have higher morale, are taking sick leave less often, and produce higher quality work. (Lockwood 2003, 6-7.)

3.3   Remote work

Remote work is also known as telecommuting or simply working from home (Bloom et al. 2013, 2.). However, working remotely does not always mean working from home. The whole point of remote work is the freedom and flexibility of choosing where and when to work. It can mean more than just working from home. For instance, a coder could easily do some of his work on their laptop at a local café, although it might not be recommended during the pandemic.

Remote working first gained popularity in the 1970s with so-called "home offices" equipped with computers and landline telephones (hence the term "telecommuting). Since then, it has grown in popularity as modern technology has made it more and more possible to work, not just from home, but from anywhere. Remote work has also been seen not as a replacement to working from the office but as a subsidy. Both can be combined for great effect. (Songsangyos & Iamamporn 2020, 85.)

Remote working has several advantages. Working remotely often offers flexibility in adjusting working hours and location to improve work-life balance (Songsangyos & Iamamporn 2020, 85.). However, there are downsides as well. One rather old study from 2004 found that people working from home suffered from increased isolation and loneliness. Some also found it more difficult to separate personal time from work. As one interviewee of the study put it, "When you work outside of the home, you come home to relax. Where do you go when you want to relax when you work at home?". However, the same study also confirmed the upsides in more flexibility in time management, which positively affected their work-life balance. (Crosbie & Moore 2004, 226.)

3.4 Coronavirus and the new wave of remote work

The first cases of the new strain of coronavirus originated from China, with a handful of patients seeking medical attention in December 2019. In January 2020, the virus spread to many neighbouring countries and the first few fatalities with the virus appearing in many continents by late January. By late February, there were virus cases everywhere and some "hotspots" in Italy and Iran and China. The situation there was a sign of things to come because, by late March, the outbreak was everywhere, and most international travel had been stopped. Many countries enacted curfews and other measures to slow down the spread of the virus. (Kantis et al. 2020.)

In Finland, the most significant restrictions were put in place on the 16th of March when schools, libraries, museums, theatres, and borders were closed (Nalbantogly & Muhonen 2020.). At this time, remote working started to become encouraged practice for organizations that could make the shift, including the target of this study, Avenla.

3.5 Information technology sector

The term "IT" is often associated with companies that produce software. IT sector, however, covers much more. The sector can generally be split into three groups, hardware producing companies, software producing companies, and semiconductor producing companies. Out of these, software companies are most relevant to this study. Software companies produce, for instance, computer applications, entertainment products, services, websites, social networks, and database services. (Miller 2020.)

Software companies are becoming very large and well known today, owing to the massive popularity of their products. Companies like Google, Amazon, and Microsoft all fall into this category. These corporations also provide hardware, so they can also be considered to belong to the category of hardware companies. (Miller 2020.)

3.6   Existing studies on remote working

There have been several studies on the effects of remote working throughout the years. Some have even been published after the start of the coronavirus pandemic.

Remote working has been steadily rising in popularity for a long time. One reason for this is that modern technology has made it very easy to do at least some tasks outside the workplace. According to Jones, in the US, the percentage of workers who have worked remotely rose from 9% in 1995 to 37% in 2015. The margin of error for these numbers is ±4%. (Jones 2015.) After the start of the coronavirus pandemic, these numbers have increased drastically. Now 33% say their work is done entirely remotely, and 25% say they work remotely partially. The margin of error for these numbers is ±4%. (Brenan 2020.) In Finland, remote working has become even more popular. In total, 59% of Finns have moved to work remotely, which is the highest percentage in Europe. (Työterveyslaitos 2020.)

According to most studies, remote working has both benefits and downsides. Some people may only see benefits, some only downsides, and some may have both. For example, a TINYpulse study conducted in the US found that employees who have the *choice* of working remotely are much happier with the arrangement than those who are *required* to work outside of their office. (TINYpulse 2020, 3.) This difference will be important for this study since the current situation has been forced upon employees, and even worse, they were given very little time to prepare

The same study lays a strong claim for remote working, claiming that 91% of remote workers believe they get more done working from home. These numbers should be examined a bit closer before closing the office and telling everyone to work from home permanently. Firstly, the study only claims a sample size of 509 U.S. employees. Secondly, this group of employees already work from home, and it is implied that 88% of them do so by choice. This ties into the previous point about those required to work remotely not necessarily being as happy about it as those who chose to do it. Finally, the question "Do you believe that you get more work done when working remotely?" was asked of the employees themselves. The answers are what the employees themselves believe, but the study does not have any evidence to verify that. (TINYpulse 2020, 1-6.)

A major downside of remote working has to do with the employees' relationships with their co-workers. The respondents of the TINYpulse study reported much lower satisfaction with their colleagues. Additionally, 27% said they had had issues due to not being physically in the same place. However, employees are happier with their relationship with their

supervisor. Most commonly, remote workers are in contact with their supervisor once a week, and they prefer it over other frequencies, such as daily or monthly contact. (TINYpulse 2020, 7-8.)

Another study was conducted in China, where travel agency employees worked four shifts from home and a fifth shift from the office. These employees were essentially making calls and providing customer service. The study found that homeworkers were making more calls per minute and spending more time working; otherwise, their productivity remained unchanged. The study attributes the increase in calls and accomplished work to a quieter work environment. (Bloom et al. 2013, 3.)

A more dramatic increase was found in work satisfaction, with job attrition rates falling by over 50%. However, as the study points out, this study's company was particularly suitable for remote working. Switching to homeworking might not be as simple or easy in all fields, so companies should consider that before making that switch. Another major positive was found in job attrition rates. Traditionally the turnover rate at the company had been around 50% per year, which understandably causes high costs in recruiting and training new employees. The experiment lasted only nine months, so the numbers cannot be directly compared with the yearly attrition, but during the experiment, the employees working from home had an attrition rate of 17%. In contrast, the control group's rate was double, 35%. (Bloom et al. 2013, 15-16.)

The common finding in these two studies is that while working remotely does not necessarily directly impact worker productivity (although there were some minor improvements), there is a great effect on work welfare. As covered previously in chapter 3.1, improvements in work welfare do positively affect the organization's success. (Bloom et al. 2013, 3; TINYpulse 2020, 1; THL 2020.)

The pandemic has provided a plethora of very recent sources due to many people having to work remotely. A study by Qualtrics shows that remote work might not be universally positive when it is forced upon employees, especially with only a short time to prepare. Of the employees who moved to a remote working environment, 44.4% said their mental health has declined. However, general anxiety and stress, not remote working itself, were the largest contributors to this decline, with 44.1% attributing their mental health decline to increased anxiety or stress. Issues with working remotely are only the fifth-biggest reason for declining mental health, with 8.5% blaming it for their worsened mental health. (Qualtrics 2020.)

The same group of employees have also reported changes in their productivity. While 25.4% think themselves more productive since the outbreak, and 42.2% do not report any

significant changes, a significant 32.5% find themselves less productive than before. This group is smaller than the group reporting declining mental health. It is uncertain if the remote work setting or mental health issues are causing the drop in productivity. The biggest reason for this drop is difficulty concentrating, reported by 28.3% of those whose productivity dropped. (Qualtrics 2020.)

An older study, published in 2004, argues for flexibility in homeworking policies to achieve the best results. This study investigated the opinions of people with more traditional home-working careers and found mixed results. Some people were happy with the situation, but many also struggled with separating work and life. As one interviewee put it, "*Sometimes I feel like throwing all my work things out of the window. When the room is full of cartons and work things, it is not my home; it is my factory, but my family have to live in my factory*". (Crosbie & Moore 2004, 228.)

3.7   Conclusions of older studies and the hypothesis to be tested

All the studies that have been looked at seem to draw similar conclusions. Remote working is a viable alternative for many people, but not all. If employees are given the *choice* of working remotely, they often find their work satisfaction and well-being improving dramatically. The direct effects on productivity and effectiveness are less obvious, but since happier workers are also more productive, there should be positive effects for the organization. However, the effects are less positive when remote working is not a choice and instead of a requirement. The adverse effects most commonly reported by studies are isolation, loneliness, and difficulty separating work from free time. Sometimes people also report technical problems keeping in touch with colleagues and customers.

The stress of the pandemic has brought on further stresses on people who are suddenly forced to work from home and socially isolate. This should be kept in mind when looking at recent studies since it might be easy to blame rapidly increasing anxiety and declining mental state on remote working and not recognize how the global situation around it was rapidly forced upon people. However, on the other hand, it is possible that remote working simply might not suit everyone, regardless of how it has come about.

Based on all this knowledge, it is possible to form a hypothesis that will be tested in our question form. The results are expected to be mixed due to the overall situation with the pandemic. For example, some people are expected to thrive working remotely, but there might also be many who do not. Issues expected to arise are isolation, loneliness, difficulties with work-life balance, and communication troubles. Technical issues are also expected, although with the respondents being from an information technology company,

these should be less prevalent than in a more general test group. The question form will attempt to identify these issues and give responders opportunities to identify other unexpected issues and positive changes. Figure 2 contains a summary of all expected changes, both positive and negative.
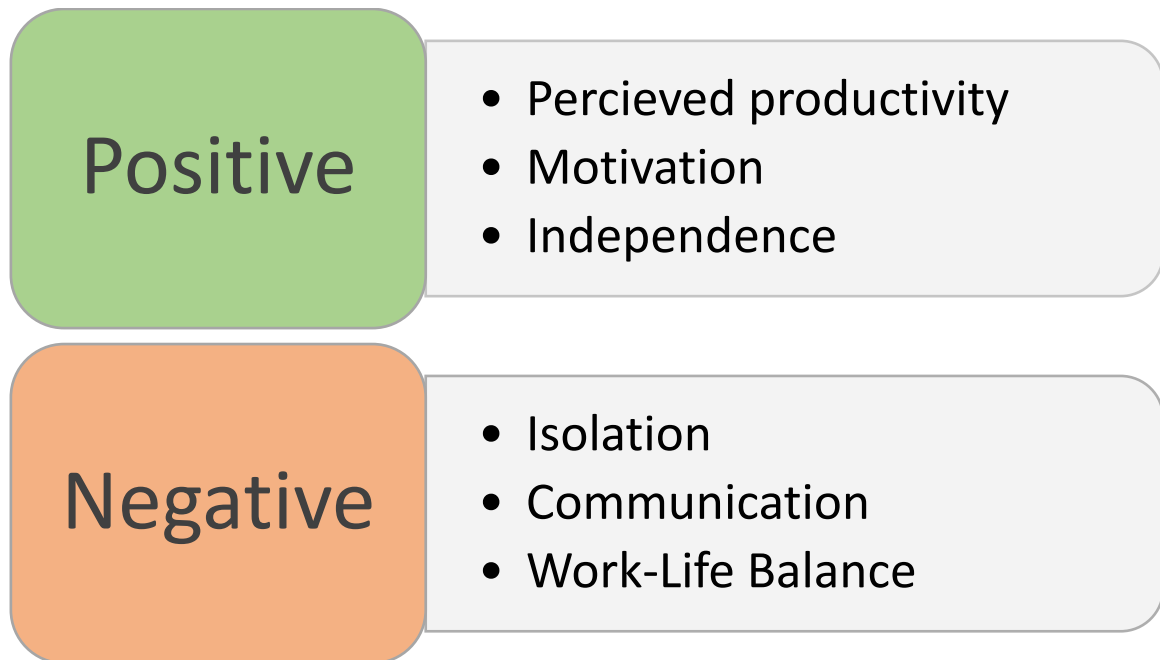

Figure 2. Summary of expected changes

4 THE RESEARCH PROGRESS

4.1 Analysis methods

The question poll was created after the creation of the hypothesis in 3.7. The goal of the questions was to collect information that would help with verifying/disproving the theory build in the hypothesis. The length of the poll was kept reasonably short so that it could be completed in 15-25 minutes. This decision forced some questions to be excluded from it, but it was hoped that the short length would make it more appealing to as many employees as possible.

The poll was available for the employees for two and a half weeks. After the poll was closed, the data was transferred from Google Forms to Microsoft Excel for clean-up and refinement. First, entries from employees who have not worked remotely were removed since they are outside the scope of the study. Then the numerical data was transcribed into a more visual form for easier analysis. In practice, this meant colour-coding values and calculating the percentage of change within each question pair where the point is to observe any possible change between office-work and remote-work. This data will not be part of the final report, but it helped in the next part of the process, searching for any patterns. Finally, all free-form answers were transcribed into clearer lists.

The refined data is easier to read, and the goal of analyzing it was to identify the overall trends within each category. This trend analysis was done partially for the company's benefit as this qualitative study will not use that information directly. However, it also makes it easier to search for patterns and themes, which is more important for this study. After this, the data is analyzed to see if it is possible to form any behavioural models for the employees – certain starting points leading to a specific end result, or vice-versa. If any such patterns are found, they will be named appropriately and described with as much detail as possible. Finally, the free-form text answers were analyzed differently. Here the goal was to find themes from the answers and quantify them. As shown in Figure 3. Example responses with possible themes highlighted, thematic analysis is done by searching for all the frequently occurring themes from the answers and lifting them from the rest of the text. Synonyms like "kids" and "children" are combined in the quantification process. In the example, the themes occurring in each text are bolded and given a darker colour. After this, the themes can be quantified to help prioritize them. For example, if family occurs in the responses five times and traffic only once, it can be said that family is a more prevalent source of distractions.

Working too long causes **motivational issues**. I like remote working, but sometimes I feel I need to get to the office for my work to progress better.

The amount of free time has diminished slightly, and I see at least two factors causing it.

We have small **children** at home, and my wife has to take care of other business occasionally. Previously, we could get an acquaintance of ours to watch over the children if needed. Now that I'm home, I take care of the children. This leads me to having to sometimes work in the evening. On the one hand, it's easier not to have to worry about finding a babysitter, but on the other, children get less social contacts.

Secondly, the border between work and life is less clear when working at home. For example, during the workday, I might notice some **not-work related business** that bothers me and I end up taking care of it during the day, which again means I have to do my actual work in the evening

Kids and **spouse**, **interruptions**

Figure 3. Example responses with possible themes highlighted

4.2 Poll structure

The data was gathered through a poll created using Google Forms. The poll was created in both Finnish and English to allow any non-Finnish speakers to also respond. The poll was then sent through company email to every employee at Avenla, and they were given two weeks to respond. The structure of the poll is shown in Figure 4. Poll Structure.

Poll Structure

- **Work Welfare**
  - ○ Work Motivation
  - ○ Teamworking
  - ○ **Communication with supervisor**
    - ▪ Ease of communication
    - ▪ Technical and other problems
    - ▪ Desired frequency of communication
  - ○ Work Goals
  - ○ **Feedback**
    - ▪ Amount
    - ▪ Quality
    - ▪ Issues
  - ○ Purposefulness
  - ○ Independence
- **Leadership** *(only available for those in a leadership position)*
  - ○ Communication with subordinates
- **Work-Life Balance**
  - ○ Amount of overtime
  - ○ Work related thoughts after workday
  - ○ Change in free time
  - ○ Flexibility of work
  - ○ Absenteeism
- **Work Efficiency**
  - ○ Perceived efficiency
  - ○ Quality of work
  - ○ **Customer Feedback**
    - ▪ Issues
    - ▪ Quantity
    - ▪ Quality
- **Issues**
  - ○ **Disturbances at home**
    - ▪ Nature of the disturbances
    - ▪ Frequency
    - ▪ Perceived impact
  - ○ Loneliness
- **"Overall, was moving to remote working a positive or negative experience for you?"**
- **"Would you like to keep working remotely (either full-time or part-time) permanently?"**

Figure 4. Poll Structure

Some of the topics were initially planned to be larger, but some topics had to be cut after initial testing to keep the poll reasonably quick to complete. After the cuts, it should take around 15-25 minutes to complete. The scope of the study is only those employees who have been working remotely after the pandemic. For that purpose, the intro section contains a question, "Have you been working remotely during the coronavirus pandemic?". Those who answer "No" will not proceed any further.

The poll is split into some major categories, and they are then split into smaller ones. Some minor categories only have one or two questions relating to them, but others can have more. The first part covers topics related to work welfare. As studies detailed in chapter 3.1 have shown, work welfare is very important for the organization's overall health, which is reflected in the large portion it is granted in the poll. Its subtopics are motivation, teamwork, supervisor-employee communication, understanding goals, feedback, purposefulness, and independence. Of these, motivation, teamwork, goals, and feedback focus on the difference between office work and remote work. In contrast, the supervisor-employee communication section tries to get more detailed descriptions of any potential employee issues.

After the work welfare-related questions, the poll contains a small part available only for managerial positions. Its focus is on the same topic of supervisor-employee communication, only from a supervisor's perspective. The following section is for work-life balance - how the employees' work affects their free time. This contains overtime, work-related thoughts after the workday, the change in free time since transferring to remote work, and absenteeism changes.

The second last section is dedicated to employees' perception of their efficiency, quality of work, and customer relations. The goal is to observe any possible changes between office work and remote work without highlighting any specific issues. The issues are covered in the final chapter, highlighting the common issues, such as disturbances at home, and list anything else they have experienced. Final questions ask the employee's if the remote working experience has been viewed as an overall positive or negative and if they would like to continue the practice after the pandemic ends.

5   RESPONSES

After having the poll open for two and a half weeks, it gathered 21 responses. Of those responses, 20 were usable since one had not done any remote work during the pandemic. The poll had split the age groups into 18-29, 30-49, and 50+. After the results came in, it is clear that the groups should have been split up more since now no one was in the 50+ group, and 71% were in the 30-49 group. The optional free-form options were not utilized by most, but the few who used them provided some helpful info. One respondent also reached out afterwards to give a handy answer regarding distractions suffered while working from home. It has been transcribed below.

> *The amount of free time has diminished slightly, and I see at least two factors causing it.*

> *We have small children at home, and my wife has to take care of other business occasionally. Previously, we could get an acquaintance of ours to watch over the children if needed. Now that I'm home, I take care of the children. This leads me to having to sometimes work in the evening. On the one hand, it is easier not to worry about finding a babysitter, but on the other, children get less social contacts.*

> *Secondly, the border between work and life is less clear when working at home. For example, during the workday, I might notice some not-work related business that bothers me, and I end up taking care of it during the day, which again means I have to do my actual work in the evening.*

The above quote was the most thorough free-form response received, and the others largely echoed the sentiments of this one. Family matters (including pets!) are by far the most common distraction, with noisy neighbours and traffic also being reported at least once.

To prepare the data for analysis, each response was searched for any respondents who had chosen the "neutral" answer to every option, which could signify someone just skipping through the poll. None of these were found, however. Next, the change within each question pair was calculated, and a new column was added in Excel after each pair to contain the percentage change. These were colour-coded alongside all other numerical answers to make later analysis easier.

6   ANALYSIS

The first part of the analysis was to look at the overall trend of the responses. This is less useful for this thesis, but it will be helpful for the company itself to see how their employees have coped. The more thorough and challenging part of the analysis was to search for any large-scale patterns within the responses. This would allow the responses to be separated into groups and hopefully identify possible reasons for peoples varying ability to cope with remote working. First, the data was colour coded. It made it easier to see the differences and find any groups formed from the respondents.

Table 1. Colour coded dataTable 1. Colour coded data shows an example of how the responses look after the colour-coding. In the example, all the questions could be answered on a scale of 1 to 5. Thus, the colour coding was done with a simple red to white to green axis. Red is not visible in the example since all the responses were at least three or higher, but it indicates a negative or "bad" response, white is average, and green is positive or "good" response. However, with some questions, the higher number indicates a more negative change, and in those cases, the colour coding was reversed. The data in the example was used to create Figure 6. Major differences between full-timers and part-timers.

	Response	Communication with supervisor	Meaningfulness of remote work	Flexibility of remote work	Absenteeism Reduction
Full-Time	1	4	3	3	5
	2	4	3	4	3
	3	5	3	5	5
	6	5	5	5	5
	7	4	5	5	3
	8	5	4	5	3
	13	5	5	5	4
	15	4	3	5	3
	17	4	4	4	5
	Summary	**4,44**	**3,89**	**4,56**	**4,00**
Part-Time	4	4	3	4	3
	5	3	3	4	3
	9	4	3	4	3
	10	4	3	3	3
	12	5	5	3	5
	14	3	4	4	3
	16	4	4	4	3
	18	3	4	4	3
	19	5	4	5	3
	20	3	4	4	3
	21	4	5	4	3
	Summary	**3,82**	**3,82**	**3,91**	**3,18**
	Difference	**0,63**	**0,07**	**0,65**	**0,82**

Table 1. Colour coded data

Only two employees saw the change to remote work as a net negative. Reasons for this will be explored in subsequent subchapters. The poll also shows that Avenla employees were, for the most part, quite satisfied with their work even before the pandemic, and remote work has improved that satisfaction slightly. Especially among those who had motivational issues previously.

The following subchapters highlight some groups found from within the responses, describing them and trying to find reasons and a common denominator for each group.

6.1 Part-time versus full-time remote working

One expected way to find divisions within respondents was with the question, "*Would you like to keep working remotely (either full-time or part-time) permanently?*". But, unexpectedly, zero respondents would not want to work remotely in the future (not even the two

respondents who saw remote working as a negative change). Thus, the only division that could be made was between those who want to work remotely full time versus those wanting to work part-time. They will be called "Part-Timers" and "Full-Timers" from now on.

There were some significant differences between the two groups; more significant ones are highlighted in Figure 6. Major differences between full-timers and part-timers. Part-timers saw remote work as a mostly positive experience, but less so than full-timers. The amount of overtime the employees reported did not change significantly, but it seems part-timers do work overtime more than full-timers. As highlighted in Figure 5. Overtime and Distractions, this situation was essentially the same when working from the office. Avenla had three employees who reported motivation issues before remote work, all of them rating their motivation 2 out of 5. Remote work improved their situation drastically. Now, all of them report their motivation being 4 out of 5 or 5 out of 5.
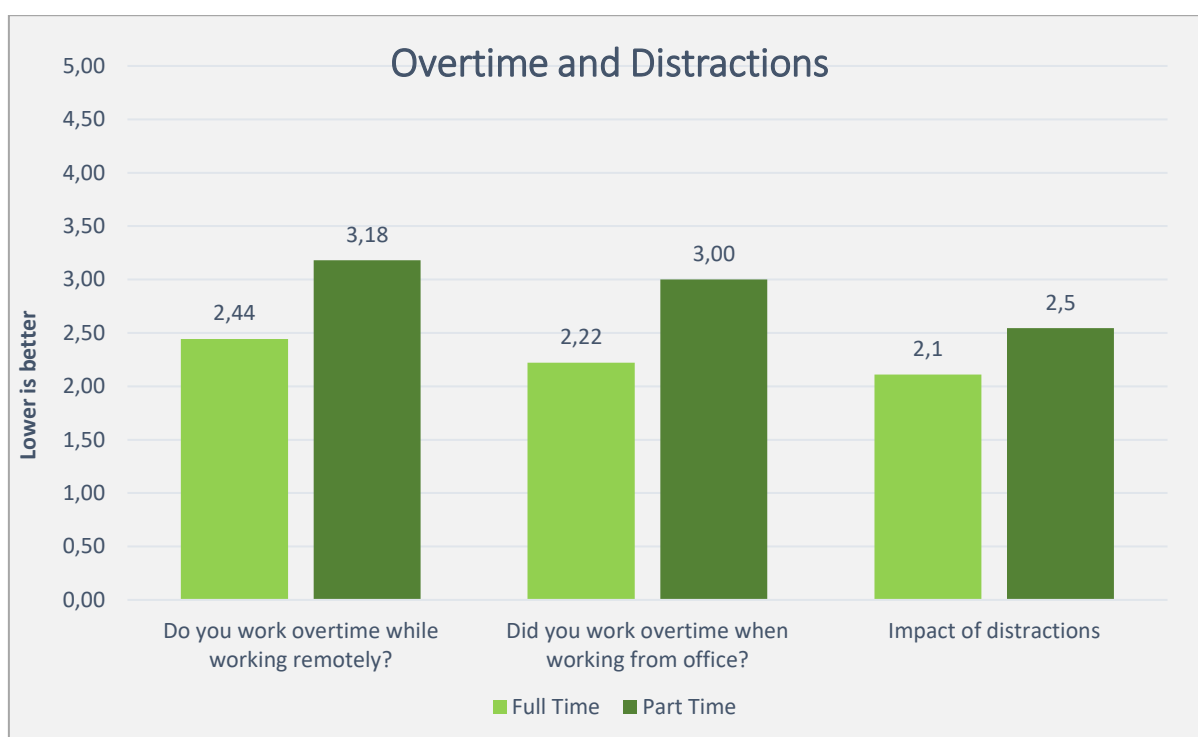

Figure 5. Overtime and Distractions

One reason for some people wanting to work from the office part-time is loneliness when working remotely. Four employees reported feeling lonely when working remotely. Social interaction at work is more important for some people than for others, and these four belong to that group. The impact of loneliness is not clearly visible in their reports of motivation, perceived efficiency, and other things it might affect. However, there is a possibility that it becomes a more severe issue the longer people have to work remotely. Once the

pandemic passes, it is crucial to give these people the chance to do at least part of their work at the office.
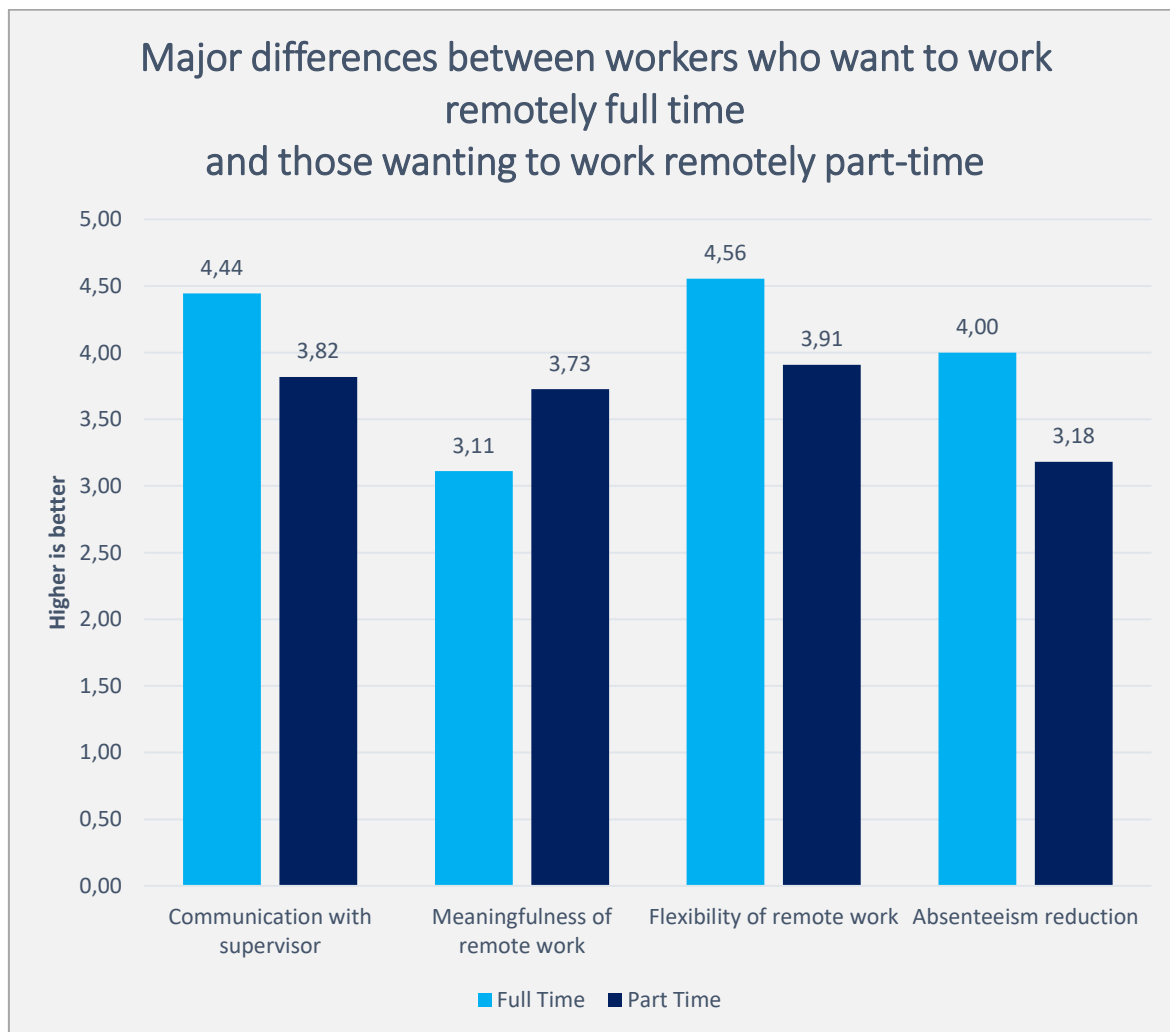

Figure 6. Major differences between full-timers and part-timers

Thinking about work after the workday is not necessarily harmful, but it may become a problem if it prevents employees from adequately relaxing in their free time. Thinking about work after the workday was very common even before remote work, but moving to remote work still caused a significant increase in this issue. When working from the office, four respondents reported thinking about work after a workday very often. When remote working, this rose to six. Several other respondents also reported increases in this area, with only one saying they thought about work after the workday less when working remotely. The impact of this is difficult to prove, however, since even those with high motivation and perceived efficiency report thinking about work quite often. The respondent whose motivation rose from 2 to 5 when moving to remote working reported thinking about work in their free time quite often (4), so they do not appear to feel any significant adverse effects.
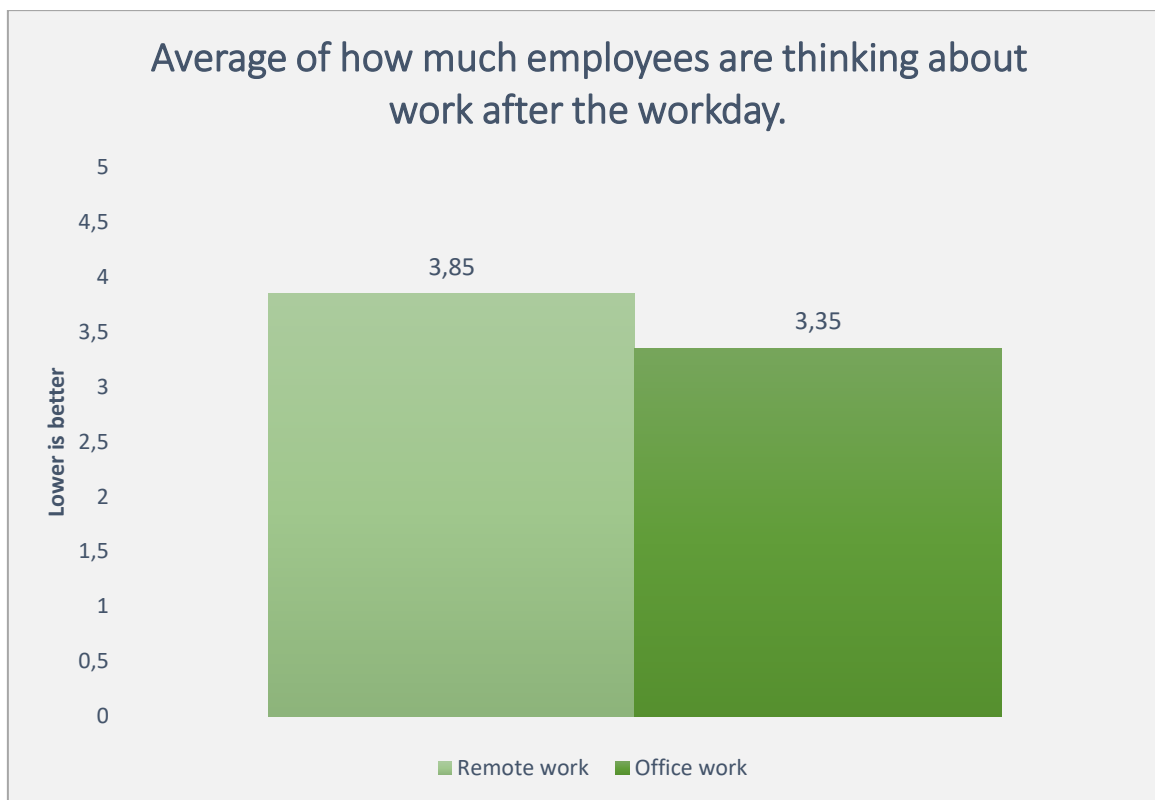
Figure 7. Thinking about work after the workday. Mean values are calculated from all re-sponses.

6.2   Distractions

Another likely cause for the full-timer vs part-timer division could be the amount and im-pact of distractions people have at home. Their frequency appears to be equally common in both groups, but their impact is felt more by part-timers. These distractions are mostly related to family matters and pets, but one respondent also reports traffic and neighbours as distractions. One respondent says this about working from home.

> *Working remotely too long causes motivational issues. I like remote working, but sometimes I feel like I want to go back to the office for my work to progress faster.*

When the employees were asked to rate the impact of their distractions, more than half of them reported them having an average or higher impact. There was no apparent differ-ence between age groups, but men reported the impact of disturbances as much higher than women. However, it should be noted that there were only four women respondents, so it is not possible to draw any further conclusions from this.

In the question form, the employees had an option to describe the distractions they have at home freely. Thematic analysis was utilized to get useful information out of these re-sponses. After the analysis, the themes were also quantified. Table 2. Causes of

distractions quantified has the results of this analysis process. Family is causing the majority of distractions, but there are other causes as well.

THEME	QUANTITY
SPOUSE	3
CHILDREN	6
= FAMILY	9
PETS	3
OTHER RESPONSIBILITIES (NOT WORK RELATED)	2
TRAFFIC	1
PSYCHOLOGICAL ISSUES (MOTIVATIONAL, RANDOM THOUGHTS, ETC…)	2
NEIGHBOR	1
UNSPECIFIED	1

Table 2. Causes of distractions quantified

6.3   The Extremities

While the majority of employees mainly reported small changes that were trending towards positive, there were a few exceptions. For example, one respondent seemed to thrive when working remotely, whereas two stood out having had a primarily negative experience of remote working.

The employee who had a strongly positive view of remote work reported the following:

- Motivation to work was rated as 2 (below average) when working from the office. However, this rose to a full 5 (very high) when working remotely.
- Meaningfulness of their work rose from 2 (below average) to 3 (average).
- They reported their job being much more flexible when working remotely.
- Their self-perceived efficiency rose from 3 (average) to 5 (very high) when working remotely.
- They reported no distractions that would impact their work.

The two employees who had the most pessimistic view of remote work reported the following.

- Their motivation to work fell from 4 (above average) to 3 (average). This was the lowest reported motivation, but three other employees also reported it, but they had an overall positive view of remote work.
- One of them reported working overtime quite often (4).
- One reported thinking about their work after the remote workday very often (5). This is a significant increase from the reported 3 when working from the office. The other employee also reports thinking about their work after the workday somewhat often (4), but there is no reported change from before.
- Both of them reported having a moderate amount of distractions at home that impact their work.
- One of them reported feeling lonely while working remotely.

It should be noted that while the changes reported by these two respondents were primarily negative, both are willing to continue remote-working part-time. Despite the negative changes listed above, the overall satisfaction of these two respondents remains relatively high. Motivation drop from 4 to 3 is not very significant, and they also report some positive changes. One of them reports a considerable increase in free time and an increase in their work's flexibility.

7   CONCLUSIONS

In the hypothesis, the results were expected to be mixed. Loneliness, work-life balance is-sues, isolation, and communication issues were the expected downsides, but overall the results were expected to be mixed. Out of these, all but the communication issues were visible in the results, but not enough for the overall results to be classified as mixed. For example, only four people reported loneliness, and the feelings of isolation did not come up at all, although it may have been implied in one response where "my own thoughts" is reported as a distraction.

Thinking about work after the workday seems very common, even before remote working, but it became even more common while working remotely. Further investigation would be needed to determine if this has a negative impact on the employees, but it would be easy to see how this could cause issues with the work-life balance.

Overall the trend was more positive than was hypothesized. All but two reported remote working as a positive change, and everyone would want to continue remote working, some full-time and some part-time. This was unexpected since, in older studies, there have usually been some who do not want to work remotely. IT may be so well suited for remote work that it played a part in this.

The most significant issues with remote working seem to be caused by distractions and difficulties separating work and life. Both of these impacted the employees' willingness to keep working remotely. The most common source for distractions are other family mem-bers, especially children. In addition, pets, psychological issues, traffic, and neighbours are also reported. A handful of respondents chose not to specify the distractions

Solving these two issues requires some work, but it is possible, and the employer can pro-vide help with it. Distractions can be reduced by having a separate "home office" room at home, preferably with a lockable door. However, depending on the circumstances, this may not always be possible. Another good solution is, and one that has helped the author immensely, is getting a pair of noise-cancelling headphones. They can help concentration even in more noisy environments, whether at the office or home.

Issues with work-life balance and work welfare are more challenging to solve. One of the sources used in chapter 3.1 was a workbook called "Five steps of work welfare" provided by the Center of Occupational Safety. It provides a way of assessing and finding methods to improve worker welfare. Any employee who has had any work-life balance or other is-sues at work should take a look at the manual. An even better idea would be if the whole

organization could use the manual as a basis for a more extensive work welfare survey and (Rauramo 2009)

Figure 2. Summary of expected changes listed the expected effects remote working would have. On the positive side were improvements in perceived productivity, work motivation, and independence. On the negative were feelings of isolation, communication issues, and work-life balance challenges. The positive side of the hypothesis seemed to be correct. Perceived productivity, motivation, and independence were all improved significantly in some cases. The negative side was not as accurate. Only a few reported isolation and communication issues were even more limited. However, in the form of work-related thoughts, overtime, and distractions, work-life balance issues were somewhat common, and thus the hypothesis was correct in that regard.

The research question asked in this study was "*How has the new wave of remote work affected employees in an IT company?*". With these results, the question can now be answered. The move to remote work has been mainly a positive one for Avenla employees. Most of them had very few issues adjusting to the new situation, and they would like to continue working from home in the future. The most significant issues came from distractions at home and issues with maintaining work-life balance. On the other hand, the positive effects came in the form of better motivation, perceived effectiveness, and more free time due to the elimination of commuting times.

8 SUMMARY

Coronavirus forced record numbers of people to start working remotely. With some companies choosing to continue this policy even after the pandemic, it is essential to understand how this change affects employees and their organizations. This study asked the question, "*How has the new wave of remote work affected employees in an IT company?*". The study looked at the employee's work welfare, work-life balance and tried to highlight any issues posed by working remotely. Based on the older studies on the topic, a hypothesis was formed. According to the hypothesis, there would be both positive and negative changes, with the overall results being mixed. The study's observations support the hypothesis for the most part, with the most significant differences being the lack of communication issues and overall much more positive responses. The biggest issue turned out to be the distractions of home. Family, children, and pets being commonly reported. On the other hand, work motivation and the amount of free time saw significant increases. Overall the change was seen as a positive one, and all of the respondents want to continue working remotely, some full-time and some part-time.

This study focused only on the employees of one company, largely limiting the applicability of the study. Many company traits could impact the results of a similar study: size, working methods, team sizes, and even leadership quality. Avenla, the company the study was conducted at, is an IT company where most of the work is done on computers by IT professionals, making it easier to move all the work home. Organizations in other fields could have more difficulty with the change. The study got results from roughly half of the company employees, giving a relatively good idea of how the change was viewed. However, these results should not be applied anywhere else.

20, or around half of the employees who were sent the question form, responded to it. It is a good amount, but an even higher number would have made the results more reliable. The poll was kept open for a few extra days to attract more responses, but none came. Nevertheless, having data from half the employees is enough to show that many at the company want to remain working remotely, which should be reflected in their policies going forward. Applying these results outside of the company should be avoided. It is possible that IT companies with similar organization and culture could see similar results. However, it is not guaranteed since a lot depends on individual traits and other factors, such as the living situation of the employees.

This study took a quick peek at employees working remotely. Before making any dramatic changes, the remote working phenomenon should be studied for a longer period of time. The results collected less than a year after the start of the pandemic, especially right after

the Christmas holidays, are not necessarily the same as the results several years later. It would make sense for some issues, such as isolation, to slowly worsen over time, whereas distractions are getting solved, thus having a smaller impact. A similar question form to the one used in this study could be sent to the employees periodically, for example, every six months. The changes over time could then be analyzed to increase the understanding of remote working and its effects.

Conducting the study was a mostly straightforward process. Early on, there were some changes in the team, and the author ended up working alone. Communicating with Avenla was easy, and reaching the entire employee base through company email helped significantly. The most significant issues were with time management, as the thesis took nearly a year to finish.

LIST OF REFERENCES: DIGITAL SOURCES

Avenla. 2020. About Avenla. Retrieved on 11 Nov 2020. Available at:
https://www.avenla.fi/en/about-avenla

Beneveniste, A. 2020. These companies are working from home until 2021 -- or forever. CNN.
Retrieved on 18 May 2021. Available at:
https://edition.cnn.com/2020/08/02/business/companies-work-from-home-2021/index.html

Bloom, N & Ying, J & Liang, J & Roberts, J. 2014. Does working from home work? Evidence from a
chinese experiment. The Quarterly Journal of Economics. 165-218. Retrieved on 11 Nov 2020.
Available at: https://doi.org/10.1093/qje/qju032

Brenan, M. 2020. COVID-19 and Remote Work: An Update. Gallup. Retrieved on 18 May 2021.
Available at: https://news.gallup.com/poll/321800/covid-remote-work-update.aspx

CompTIA. 2019. IT Industry Outlook 2021. Retrieved on 17 May 2021. Available at:
https://www.comptia.org/content/research/it-industry-trends-analysis

Crosbie, T & Jeanne M. 2004. Work-life Balance and Working from Home. ResearchGate.
Retrieved on 18 May 2021. Available at: http://dx.doi.org/10.1017/S1474746404001733

Jones, J. 2015. In U.S., Telecommuting for Work Climbs to 37%. Gallup. Retrieved on 11 Nov 2020.
Available at: https://news.gallup.com/poll/184649/telecommuting-work-climbs.aspx

Kantis, C & Samantha K & Jason S. B. 2021. UPDATED: Timeline of the Coronavirus. Think Global
Health. Retrieved on 18 May 2021. Available at:
https://www.thinkglobalhealth.org/article/updated-timeline-coronavirus

Mattila, A. 2018. Stressi. Retrieved on 18 May 2021. Available at:
https://www.terveyskirjasto.fi/terveyskirjasto/tk.koti?p_artikkeli=dlk00976

Mikkonen, M. 2011. Työhyvinvointikysely. Bachelor's thesis. Oulu University of Applied Sciences.
Degree of Business Economics. Oulu. Retrieved on 15 May 2021. Available at:
http://urn.fi/URN:NBN:fi:amk-2011053110508

Miller, M. 2020. Information Technology Sector: Overview and Funds. Retrieved on 16 May 2021.
Available at: https://www.valuepenguin.com/sectors/information-technology

Nalbantogly, M & Muhonen, T. 2020. Tässä ovat kaikki hallituksen poikkeukselliset toimet
koronaviruksen hillitsemiseksi, vaikuttavat lähes jokaisen kansalaisen arkeen – tiedotustilaisuus
katsottavissa kokonaisuudessaan. Helsingin Sanomat. Retrieved on 16 May 2021. Available at:
https://www.hs.fi/politiikka/art-2000006441020.html

Nepton. 2021. Päivittyvä tilasto etätyön ja kokonaistyön määrästä koronakriisin aikana. Retrieved
on 2 Apr 2021. Available at: https://nepton.fi/2021/02/etatyo-tilastot-koronakriisin-aikana/

Nurmi, K. 2020. Systemaattinen tekstianalyysi. Retrieved on 18 May 2021. Available at:
https://metodix.fi/2014/05/19/nurmi-systemaattinen-tekstianalyysi/

Qualtrics. 2020. The other COVID-19 crisis: Mental health. Retrieved on 18 May 2021. Available at:
https://www.qualtrics.com/blog/confronting-mental-health/

Songsangyos, P & Iamamporn, S. 2020. Remote working with Work-life balance. 85-88. Retrieved on 18 May 2021. Available at:
http://203.158.98.12/actisjournal/index.php/IJACTIS/article/view/337

The University of Auckland. Thematic analysis | a reflexive approach. Retrieved on 18 May 2021. Available at: https://www.psych.auckland.ac.nz/en/about/thematic-analysis.html

THL. 2020. Työhyvinvointi. Retrieved on 18 May 2021. Available at:
https://www.ttl.fi/tyoyhteiso/tyohyvinvointi/

TINYpulse. 2020. What leaders need to know about remote workers? Retrieved on 18 May 2021. Available at: https://www.tinypulse.com/what-leaders-need-to-know-about-remote-workers-report

Rauramo, P. 2009. Työhyvinvoinnin Portaat – työkirja. Työturvallisuuskeskus TTK. Retrieved on 18 May 2021. Available at: https://ttk.fi/files/704/Tyohyvinvoinnin_portaat_tyokirja.pdf

Ruohomäki, V. 2020. Miljoona suomalaista loikkasi etätöihin. Työterveyslaitos. Retrieved on 18 May 2021. Available at: https://www.ttl.fi/miljoona-suomalaista-loikkasi-etatoihin/

World Health Organization. 2020. Coronavirus. Retrieved on 15 Sept 2020. Available at:
https://www.who.int/health-topics/coronavirus#tab=tab_1

LIST OF REFERENCES: PRINTED RESOURCES

Lockwood, N. 2003. Work/life balance : challenges and solutions. SHMR Research.