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MASTER THESIS

## REDUCTION IN WORKING HOURS: A TEAM LEVEL PERSPECTIVE

"What are the outcomes of reduced hours on teams, and what are other variables that play a role?"

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## Abstract

Working hours reduction is a phenomenon that characterized the global environment for several decades of the 1900s, only to slow down terribly from the 1980s on. In spite of this unfavourable trend, the literature has, however, never stopped exploring the effects that working fewer hours has on individuals, companies, and society as a whole.

The purpose of this paper is to rely on the general base built by the theory about working hour reduction to explore the phenomenon from a team-level perspective and answer the following research question:
"What are the outcomes of reduced hours on teams, and what are other variables that play a
role?"

The decision to study this topic was made since it can be argued that understanding how teams and reduced hours relate to one another not only contributes to the literature by offering additional insights on the case, but it is also resourceful to companies that would like to adopt a schedule with reduced hours to fully understand its implications on their teams.

Furthermore, this study was carried out with an explorative character and relied on an abductive approach and interviews with five different case studies that have experienced reduced hours in different contexts and for different lengths of time. The abductive methodology allowed for a combination of the literature about both team variables and reduced hours with the findings gathered for the interviews in order to structure a model and highlight final results that contribute to each of the two aspects (Dubois et al., 2002; Timmermans et al., 2012). And that is exactly in line with what was discussed at the end of the analysis, with results revealing that teams are affected by reduced hours and influence the outcomes of reduced hours. Specifically, it was discovered that under reduced hours, teams experience the following outcomes:

- An improved Wellbeing
- More Responsible team members
- An enhanced Productivity
- A Lack of time and the need for Overwork
- The need for an Initial phase of adjustment
- Changes in Tasks and Responsibilities
- Variation in their Structure

Moreover, at the same time, teams are also directly affected by reduced hours in their processes, which guarantee the success of the team. With these regards, it was generally outlined that the reduced hours contribute to:

- The Effort of the team, by improving the team's motivation
- Increased Mutual support and Cohesion of the team
- Unbalancing the amount of work done by each member (Contribution balance)
- Better Communication
- Augmented Coordination

Nevertheless, as it will be seen later in this paper, these results are dependent on the extent of Task interdependency in the team and can therefore vary from team to team relative to the way they work. Finally, the last finding was the importance of Management interest in Employees, meaning the creation by the management of an organization in which team members can trust and are open to each other but also the activity of being directly interested in the members' problems and wellbeing.

These findings not only contribute to broadening the literature on teams and reduced hours but are also the basis on which suggestions for companies on how to reduce the drawbacks of reduced hours were given. In conclusion, the topic of reduced hours still needs to be fully explored, and hopefully the insights of this study will be the roots upon which future research might rely to enrich the current theory both vertically, by refining the areas already analyzed, and horizontally, with the discovery of innovative branches of the subject that are worth being researched.

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# 1 Introduction to the research problem 

### 1.1 Content background

> "In the 21' century a 15 -hour week will suffice, as we turn instead to "how to use freedom from pressing economic cares." (Keynes, J. M., 1930)

With this statement, John Maynard Keynes predicted that by 2000 there would be a strong trend of hours reduction, in which everybody could have worked 15 hours a week without any kinds of drawbacks (Pang, 2020). The reason behind this assumption is that Keynes himself experienced reduced working hours during his life. Indeed, as technology advancements were combined with improved education and a higher awareness of labor rights, the economy flourished, and, as a consequence, the length of the workday fell from fourteen to eight hours (Pang, 2020). This development made Keynes think that the future technological advancements of the next century, would have generated an additionally similar progressive decline of the working hours (Pang, 2020). Looking retrospectively at this theory, it can be concluded that, at least for several subsequent decades, it was correct. As predicted, the increase in productivity achieved over the last century allowed many countries to attain continuous reductions in the hours worked (De Spiegelaere et al., 2017).

This reduction in working hours was referred, first of all, to the time worked within a day and during the week, which was reduced from six to five days (De Spiegelaere et al, 2017). Nevertheless, even when considering people's lifetimes, it is possible to observe a decrease in working hours. The introduction of paid leaves, new pension schemes, and increased time spent in education were the changes that enabled workers to shrink the hours worked during their lives (De Spiegelaere et al, 2017).

This phenomenon, however, did not last as long as expected. The reduction in working time has slowed down considerably in most of the countries, with some of them even reporting an inverse trend (De Spiegelaere et al, 2017). The United States is a good example of this abrupt change of course, as it obtained huge returns in terms of productivity and economic growth after WWII, only to be followed by a weak and gradual reduction in working hours [Figure 1] (Pang, 2020).


Figure 1: Average annual hours worked through years in the U.S.
Source: OECD data

Figure 1 reports the average annual working hours, thus the number of total hours worked per year divided by the average number of people in employment per year ${ }^{1}$. It illustrates how in a timespan of ten years after the War ended, the U.S. did not go through that predicted reduction in the hours worked. This can be a result of the advent of massconsumption businesses which led people to work more and more, slowing down that process that started decades before (Pang, 2020).

Only the following years, from 1965 to 1975, were characterized by a steady reduction in the hours worked. Nevertheless, soon after it was experienced another change in direction of the phenomenon (as it is understandable from Figure 1), which happened during the 1980s with the development of that Silicon Valley, that brought a different model of work and a change in the existing culture (Pang, 2020). Strive for success, working long hours and being almost obsessed with work, became a real status symbol that discerned winners from losers (Pang, 2020). And it is from those ideals that our fast-

[^0]paced and restless society stems. In combination with the rise of those ideals, the society had progressively experienced the swift technological development and the increased integration at a global level, which were the underlying causes of the emergence of businesses required to run 24 hours a day for seven days (Van Os, 2019). These causes not only slowed down considerably the reduction of working hours in the period that goes from 1985 to 2020, but created also a new type of economy that requires businesses to be as flexible as ever in order to survive (Van Os, 2019). Therefore, in the last few decades, the focus of the companies has shifted from reducing the working hours to improving characteristics that would allow companies to face this new and augmented flexibility, such as work-time control, flexible working hours, and the implementation of part-time work (Van Os, 2019).

### 1.2 Current situation

Having understood how the reduction in working hours has unfolded during the past years, the goal of the section would be to comprehend whether and to what extent European countries have adopted a reduction in the hours worked in the current time. All data taken into consideration for Figure 2 were retrieved from the OECD website. Missing data were handled by deleting the row to which they belonged, and graphical representations were created with the Tableau software. Finally, for all the graphs, the average annual hours worked were taken into consideration, which basically correspond to the "total number of hours worked per year divided by the average number of people in employment per year": ${ }^{2}$ The reason behind this decision was mainly due to two factors. Primary, data of this kind would allow for a better comparison between countries that report notable differences in employment. Nevertheless, this is also a way to scale down the biases derived from the COVID-19 pandemic, which, having heavily hit the employment of the countries, would otherwise be responsible for distorted data in the last few years considered.

Overall, the situation through which the European countries have gone during the last ten years is a perfectly fitting representation of what was stated in the section before. The

[^1]trend in the reduction of working hours has generally slowed down completely, with values that were mostly constant throughout the ten years taken into consideration [Figure 2]. Only from 2019 to 2020 can a significant reduction in working hours be observed. A phenomenon, however, that can be easily associated with the COVID-19 pandemic, since in 2021, after the pandemic slowed down, the hours worked experienced a new increase. Indeed, it is known how, during that time, companies have started to increasingly implement flexible forms of work, like part-time jobs, that have contributed to the reduction detected in those two years (Marino et al., 2021).


Figure 2 Average annual hours worked through years in EU (27)

With regards to the hours worked within the European countries, striking difference can be registered. Interesting, for example, are the cases of Malta and Greece, in which the average annual hours worked are around 1,800 . On the other hand, countries like Germany, Denmark and Luxembourg, seems to be the ones with the lower number of hours worked, ranging from 1,200 to 1,400 [Figure 3].


Figure 3: Average annual hours worked in Europe 2021 by country

Along with the countries mentioned above, the case of the Netherlands is unquestionably noteworthy since the empirical part of this study will consist of Dutch companies, and understanding the environment in which they operate is definitely resourceful. When looking at the time series below, it is possible to observe a similar trend to the one identified for the whole of Europe, but with fewer hours worked and more stability. Specifically, the annual hours worked follow a constant trend that goes from 2010 to 2019, characterized by minor reductions and increases. Despite the fact that the impact of the COVID-19 pandemic is visible in this case, compared to the one seen across Europe, the reduction was less abrupt and acute [Figure 4]. This might be a sign of how, even before the years of the pandemic, The Netherlands was already accustomed to reduced work schedules, in particular part-time work (Visser, 2002), that allowed the country to be prepared for the work challenges that the pandemic brought along.

Average worked hours through years in The Netherlands


Figure 4: Average hours worked through years in The Netherlands
Source: OECD data

### 1.3 Why reducing working hours?

Despite the current trend described in the preceding sections, which appear to suggest how countries recently did not perform additional reductions of the hours worked, the literature agrees that reduction of working hours benefits not only individuals and the same companies, but society as a whole (De Spiegelaere et al., 2017).

First and foremost, the major enhancements are all related to the health of workers. Problems with quality of sleep, tiredness, musculoskeletal disorder (Bosch et al., 2007), stress, chronic diseases, and work overload are all covered by the current literature as disorders that might occur in relation to a high workload in combination without enough time to rest after work (Lorentzon, 2021). Overworked workers are even more prone to losing their creativity, being unhappy, and suffering from depression (Pang, 2020). It goes without saying that shortening the working hours could be an effective way to counter these kinds of diseases.

Research also shows that a reduction in working hours can have positive effects not only at an individual level but also at a societal one. A better work-life balance, an increase in
employment, longer lives, improved children's well-being and marital satisfaction, and, in general, a process towards a more sustainable economy are just some of the reported improvements that can occur in society (Albertsen et al., 2008). The effects on gender inequality are also significant, as long working hours are particularly harsh on women (Pang, 2020).

Nevertheless, enabling this reduction of working hours is not only valuable for employees and society; the same firms can also benefit from this implementation. Indeed, allowing workers to get enough time to rest and preventing them from getting overworked and stressed is a valuable resource for firms since in this way employees can experience improved concentration, which will then increase their overall productivity (De Spiegelaere et al., 2017). Employees were discovered to be working only during the first three hours of an eight-day shift, for example ${ }^{3}$. In addition, stressed employees are also more likely to leave the job, not take part in the vision of the company, and perform unethical behaviors against it (Pang, 2020). Furthermore, having focused workers also reduces the probability of accidents at work, thus shrinking the total absenteeism (Bosch et al., 2007) and drawing down the costs of the firm. Finally, guaranteeing the wellbeing of workers is a way to bind them to the organization, which contributes to saving costs, in particular during labor shortage periods (Rübelmann et al., 2017).

### 1.4 Outlining the existing literature

As it is reported above, in the last few years, the topic of a reduction in the working hours has surely interested the literature, which has focused its efforts on understanding the most meaningful issues. More specifically, in line with what was stated in the preceding section, there has been a focus on understanding why a model based on reduced working hours should be adopted; in other words, studies have outlined the pros and cons of working fewer hours, with a particular emphasis on the employee level. Important research has been carried out on the requirements (van Os, 2019) of implementing the reduction and how it should take place in terms of "time" (daily, weekly, yearly, and

[^2]through the lifetime of the workers) (De Spiegelaere et al., 2017). Furthermore, alternative methods for reducing working hours, such as part-time work, job sharing, and working from home, have been thoroughly researched (Rübelmann et al., 2017), along with their effects on the workplace and on the employee's lives (Albertsen et al., 2008).

Nevertheless, it must be stated that, despite the fact that the topics treated might be broad and complete, the literature pieces available are highly directed toward the realization and evaluation of practical experiments, particularly those relating to employee health. For instance, the contribution of Schiller et al. (2016) to a project carried out by the Swedish National Institute of Working Life showed improved sleep quality, reduced mental fatigue, and symptoms of job exhaustion for employees subjected to a working hours reduction. Lorentzon (2021) took the case of the City of Gothenburg, which implemented a 6 -hour working day in 2014, and tried to demonstrate how the reduction in working hours affected the nurses and the residents of the city. The same author then studied how the health conditions of assistant nurses varied when their working hours were reduced. There should also be acknowledgements for De Spiegelaere et al. (2017), who unwrapped the phenomenon of a reduction in working hours in the majority of its aspects and offered clear insights on how the reduction in working hours can be used to reach certain objectives, such as creating employment, promoting gender equality, enhancing productivity, and reducing stress. Finally, thanks must be made to Albertsen et al. (2008), who, by offering a comprehensive literature review on the topic, revealed a negative association between working long hours and the work-life balance of the workers and their relationships.

On the other hand, there has been another part of the literature that has examined and analyzed working-hour reduction from a different perspective, understanding the possible solutions to implement it in organizations. The work of Van Os, who in 2019 developed a model to implement and evaluate a 6-hour day at the municipality of Amsterdam, could serve as a major example of this field of study. Additionally, Rübelmann et al. (2017) conducted research that focused on, among other things, the effects that shorter working hours would have on the productivity and retention of knowledge workers. Another fitting example is the book written by Pang (2020) which illustrates and draws reflections upon examples of companies that have adopted a reduction in the number of worked hours.

### 1.5 Literature gap and Research questions

It is clear that the literature has extensively explored two major areas of the topic of working hour reduction: the impact on employees and their health, as well as how it might be implemented and the implications for organizations. On the contrary, what this thesis aims to achieve is a complete understanding of another level of study: the team level. In other words, rather than analyzing the perceived benefits and drawbacks of reducing working hours for a single employee and for organizations, it would be investigated and tested how this transformation is perceived at a team level. How the reduction in working hours impacts performance, overall well-being, teamwork quality, relationships, and communication are only a few of the topics that the paper would like to explore. This analysis is critical to enriching the current theory on reduced hours because the outcomes at the individual level of the different studies cannot be translated into team-level outcomes by just aggregating them. Indeed, when compared to individuals, teams are a much more complex form of social human behavior that can be conceptualized in terms of Activities, Interactions, and Sentiments (Hollander et al., 1963). Activities are actions that are quantitively measured; Interaction is related to the fact of being connected with different people within the team; and Sentiments are linked to human emotions, motivations, and attitudes that influence and are influenced by Activities and Interaction (Hollander et al., 1963). While one can argue that Activities and Sentiments also characterize the individual level, the Interaction term is surely not taken into consideration when speaking about single individuals (Hollander et al., 1963). However, that does not mean that individuals and teams are different only in terms of Interaction, because Interaction then affects the human emotions, motivations, and attitudes of the team members (Sentiments) which then influences back both the same Interaction and the Activities of the team (Hollander et al., 1963). That means teams are not just an aggregate of individuals that interact with each other; they differ from them in the activities they perform, in the way they connect, and in their behaviors. Therefore, they deserved to be studied, also worktime reduction-wise, in a way that takes into consideration their intrinsic characteristics.

Furthermore, in order to successfully develop a reduction in worked hours, companies have to go through a complete redesign of their way of working, their working processes, the job positions, and the interactions within teams' members and between teams, an issue that will be explored as a central point of our research as well. It should be noted that an analysis of this kind could be considered a follow-up study to the work done by Rübelmann et al. (2017), who,
as mentioned beforehand, investigated the effects of a 30 -hour workweek on knowledge workers at a digital marketing agency. In line with the previously cited literature, their study was mainly directed at comprehending the implications that a 30 -hour workweek had on knowledge workers and how firms could benefit from that.

Nonetheless, their paper provided some important team-level insights that inspired the completion of this research. In particular, it was found that informal and work-related chats were diminished in teams when the 30 -hour workweek was implemented. Given the fact that the main topic of their work was a different one, these findings were stated as results but have yet to be analyzed in depth. Following the research by Hoegl et al., 2001, which will be later discussed thoroughly, we argue that the diminishing chats in the work environment is not a team-level outcome of reduced hours, but it actually falls into the Team process variables. These are intrinsic characteristics of teams that determine their success, and thus they not only might be influential for the team-level outcomes of reduced worktime but, as Rübelmann et al. (2017) reported, they are influenced by the reduced hours (Hoegl et al., 2001). This is the point at which this paper starts, with the aim of exploring both the outcomes that a reduction in working hours has on teams and the other variables that might play a role in this relationship. Achieving this goal would mean providing an understanding of the working-hour reduction phenomenon at team level by also taking into account the processes of teams, which, as stated before, is what differentiates this analysis from the individual-level ones generally carried out by the literature.

However, probably even more important are the implications that it might have practically. Since the current trend in organizations is a progressive adoption of teamwork, a marginal viewpoint that only refers to employee characteristics and the organizational gains is insufficient for managers to understand both the effects that implementing a work-hour reduction can have on their firms and the requirements that have to be fulfilled in order to achieve a rewarding work-hour reduction.

Furthermore, in addition to these research topics, since the COVID-19 pandemic, working from home has become progressively more widely adopted and vital for companies. The increased need in terms of flexibility, which was already discussed, has led companies to continue using this method of working even after the pandemic ended, combining it with the traditional ones in the workplace. This solution, it is believed, should now be considered when discussing working hours reduction because it is a feasible way for companies to restructure and
reorganize the internal organizational processes that lead to the successful implementation of a working hours reduction. In other words, working from home is something on which this thesis will draw, due to the fact that firms can resort to it when planning a reduction of the hours worked, and thus it has now become an integral component of our phenomenon of interest.

In conclusion, comprehending the effects that a reduction of work hours practice has on the different layers of the company (employees, teams, functions, divisions, etc.) and what needs to be practically performed to accomplish that reduction could raise more awareness about what it means and what the best scenarios are for organizations and teams to pursue a reduction in working hours, potentially resulting in wider future utilization.

To summarize what was just settled, the question that will be the focal point of this study will be the following:
"What are the outcomes of reduced hours on teams, and what are other variables that play a role?"

In order to visually represent this object of the work, the following framework was built. It comprises the variables that will be studied and outlines how they interact with each other. In the following stages of the thesis, this framework will be adapted and updated with our findings derived both from the empirical evidence and the theory. It was seen that the goal of our analysis is to understand the outcomes of a working hour reduction at a team level while also taking into account the Team process variables that both influence the team-level outcomes, because of their effect on team success, and are influenced by the reduced hours. Moreover, work from home is considered since it might have an effect on team-level outcomes due to the possibility of being used to structure a work schedule with reduced hours.


Figure 5: Preliminary conceptual model

### 1.6 Research design

The current thesis was carried out as a case study with an explorative character to really delve into the research of the team-level outcomes and the exploration of other variables that are meaningful in the relationship. The analysis relies upon empirical sources of knowledge provided by several companies and was performed with a qualitative approach followed by an abductive approach, which has the objective of broadening the existing theoretical knowledge available through new discoveries and models. (Dubois et al., 2002). In order to do so, it requires a constant interplay between the concepts highlighted in the literature and the empirical evidence drawn by the case study, in particular through interviews (Dubois et al., 2002). In this way, the phenomenon of working hour reduction will be explored in its entirety, offering additional insights and resources for both the theoretical and practical aspects (Dubois et al., 2002).

Practically speaking, the qualitative methodology would allow for in-depth exploration of the studied teams' emotions, practices, work activities, relationships among members, and overall team wellbeing during the period in which the hours were reduced. Furthermore, analyzing the interviews with owners and HR specialists with the same approach has led us to understand what underlying adjustments and transformations need
to be undertaken before applying the reduction in working hours. These include, for example, a complete redesign of tasks, responsibilities, schedules, and roles within the organization. Additionally, the qualitative approach will be useful in understanding how work from home is implemented to rearrange the company for a reduction in working hours and how its application influences the employees' lives both at work and outside of work. After the analyses are carried out, a common discussion section will be outlined in which the outcomes on the different topics are analyzed and combined in order to derive theoretical evidence that will then be interpreted and finalized in the final chapter.

### 1.7 Thesis structure

After having introduced the topic of working hour reduction and its relevance both in the literature and in the empirical evidence, and having presented the questions and the design that the thesis aims to pursue, it was decided to give the following structure to this work: The second chapter will analyze the issue presented, drawing exclusively on the theoretical background, which will then be the base upon which the incoming analysis will be assembled. The successive chapters will then follow what is stated in the previous paragraph, so there will be a focus on the data analysis. The third chapter is indeed dedicated to the qualitative analysis, which will range from explaining the methodology to describing how the data were gathered and treated. In the fourth chapter, the results of the empirical analysis will be depicted. And in Chapter 5, they will be combined with the theoretical results, which will then be discussed to draw practical and theoretical implications. This chapter will also reserve a place for highlighting the limitations of the study and making suggestions for future research. Finally, in chapter six, the thesis will be concluded by stating and interpreting the final results.

## 2 Theoretical framework

As it was discussed in the final part of the Introduction, this chapter will focus on outlining a theoretical base to our analysis through the use of the available literature that will function as a foundation for the following empirical case study. In other words, we are going to widen and deepen the essential theoretical background that was offered in the previous chapter, illustrating the characteristics and requirements of worktime reduction that have to be known to achieve a successful organization of it.

### 2.1 Types of worktime reduction

It goes without saying that worktime reduction is a concept that is not defying something fixed and specific but that comprises different approaches and implementations that vary from one organization to another and that have different outcomes that will be reported later in this chapter. More specifically, the reason behind these distinct methods has to be sought in the fact that firms and institutions have different results that they would like to attain through the use of a work-hour reduction and that they possess peculiar aspects that are deeply diverse, meaning they have to fulfil specific requirements before applying a worktime reduction.

For example, a reduction that imposes a six-hour working day or four-day workweek may be viewed as particularly valuable for employees' work-life because family time will undoubtedly increase (De Spiegelaere et al., 2017). Nevertheless, if a company's aim is to extend the work life and retention of their workers, another solution they might think of is providing career breaks or parental leave that could extend the time during which employees are able to work (De Spiegelaere et al., 2017). Furthermore, there are a vast number of businesses that are highly seasonal, meaning that their growth and profit potential is limited to certain frames of the year, e.g., the boating and golf industries (Gibbons, 2015). In these cases, rather than reducing the working hours of a day or during the week, it may be useful to include additional leaves in periods of reduced economic activity, where there is not the need for intense productivity (De Spiegelaere et al., 2017).

In general, however, the reduction in working hours can be distributed among five main categories that depend on the level at which it is adopted. First of all, it can take place at the day, week, and month levels, with the hours respectively reduced within the working day, week, and month (i.e., working six hours a day, four days a week, and three weeks a month with one week off) (De Spiegelaere et al., 2017). Furthermore, a reduction in working hours can be referred to on a year-level, with employees who are allowed, for example, to take additional leaves, and over the employees' lifetime, with solutions such as career breaks and an earlier pension (De Spiegelaere et al., 2017).

Of all these solutions, the one that is surely preferred by the majority of the companies is the reduction of the hours in the workweek (Pang, 2020). In particular, a schedule in which employees work four days a week for 10 hours a day seemed to be the solution that companies adopted, or tried to adopt, the most at an international level (Baltes et al., 1999a). Specifically in the Netherlands, however, the norm for the majority of people is working 4 days a week 9 hours a day, even though it is not officially recognised ${ }^{4}$.

Microsoft, for example, tested a 4-day workweek in Japan as a project in the summer of 2019 and saw an increase in productivity of $40 \%$ when compared to the previous year ${ }^{5}$. Similarly, Panasonic announced in 2022 the implementation of a four-day workweek in which employees would be able to "choose a variety of flexible work styles, depending on the circumstances of work and life ${ }^{6}$." Moreover, in June 2021, the crowdfunding online platform, Kickstarter, let their employees work their normal schedule of 8 hours a day and have a three-day weekend, for a total of 32 hours in a workweek ${ }^{7}$. Interesting to highlight is that the four-day workweek was usually combined with some remote work in order to increase that fundamental organizational flexibility, which was discussed beforehand (Pang, 2020). Furthermore, another option that has been extensively implemented by companies is a Google-like working schedule, in which the length of the

[^3]workweek is always four days, but employees have a free day that is required to be spent doing personal projects and self-improving, cultivating skills, and taking classes (Pang, 2020).

### 2.2 Alternatives to worktime reduction

Working-hours reduction is, however, only one of several solutions that provide a change from the traditional working schedule. In the following sections, different alternatives to worktime reduction and their implications are reported. Because these are simply different configurations of the traditional working schedule, a true reduction in total hours worked cannot be observed.

Flextime, Compressed workweek, and Shift work

As it was already discussed several times in this paper, the societal changes that occurred in our society in the last decades, such as a growing engagement of women in the workforce and an increased consideration of work-life balance (Hochschild, 1997), have required companies to resort to the use of flexitime and a compressed workweek in order to guarantee that increased demand for flexibility from their employees (Baltes et al., 1999a). Flextime is a schedule that expects employees to have certain leeway on when to arrive and leave for work. Usually, there is a fixed range of time in which workers must be present in the workplace (i.e., from 9 a.m. to 2 p.m.), but at the same time, employees have the freedom to arrive before and to stay after that range of hours started and ended (Baltes et al., 1999a). It was shown that this type of schedule increases the productivity, job satisfaction, and absenteeism of the workers in the organization (Baltes et al., 1999a). On the other hand, the workers that are subject to a compressed workweek are required to work an increased number of hours a day when compared to a traditional schedule, but the entire workweek is reduced to fewer days (Baltes et al., 1999a). The most common standard of a compressed workweek is the four-day, forty-hour workweek, in which working hours within a day are extended to ten and employees work four days a week, with Friday and Monday usually off (Latack et al., 1985). What was discovered
about the outcomes of a compressed workweek is that it has a positive correlation with performance and job satisfaction, but there has not been reported to be an increase in absenteeism, implying that the motivation of workers for the job was not influenced by the adoption of this type of schedule (Baltes et al., 1999a). Nevertheless, these two solutions also present notable drawbacks for organizations. They, indeed, require additional managerial planning and constant supervision, consequently affecting organizational costs. Furthermore, they can even cause problems in their relationships with suppliers and customers if they adopt a traditional work schedule (Baltes et al., 1999a).

As stated by the Eurofound, the practice of Shift work implies a work schedule during which firms work beyond the normal working hours, usually involving working in the early morning, at night, or at the weekend ${ }^{8}$. Lowden et al. (1998) examined a case study of this type in which a rotating three-shift schedule ( 8 hours) was changed to a two-shift schedule ( 12 hours). The result highlighted how the change was positively received by the workers, who reported an increase in time spent with family and friends as well as better sleep and reduced fatigue during the non-working days (Lowden et al., 1998). These can be considered a direct consequence of the reduced number of consecutive days worked combined with a longer range of free days (Lowden et al., 1998).

## Part Time

For the same reasons outlined previously, in the last few years the use of part-time work has increased considerably as a response to the need of employees to balance work and family (Feldman et al., 1992). The US government defines part-time work as jobs that require employees to work only 35 hours per week, but in reality, there are three types of part-time work (Feldman et al., 1992). Short-term employment is used during downturns when businesses could be forced to lay off workers, but instead, their hours are reduced in anticipation of a future upswing (Tilly, 1991). It is obvious that this is valuable for companies because of the workers' retention, something that would not happen if they

[^4]were to be led off. The Secondary part-time comprises all the jobs characterized by low pay, high turnover, and little to no opportunity for advancement (Tilly, 1991). Employees in this type of part-time job do not usually choose to work in it. They are willing to work full-time, but the economic conditions prevent them from finding a full-time job, and thus they are working involuntarily part-time (Feldman et al., 1992). In contrast, retention part-time jobs are the ones that are specifically designed for the retention of strategic individuals that, however, are unable to work full-time, i.e., women and children (Tilly, 1991). Differently from the Secondary part-time, here the employees are offered high compensation, low turnover, and development possibilities (Tilly, 1991).

## Job Sharing

The literature defines Job Sharing as a "part-time contract in which two [employees] are jointly responsible for the workload of one position." (Williamson et al., 2015a). In other words, Job Sharing can be assessed as a situation in which the working time of a job position is shared between two different employees who work part-time, and consequently it is collectively regulated (De Spiegelaere et al., 2017). In this way, employees can experience a better work-life balance and at the same time continue working in the same position as before (De Spiegelaere et al., 2017). This method of working is particularly useful for employee retention as well as idea exchange, given the fact that employees in the same position are able to support each other and share ideas (Williamson et al., 2015a). This might lead to potential advantages for organizations, such as improved productivity, a decrease in absenteeism, and a better rate of innovation (Williamson et al., 2015a). However, engaging in Job Sharing might also reveal deficiencies. In particular, it was discovered that it is usually expected by employers that the workers in a shared position would perform some extra-curricular work, and in the case of a refusal, they might be seen as less dedicated to the company (Williamson et al., 2015a). Furthermore, this solution requires additional administrative and managerial efforts in order to embed and maintain Job Sharing in organizations and to fulfil the workers' requests arising from these positions (Williamson et al., 2015a).

## Distance work

The idea of Distant work is something that encompasses several categories, depending on the settings in which the work is performed. For instance, employees can work from their homes, from different offices of the company, or from the facilities of customers (Ipsen et al., 2021). In particular, after the COVID-19 pandemic, different pieces of literature have analyzed the phenomenon in depth, outlining its main advantages. A better work-life balance, along with a rise in productivity and the elimination of commuting, seem to be the major ones (Ipsen et al., 2021). On the other hand, there are numerous deficiencies associated with distance work. Surely the critical ones are linked to a lack of human relationships and social connections that can create confusion in the work communications, in the assigned roles, and in the clear identification of a leader (Ipsen et al., 2021). Impactful are also the effects at an individual level, since the workplace and the house (or another location) start mixing together, leading employees to struggle to identify a distinction between spare time and working hours (Ipsen et al., 2021).

Having illustrated the way distance work is described in the literature, it has to be said that in this work, we would rely on a different view. Indeed, it can be argued that identifying distance work only as an alternative to reducing working hours is limiting its main concept. As mentioned in the first chapter, in this paper, distance work, and in particular working from home, will be considered a content variable that influences the reduction in working hours. The reason behind this choice is that distance work is thought of as an alternative (more flexible) way of working, but that does not necessarily imply a reduction of the hours worked. Nevertheless, needless to say, it can be used to structure a work schedule with reduced working hours, and it is one of the aims of this thesis to understand how it can be done at a team level.

### 2.3 Effects of worktime reduction

The first introductory chapter of this thesis already mentioned some of the effects that a reduction in working hours could have on different variables. This was a way to give a brief outline of the reasons why companies, institutions, and individuals might gain value from reducing the hours worked. In this section, drawing on the existing literature, a more extensive analysis will be carried out with the aim of achieving a thorough idea of the
team-level results that should be expected by the following empirical investigation of the case study. In general, it is acknowledged by the literature that a reduction in work hours causes companies, people, and in general the society, to reorganize their habits and processes (De Spiegelaere et al., 2017). Individuals would be experiencing a better worklife balance (Albertsen et al., 2008; Brown et al., 2011; De Spiegelaere et al., 2017; Greenhaus et al., 2003; Sarker et al., 2012), increased productivity (Pencavel, 2014; Pang, 2012; Pang, 2020), and better health (Akerstedt et al., 2001; Barck-Holst et al., 2015; Lorentzon, 2021; Schiller et al., 2016; Shao, 2022; Voglino et al., 2022b; Wergeland et al., 2003). Organizations would see a decrease in their total absenteeism (Coote et al., 2010; De Spiegelaere et al., 2017; Rübelmann et al., 2017), increased employee retention, and long-term stability (De Spiegelaere et al., 2017; Pang, 2020), but also a rise in costs, particularly in the short term, caused by the adaptation to the reduced hours schedule (De Spiegelaere et al., 2017). Finally, society should undergo a higher level of employment (Bosch, 2001), reduced gender inequality (De Spiegelaere et al., 2017; Mutari et al., 2001; Pang, 2020), and still uncertain effects on environmental sustainability (Kallis et al., 2013a; King et al., 2017).

### 2.3.1 Team level

It was stated at the beginning of this work that the literature and empirical evidence are definitely lacking when it comes to the outcomes that a worktime reduction has at a team level, and that's the same reason why this thesis exists. It was already mentioned that the work by Rübelmann et al. (2017), despite being focused on understanding the effects of a 30-hour workweek on knowledge workers, is the only one to date reporting findings about team-level outcomes. It was found that both informal and work-related communications within knowledge workers teams shrink when working hours are reduced. As pointed out previously, however, while Rübelmann et al. (2017) report the decrease in work-related communications as an outcome of reduced hours, in this work, following the theory of Hoegl et al. (2001), communication will be thought of as a team process variable that is influenced by reduced hours and affects the team outcomes of reduced hours.

### 2.4 Team processes

Nevertheless, following what was reported beforehand in the framework, understanding the different alternatives to worktime reduction and their outcomes will not be enough to carry on this study. Indeed, in order to find out which conditions are needed to effectively implement a reduction in working hours at the team level, there is a need to comprehend which processes are required to build successful teams in organizations. In other words, the aim of this section is to discern the characteristics that influence the most the quality of work of a team (Hoegl et al., 2001). Findings that then will be the variables on which the empirical analysis draws to understand how they change in an environment with reduced working hours and how the influence the relationship between reduced hours and team level outcomes. In their study Hoegl et al. (2001) extensively researched on this topic, making use of a variable called Teamwork Quality (TWQ), which comprises the following performance-relevant measures of teams' internal interactions.

## Communication

Transferring information among members is probably the most fundamental aspect that every team must rely upon in order to be successful. Its absence could result in team members who do not share their knowledge and experience among themselves, hampering the overall integrity of the team (Hoegl et al., 2001). It is clear how team communication is severely affected both by the frequency with which communications occur and by how spontaneous they are (Hoegl et al., 2001; Katz, 1982; Pinto et al., 1990). This last aspect seems to be particularly relevant to fostering innovation in teams. It was indeed found out that the more spontaneous the communications between team members are, the more ideas arise and the better they are taken into consideration, resulting in a better innovation process (Katz, 1982; Pinto et al., 1990). Furthermore, another aspect on which communication depends is the openness of team members to share information (Hoegl et al., 2001). Teams in which members do not share important information with each other cannot perform their tasks in an effective and satisfying way (Hoegl et al., 2001).

## Coordination

It is obvious that in a team, a critical part of the work is done by the individual members.
A lot of activities do not require the effort of all the team members to be carried out, therefore it could be beneficial to divide these kinds of individual tasks among the members (Hoegl et al., 2001). Nevertheless, in order to be successful, coordination and integration of the individual efforts are needed in terms of deadlines, routines, budgets, and processes (Hoegl et al., 2001; Tannenbaum et al., 1992). Most importantly, however, is that the team's members reach a common agreement on the assigned goals for each task to achieve an efficient group effort and prevent potential ineffective situations in which more people are working towards the same objectives (Hoegl et al., 2001).

## Contributions Balance

Another important component that is fundamental for the success of a team is that the members contribute to the team in an equal way (Hoegl et al., 2001). With that, it is not meant only the competition of an individual task but rather the knowledge, experience, and ideas that each member fuels in the team's engines (Hoegl et al., 2001; Seers, 1989). This is a critical aspect of teams since, as it was aforementioned, the very reason for a group to exist resides in the ability of the members to share information; the inability of the members to do so will inevitably result in an unproductive decision-making process based on the beliefs of a few rather than on the overall integration of the members' knowledge (Hoegl et al., 2001).

## Mutual support and Cohesion

Hoegl et al. (2001) argue that two additional aspects of teams that influence their TWQ have to be sought in the extent to which mutual support and cohesion are present among the members. The first one draws on the concept that a team requires an underlying collaborative spirit in order to achieve its goal (Hoegl et al., 2001; Tjosvold, 1984). Teams' members should always have trust, respect, and support for one another, which will lead to better integration and discussion of their ideas (Tjosvold, 1984). They should avoid competitive attitudes at all costs, since they hinder this process (Tjosvold, 1984). Secondly, the cohesion among team members can be defined as their willingness to
remain in the team (Hoegl et al., 2001). It is clear that in a team in which members do not feel like they belong to it and therefore have no interest in continuing to work in the team, successful outcomes cannot be reached, and with that, a high level of TWQ (Hoegl et al., 2001).

## Effort

Finally, the last variable that was shown to have an effect on TWQ is that each member achieves a sufficient level of effort in the teamwork (Hoegl et al., 2001). To determine the level of effort required, team members must agree on a set of norms that depict the minimum behaviors expected of and from team members (Hoegl et al., 2001). In this way, the weight of the effort needed can be shared across all members, achieving a balanced level of effort that is the basis for a successful collaboration (Hoegl et al., 2001).

### 2.5 Updated model with literature findings

Despite the fact that the work by Hoegl et al. (2001) enabled us to comprehend the team process variables that will be the core of our research, as stated in the research question, there is still a need to explore which of these variables are influenced by the reduced hours and are affecting the relationship between reduced hours and team-level outcomes. The literature does not offer direct insights in this regard; however, by analyzing the results of different studies, assumptions can already be made.

When it comes to Communication, Coordination and Contribution balance, they can be linked to both the study by Rübelmann et al. (2017) and The UK's four-day week pilot by 4 Day Week Global et al. (2023). Indeed, both of the works highlighted, in specific cases, how formal and informal socialization between employees diminished after the working hours were reduced. In particular, the report by 4 Day Week Global et al. (2023) states that after the 4-day workweek trial, "one staff member felt it had become taboo to interrupt colleagues and said there was now notably less socializing in communal spaces like the kitchen. The decline in conviviality appeared to be a particular concern in the creative companies we spoke to, who told us that unstructured encounters at work can be important for generating new ideas". It is clear that, whether this should also be the
case in our analysis, the reduced possibility to communicate and socialize will strongly hinder the Communication, Coordination and Contribution balance variables, which, as it was seen earlier, are based upon the ability of employees to share ideas and information. Furthermore, this might possibly have implications in relation to Mutual support and Cohesion. Even if not directly correlated, it is reasonable to believe that employees who do not have incentives to socialize with each other, in particular in informal contexts (4 Day Week Global et al., 2023), might have difficulties building trust, respect, and support. In other words, there may be a lack of that belonging spirit that is vital for the team to achieve its long-term goal (Hoegl et al., 2001; Tjosvold, 1984).

Regarding Effort variable, as reported in the theory section of this study, the literature is definitely clear in assessing that a reduction in the hours worked has positive effects on the engagement that people have in the workplace. This is true both directly, with studies that discovered a negative relationship between the amount of hours worked and productivity at work (Pang, 2012; Pang, 2020; Pencavel, 2014), and indirectly, since reduced working hours have a positive impact on individual health (Akerstedt et al., 2001; 4 Day Week Global et al., 2023; Voglino et al., 2022b) and work-life balance (Brown et al., 2011; De Spiegelaere et al., 2017; Greenhaus et al., 2003; Sarker et al., 2012) that then result in a higher commitment, satisfaction, and productivity of the workers (Brown et al., 2011; Pencavel, 2014; Pang, 2012; Pang, 2020; Voglino et al., 2022). What is really still unknown is whether this higher level of effort is balanced among all the group members or if it is achieved by a few individuals in the team. This is important to note since it might have an impact on the Effort and Contribution balance variables.

After understanding how the phenomenon of working hours reduction is depicted in the literature, along with the team processes that ensure the team success, it is now possible to update the conceptual framework developed in the first chapter by including the theory's findings. Nevertheless, it has to be pointed out that, despite the fact that the effects of working hour reduction were beforehand illustrated also at a societal and organizational level, in order to present a thorough representation of the phenomena, it is in the interest of this research to analyze only the team-level, and therefore the others will be left out of the model.


Figure 6: Conceptual model with literature findings

## 3 Research plan

The introductory part of the work has already given a brief overview of the topics belonging to this chapter. Nevertheless, they are now going to be described in more details in order to highlight in a thorough way how the case study analysis was carried out, using which methods and ideas, and how the data were collected and treated.

### 3.1 Methodology

The aim of this research is to analyze the topic of working hour reduction with an explorative character. This characteristic was chosen since, as it was highlighted at different times during this study, despite the general literature on the topic of reduced working hours being available, little is known about the team-level implications that it has and the team variables that are meaningful. Therefore, we set out with the aim of deeply exploring and analyzing this phenomenon in a way to derive new insights that can be useful to enrich the existing literature. It was decided to realize this objective through the use of qualitative research on case studies because it was believed that a practical approach of this kind would support the exploration of how teams and employees at different levels of the company perceive the impact that a reduced work schedule has on teams with different point of views. Opting for the case study analysis, on the other hand, was a decision taken to match the aim of this thesis to be practical-oriented. Thus, in addition to offering theoretical insight, the objective was to offer practical knowledge that could be resourceful for the companies which want to adopt a worktime reduction. Specifically, the case studies were carried out in companies that experienced different kinds of work hour reduction at some point in their existence. That means not only firms that have successfully adopted the new schedule and are continuing to use it were taken into consideration, but also others that either have tried for limited periods of time or are currently unsatisfied with it.

Furthermore, no limit was posed on the kind of reduction implemented by the company; put differently, there will be, for example, both firms with a reduced workweek and others with fewer hours in a workday. This decision was taken since, as it was seen previously, the literature itself recognizes the existence of different types of worktime
reduction in its analyses and conclusions; therefore, it would have been limiting for this research, which makes considerable use of the insights from the theory, not to do the same.

Having assessed these critical aspects of this work, a methodology in which they fit and that guide the whole study had to be chosen. Drawing from the literature, it was found that an abductive method would have been a proper decision given the purpose of this project. Indeed, the main feature of this approach is its integrative nature, which requires the reciprocal utilization and integration of empirical evidence and theoretical background (Dubois et al., 2002; Timmermans et al., 2012). What this method implies is that, in order to fully comprehend a phenomenon and its context, the empirical research on the case study has to be constrained by recurring to the existing literature (Dubois et al., 2002; Timmermans et al., 2012). This would allow the work to be more focused on the task it aims to perform, since the case-study might sometimes be disorienting for the objectives of the work, as well as enabling the case-studies to be more informative (Dubois et al., 2002). In other words, the simultaneous analysis and combination of both the empirical findings of the literature and the ones derived from the case studies enables a more in-depth knowledge of both theory and empirical data (Dubois et al., 2002; Timmermans et al., 2012).

While the literature is resourceful when it comes to identifying possible gaps, frameworks, variables, and relationships among them, the empirical analyses test the theoretical findings in a practical context and derive new conclusions that might extend and deepen the same literature (Dubois et al., 2002; Timmermans et al., 2012). As a result, the abductive approach, in a similar way as the grounded theory, seeks to derive theoretical implications; however, rather than completely generating new theory or confirming the existing one, the abductive approach aims to evolve current theory and models through the addition of innovative findings and concepts (Dubois et al., 2002; Timmermans et al., 2012). A congruent objective to the one given to this thesis. Evidently, an approach of this kind that relies heavily on theory requires a research framework to direct the analysis in the right direction. The above one was built for this reason, and it was designed with an intrinsic degree of flexibility in case there might be a necessity to adapt it to implications and findings discovered in the later stages of the study (Dubois et al., 2002).


Figure 7: Research framework

As it was just described, the abductive methodology this study follows requires an interaction between the case study analysis and the theoretical findings in the literature. More specifically, from the findings of the existing literature, we were able to gather information about the outcomes of reduced hours and the team processes required for the success of the team. On the other hand, the case study analysis, which will be carried out based on the existing literature, would allow us to outline both the impact that a work time reduction has on teams and other variables that might play a role in the relationship that have not been researched in the theory. The results from the two areas of the study will then be combined and interpreted to gain a better understanding of the overall phenomenon and outline the final solutions that will offer a contribution to the literature and practical implications for organizations.

### 3.2 Data collection methods

It was already assessed that for the empirical analysis of the case studies, this work relies exclusively on interviews as its source of data. This was decided since we would like the study to be mostly exploratory, and we concluded that only through interviews would it have been possible to uncover the perceptions and feelings of the people involved in a reduction in working hours at a team level. Furthermore, interviews would have allowed
us to delve into and test the team-level variables identified before, even the ones that are more complex to measure given that they are deeply rooted in human consciousness, such as Communication, Mutual support and cohesion, and Effort.

### 3.2.1 Interview protocol

The interviews were all conducted via video calls in the software Teams throughout the month of May. They overall lasted 25 to 35 minutes, and they generally consisted of one researcher and one interviewee. On certain occasions, however, the help of a Dutch researcher acting as an interpreter was needed due to the fact that some interviewees required support in understanding and speaking English.

In order to reach a thorough answer to the research question outlined beforehand, it was decided, also in this case, to have no restrictions on the types of people to interview. The only requirement was their either previous or current involvement in some aspects of the workhour reduction at a team level. This led to a sample size of 5 firms and 11 interviewees in different hierarchical levels of the companies, which enabled us to explore different aspects of the phenomena of interest. First of all, the interviews with employees of teams at an operational level enabled us to receive an internal viewpoint on the impact that the reduction in the hours worked had on the everyday activities of the teams. Among them, questions about the development of their tasks, communications, relationships, and well-being were asked. At the same time, owners and employees in managerial positions were interviewed to comprehend how the reduced working schedule was adopted in the firms in terms of team structure and design and how the teams' performance changed. In other words, we wanted to know how the teams had to be restructured in terms of people, tasks, activities, resources, roles, and leadership when the work schedule was converted. Moreover, both types of interviewees were able to reveal insights about how working from home was introduced into a schedule with reduced hours and its effects.

Finally, the approach chosen to carry out the interviews was a semi-structured one. That implies a question structure that, despite adhering to an interview plan [Appendix $A$ ], still allows for a certain amount of leeway to ask follow-up questions and explore knowledge
from interviewees that might be resourceful for the study. It is believed that in this way, a better investigation of the workhour reduction can be achieved.

### 3.3 Coding of the data

Once the interviews were conducted, recorded, and transcribed with the obviously given consent of the interviewees, they were anonymized. In this process, not only names but also every kind of reference to places, events, and activities that could have been reconnected to the company or the people interviewed was either deleted or censored from the transcript. Successively, the interviews were coded in order to retrieve insights from them, in line with the exploratory approach and the abductive methodology. More specifically, since predetermined concepts and categories have already arisen from the literature about Working hours reduction and Team processes [Figure 6], axial codes will mostly be used initially to investigate the relationship between these (Kaiser et al., 2019). Nevertheless, only testing how the outlined variables in the conceptual model relate to our case studies would be limiting for this research, so it was decided to additionally rely on open codes to find out new concepts and variables reduction that are still unresearched. Practically, that means the coding process was performed by listening to the audio records and reading the transcripts to extract, organize, and group up quotes, ideas, and aspects that were common among the interviews with the aim to: comprise them within the Team processes categories, seek relationships between them, and also derive new insights and variables until a saturation point is reached (Locke et al., 2020; Whiting et al., 2012).

### 3.4 Trustworthiness and validity of data

Having described the characteristics of the interviews as well as how they were conducted and analyzed, it is now appropriate to reflect on whether the way in which we treated and collected the data can be considered trustworthy. In order to assess this, we will rely on the primary and secondary criteria proposed by Whittemore et al. (2001), which, if met correctly, should provide a thoughtful indicator of the validity and trustworthiness of our data. Specifically, the primary criteria include the following
measures: Credibility: whether the interpretation of the researcher is credible in relation to the original data and the theory (Kyngäs et al., 2019; Sinkovics et al., 2008; Whiting et al., 2012), Authenticity, the extent to which the researcher is able to show participants' emotions honestly with quotes and citations (Cope, 2014; Kyngäs et al., 2019), Criticality, the need to always be critical of their own hypotheses and biases, and explore alternatives (Cope, 2014), and Integrity, the requirement that the data interpretation is valid and firmly based on the data (Cope, 2014). The second criteria, on the other hand, represent additional criteria of validity in addition to the primary ones (Whittemore et al., 2001). They comprise: Explicitness, the attention of the researcher to keep records of their decisions, Vividness, the creation of detailed and deep descriptions, Creativity, the ability to present innovative cognitive approaches and methods that are still rooted in the scientific process, Thoroughness, the complete exploration of the topic through adequate sampling and data saturation, and Congruence, which can be accounted for as the interrelated links among the research question, method, literature, analysis, findings, and implications of the research (Cope, 2014; Whittemore et al., 2001).

In this work, it was decided to meet those criteria by following the studies by Cope (2014), Kyngäs et al. (2019) and Yadav (2021), who highlighted recommendations to assure the credibility and trustworthiness of research. First of all, the sample size is definitely a key variable that influences the outlined criteria (Kyngäs et al., 2019; Yadav, 2021). Indeed, it is required to have a sample that represent the population and characterized by participants who are resourceful in contributing to answering the research question (Kyngäs et al., 2019, Yadav, 2021). Despite the fact that we are aware that the sample size of this study may not appear to be the largest, it is the result of a selection process of companies and individuals that are or have been in the past truly engaged with a reduction in working hours and can offer insights at the team level. In other words, the sample size reflects the decision to have interviews strictly focused on our topic of interest. Another measure of trustworthiness is presenting evident linkages between data and results to the reader (Kyngäs et al., 2019). We tried to achieve this point in the following sections of the research, where the insights gathered from the interviews as well as their interpretation and the resulting final result will be discussed, emphasizing the different connections among data, literature, and conclusions. Furthermore, in order to get valuable responses from the interviewees, it is recommended to develop a relationship of trust with them over time (Cope, 2014; Yadav, 2021). Whether we cannot
possibly know if trust was built between the researcher and the participants, we can assure that a generous amount of time was spent chatting and exchanging information with the firms and the interviewees through phone calls and emails during the days before the interview. Moreover, 5 to 10 minutes before each interview were designated for a small informal talk with the interviewee. These precautions, in our opinion, created preliminary conditions for a relaxed environment during the interviews that enabled the participants to speak freely and extensively about the different interview topics. The creation of an audit trail, which is a collection of documents that follows the decision path of the researcher, is another critical condition that is required by the criteria outlined before (Cope, 2014, Yadav, 2021). In our case, it is possible to observe the evolution of our hypothesis and ideas through the different draft versions of the final work that are available. In addition, anonymized interview transcripts are available if there is a need to inspect the original sources of data from which the results were drawn. Besides, the results of the data analysis were sent to the participants of the interview and colleagues involved in the thesis in order to get feedback on the data interpretation (Cope, 2014; Yadav, 2021). This is another important element for the validation of the analysis (Cope, 2014, Yadav, 2021).

Fundamental to this process is also the activity of supplying a sufficient and detailed amount of evidence to the reader, such as quotes from the interviews and research strategies, to guarantee the right to critically analyze this work (Cope, 2014). As already stated, this is something that was done in the following section of the paper, where the findings from the interviews and extensive quotes from the participants are presented in a structure that is in line with the dimensions identified during the coding process. Finally, it should be highlighted the importance of Triangulation, which is a method that utilizes different sources of data, such as interviews, observations, and notes, to get a more thorough understanding of the research topic (Cope, 2014; Yadav, 2021). This is a point in which this study is definitely lacking since the only source of data is interviews. Nevertheless, as it is explained beforehand, this decision was taken because it is believed that interviews are the best way to perform a study with an exploratory character like this one. A combination of more methods would surely have increased the validity and trustworthiness of the data, but at the same time, it might have fueled our study with documents with less explorative power, deviating in this way this work from its aim (Kyngäs et al., 2019).

## 4 Results

It is now appropriate to illustrate the main findings gathered from the case studies. As discussed in the Methodology, these are only partial results of our analysis that will be later combined with knowledge collected from the literature, highlighted in the first two sections of this research. This chapter starts by giving a more thoughtful overview of the case studies and the people involved, then illustrates the empirical results by firstly presenting the already existing codes that were gathered from the literature and are reported in the conceptual model [Figure 6] and then by highlighting the additional codes that emerged directly from the case studies [Appendix B]. Furthermore, initial comparisons among the companies and interviewees belonging to different organizational levels will be made to set the base for successive analysis in the following sections.

### 4.1 Case studies and interviewees

In order to offer a better comprehension of the results, the following table [Table 1] was built to summarize the case studies, their major characteristics, and the type of worktime reduction adopted, as well as the members that were interviewed for each of them. As it is clear, the sample used for the analysis consists mostly of companies that offer services to other organizations, mainly IT services, and the interviewees are largely Employees and Owners. This was something critical for the analysis's results since we were able to obtain both first-hand perceptions and feelings of the effects of the worktime reduction from the employee perspective and also a more external viewpoint of the team as a whole from the owners. Nevertheless, fundamental were also the statements gathered from the HR business partner and Office worker, who both have had direct experience with reduced hours, their implementation, and the related team planning and redesign.

| Company | Characteristics | Type of working hours reduction | Interviewee | Professions |
| :---: | :---: | :---: | :---: | :---: |
| Company $n^{\circ} 1$ | Size: 12 employees Industry: Financial services Products: Accounting programs | 36 hours workweek, 4 days workweek, 6 hours a day in the month of August. The employees retain the same retribution. | Interviewee 1 | Employee |
|  |  |  | Interviewee 1.1 | Employee |
|  |  |  | Interviewee 1.2 | Employee |
| Company $n^{\circ} 2$ | Size: 20 employees Industry: Construction Products: Repairs and maintenance services | 4 days workweek and the employees get a retribution for 5 days of work. They can additionally work the $5^{\text {th }}$ and the $6^{\text {th }}$ day of the week to earn a 8 days retribution. | Interviewee 2 | Owner |
|  |  |  | Interviewee 2.1 | Office worker |
| Company $n^{\circ} 3$ | Size: 50 employees Industry: IT services and consulting <br> Products: Learning and development solutions | 32 hour workweek, 4 days workweek with freedom to decide the free day and retaining the same salary. | Interviewee 3 | HR business partner |
|  |  |  | Interviewee 3.1 | Employee |
| Company $n^{\circ} 4$ | Size: 7 employees Industry: Business services Products: Hr technology, HRM, business infrastructure | Generally employees work 7 hours, leaving at 16:00. But the reduction is dependent on the clients time and availability. | Interviewee 4 | Owner |
|  |  |  | Interviewee 4.1 | Owner |
| Company $n^{\circ} 5$ | Size: 7 employees Industry: IT services Products: Web development, branding, digital marketing, blockchain. | 30 hour workweek, 4 days a week, 6 hour workday that usually ends around 15:00, but with flexibility. | Interviewee 5 | Owner |
|  |  |  | Interviewee 5.1 | Employee |

Table 1: Case-studies and interviewees

From this preliminary information about the data, it is already possible to retrieve important clues. By far, the most commonly used type of worktime reduction among our companies is the 4 -days workweek. This probably implies that companies might find this the easiest form of reduction to adapt to and with the greatest benefits. Another striking feature of this data is the presence of some kind of flexibility measure that is enforced along with the reduction. Company $n^{\circ} 3$ and Company $n^{\circ} 5$, for instance, guarantee a lot of freedom to their employees by letting them decide their free day of the week and by imposing limited restrictions on their daily worktime, meaning that there is a daily leeway on when to start and stop working, remaining always within the 30 hours weekly. Interesting regarding flexibility measures is also the case of Company $n^{\circ} 4$, which, despite adopting a reduction in the hours worked, has no clear pattern in their schedule due to the necessity of being synchronized with their clients. This anticipates one of the issues of reduced work hours that
will be discussed later in this paper: the necessity of matching their schedule with the company's stakeholders that might not adopt reduced working hours.

### 4.2 Outcomes of reduced hours

As stated just beforehand, this second section of this chapter will report the information obtained from the interviews about the outcomes that the reduction in the hours worked at a team level had on the teams, individuals, and the companies themselves [Figure 6].

### 4.2.1 Efficiency outcomes

One of the first effects of reduced hours on teams highlighted by the interviewees is related to the efficiency of work. The majority of the interviewees agreed that after the hours were reduced, the teams were able to perform the same amount of work in less time compared to what previously happened. This perception is particularly imprinted among owners and workers at higher organizational levels, while only one employee of Company $n^{\circ} 1$ actually observed a positive change in the team's efficiency. Interesting to take into consideration is what the owner of Company $n^{\circ} 5$ stated as a reason for the improved ability of the team to finish the work earlier. They describe that during an 8-hour workday, the team is not able to be productive anymore, so cutting those two last hours out has no effect on the overall daily work done by the team.
"I think it's still the same, but if you have the same amount of work to do in six hours for example than in eight hours some people can manage it better. If you have to work 8 hours, then sometimes you're stretching it out because you want to fill it completely ...some people can manage to do the same work...they normally do in eight hours."
(Company $n^{\circ} 1$, Interviewee 1, Employee)
"I don't think you work harder in the six hours. I think you work the same in the six hours when you work 8 hours, but I really think that the last two hours of a 8 hours day you are not productive anymore. So I think, when you have a 8 hour job or a 6 hours, you do the same amount of work. " (Company $n^{\circ} 5$, Interviewee 5, Owner)
"They do the job in four days instead of five days...because they wanted the last day free. Otherwise, it if they don't finish the project in four days then they need to work the 5th day and they just get paid 5 days as well... we saw that it's really efficiency because all our projects are done earlier than they used to be..."
(Company $n^{\circ} 2$, Interviewee 2.1, Office worker)
"So, it's basically they do the same. They're only thinking more with their head now and do the work more efficiently." (Company $n^{\circ} 2$, Interviewee 2.1, Office worker)
"I just noticed that in that number of hours the amount of work you had spread over 40 hours, you could do that much less effectively in 40 hours than you do in 32 hours. Because in 32 hours you have it anyway" (Company $n^{\circ} 3$, Interviewee 3.1, Employee) "The people who attracted now can do like 8 days of work in 6. So instead of eight days of work, they finish in six, so they get paid 8 days for six days of work and then they take on another job for the additional 2 days and they get paid again." (Company $n^{\circ} 2$, Interviewee 2, Owner)

In contrast, another employee at Company $n^{\circ} 1$ do not seem to have noticed any kind of change in the team's productivity, neither in terms of quality nor quantity.
"...I don't think we did more in less hours...I don't think the output was better or more in less hours. No, no, I don't think so." (Company $n^{\circ} 1$, Interviewee 1.2, Employee)

### 4.2.2 Lack of time from reduced hours

Another element that characterized virtually all the teams of the companies that participated in this study was the issue of a lack of time when the reduced work hours were introduced. The companies were affected in different ways and had different perspectives on this issue, but the core issue of not having enough time for the teams to perform their jobs is something that
remained constant throughout all our analysis. The companies which teams assessed a direct inability to finish the work when the hours were reduced are Company $n^{\circ} 1$, Company $n^{\circ} 3$, and Company $n^{\circ} 5$. The interviewees were clear in stating that the reduced hours are limiting the work that the teams can do, in particular when deadlines are near. The main problem here, as reported by people of Company $n^{\circ} 3$ and Company $n^{\circ} 5$ is the fact that the amount of work was not reduced along with the hours, resulting in forcing the people of the team to improve their work and task planning and to wish for more personal being hired. Furthermore, it is fundamental to repeat again that, as it can be seen for the reported quotes, this is an issue witnessed among the teams of companies that do not only have fixed reduced schedule but also the ones that allowed for flexibility in the work schedule. In the same way, it is a problem recognized by both the employees, that are directly affected by it, and by the owner of Company $n^{\circ} 5$, implying that its magnitude is surely observable form an external perspective as well.
"Well, the only risk for me was that it also gives some kind of pressure... when you do have deadlines and when you do have targets at the end of the week, you might not have enough of hours a day. You need more time. " (Company $n^{\circ} 5$, Interviewee 5, Owner)
"We had like a 3-hour deduction, and we figured out afterwards in the evaluation that it was a bit too much. So now this year, we're going for two hours." (Company n ${ }^{\circ} 1$, Interviewee 1.1, Employee)
"The work does stay the same, so You really have to learn and that also takes time to prioritise properly. To divide up your days, because it's obviously not the intention that you do the same work in 32 hours and always work overtime because you can't do it in 32
hours, so you really have to prioritise." (Company $n^{\circ} 3$, Interviewee 3.1, Employee)
"Yeah, the company needs more employees than a normal company does because we work less hours... like for the company hiring employees because like it's too much work to do in like 6 hours. " (Company $n^{\circ} 5$, Interviewee 5.1, employee)

Other interviewees from Company $n^{\circ} 4$ and Company $n^{\circ} 5$ have reported the same problem but under a different lens. Both have indeed not directly observed a necessity for the teams
to have more time to finish the job, but a significant increase in the intensity of the work when the reduction was implemented. In the two companies, this increase in intensity is seen in different ways. While the owner of Company $n^{\circ} 4$ deliberated about this in a positive way, the employee of Company $n^{\circ} 4$ addressed the necessity of always being concentrated on finishing the job as something that could be harmful, and therefore the presence of small breaks during the day is essential.
"You're constantly in a focus. However, it's also a bad habit to constant stay in that focus, so sometimes it's good to go outside for walk for 10 or 15 minutes. Your head is full with all the thoughts and everything. So that's why sometimes it's good to take a small break, but I'll on the whole the six hours it's pretty good." (Company $n^{\circ} 5$, Interviewee 5.1, Employee)
"I think what has changed is that people are much more action-oriented towards each other, much more focused on achieving a result and taking responsibility for it themselves." (Company $n^{\circ} 4$, Interviewee 4.1, Owner)

Finally, the last way in which the phenomenon of a lack of time manifests itself is through the need for teams to resort to overtime work in order to finish their work. What must be highlighted is that all the teams of the companies in our study have implemented some sort of overtime after the hours were reduced. Nevertheless, as was the case before, interviewees had different opinions about this subject. Some of them were enthusiastic about the fact that people were willing to work more, while others expressed their concerns, since if you need to work overtime, that means you are not really applying any type of reduction to your schedule. Being more specific, the Employee and the Owner of Company $n^{\circ} 5$, agreed on defining the willingness of people to work overtime as something that mines the same idea of a working hour reduction. Whereas Employees from Company $n^{\circ} 5$ and the Owner of Company $n^{\circ} 4$ saw working overtime as a sign of the team's increased motivation as a result of the reduced hours. It is evident that no clear pattern can be drawn from these results. Working overtime not only appears to be an issue related to teams in each of the companies, but it also creates opposite opinions between the participants, regardless of the organizational level they belong to.
"When I was employed working 8 hours, I was empty at the end, it costed a lot of energy to stare at the screen the whole time and sitting at a desk without any movement. I had no more motivation left at the end of the day. I see that with my employees now that there are a lot of activities (work-related activities) in the weekends and in the evenings. Even if I say: "fine, ok, please don't go do something" ...Yeah, they say: "I don't mind, I like it." (Company $n^{\circ} 5$, Interviewee 5, Owner)
"I think because we work six hours and we still growing every week or month, we're getting new clients. On one moment your schedule is full like you can't do anymore task. So you're really going back to your old habits, like working more hours than you should...I often work also in the evening one or two hours to just answer the emails or something like that."
(Company $n^{\circ} 5$, Interviewee 5.1, Owner)
"People at our office have actually gone back from working 4 days to working 5 days...that's not something that we make mandatory, but we do see that people are also working for the organization even that fifth day that they could actually be off a lot more. Maybe a little less hard... a little less active, but still we notice that people just get to work, open a laptop and do their things." (Company $n^{\circ} 4$, Interviewee 4.1, Owner)
"They have created some credits for themselves so that people are willing to do extra work on busy times." (Company $n^{\circ} 1$, Interviewee 1, Employee)
"I think me and my colleagues, I think we are more prepared to do something more a step extra, I think that's one benefit of doing a six-hour day, you feel more energized after the day. So sometimes when you don't finish your work in the six hours you're out, you grab your laptop and do something in the evening, like one hour or something like that. I think when you have a job from 9 till 5:00 or 8:30 till five you are less prepared to do stop extra in the evening or something like that." (Company $n^{\circ} 5$, Interviewee 5.1, Employee)

### 4.2.3 Responsibility at work

From the interviews, responsibility at work also emerged as a supplementary implication among team members that could be linked to reduced hours. This effect was observed
among the employees within the team of Company $n^{\circ} 4$ who, as stated by the owners, showed more responsibility after the reduction in hours took place. However, it is unclear to what extent this could be directly linked to the reduced hours and what part of it is a result of the increased freedom that they provided to their employees in conjunction with the reduced hours. Or if the increased responsibility is only revealed when the two are combined.
"For instance, yesterday was a national holiday. And one of our employees got some business phone calls. It's not that he said: "OK, it's my holiday, so I don't take up the phone" but he answers them and all the questions that he got...They feel the responsibility to take up those tasks that come along." (Company $n^{\circ} 4$, Interviewee 4, Owner)
"Funny enough, (at least in our case) if you tell people they have more freedom, they can work from home, but they can also take the day off, do what they want. Then you awaken in the people their sense of responsibility, ownership, which makes them go one step extra." (Company $n^{\circ} 4$, Interviewee 4.1, Owner)
"People take up the work themselves. "Oh, well, I do want to call the beach club to organize that". So people everywhere are picking up their own subtasks to do things themselves. And we used to have to impose that a lot more, so then I would sit in a meeting and it was very much; do you pick that up and do you pick that up? But now it's: "I want to pick that up". So now it comes much more from the people themselves."
(Company $n^{\circ} 4$, Interviewee 4.1, Owner)
"Now in 2023 (after the reduction was implemented) we see that...everybody is taking their own responsibility." (Company $n^{\circ} 4$, Interviewee 4, Owner)

### 4.2.4 Overall team wellbeing

A topic that received particular attention during all interviews was how the overall wellbeing of the team was altered by the reduced working hours. Employees from Company $n^{\circ} 1$, Company $n^{\circ} 3$, and Company $n^{\circ} 5$, and the HR business partner from Company $n^{\circ} 3$, all agree
with the fact that reduced hours have enabled the team members to spend more time doing other things in their life, reaching a better work-life balance. It must be noted that this achieved between work and life is addressed only by employees and the HR Business partner, who is undeniably in close contact with them, whereas owners seem to have failed to recognize it in their companies.
"When you are working inside, it's very calm. It's very quiet at the workplace...it feels so much more balanced ...everybody agrees on this thing that you are looking more forward, like after your work thing, like you still have kind of a day going on, right? ... which now means there's more time leftover for spontaneous things, time to relax, and time to wonder a bit about other things in life, which I think is very healthy to have from time to time." (Company $\mathrm{n}^{\circ} 1$, Interviewee 1.1, Employee)
"What I hear a lot back here is that employees really do get more rest, can also have time for themselves. The weekends are often full, aren't they? With social commitments and so on, so the day off is often a day for themselves, which they can fill in themselves... and they do notice that they are more relaxed, that they have more energy for work." (Company $n^{\circ} 3$, Interviewee 3, HR Business partner)
"It raises happiness because you can do something else with your colleagues to do something fun or at home. It's frustrating to sit on your chair with nothing to do and you have still to work from 9 to 5 ." (Company $n^{\circ} 3$, Interviewee 3.1, Employee)
"...as well in the company they have more time to pick up the kids from school. They can cook 2 hours earlier instead of two hours later, that are all benefits from working six hours on a daily basis." (Company $n^{\circ} 5$, Interviewee 5.1, Employee)

An additional benefit of the reduced hours is a reduction of frustration and stress. Different from the previous case, this appear to be a more observable phenomena by an external viewpoint, since the collected statements belong also to owners.
"Your total happiness of working with this employer will be raising...it's really frustrating that you are sitting...or at the office or at home and you have nothing to do but you have still be sitting there." (Company $n^{\circ} 1$, Interviewee 1, Employee)
"I think people generally experience a bit less stress within our organization. When I talk to people about that too, I don't get the feeling that they are agitated or stressed. So, I do think something has changed there." (Company $n^{\circ} 4$, Interviewee 4.1, Owners)
"Then I went to ask around and one of our colleagues said: "Yes, I don't feel like I really need a holiday either", because actually, especially if you are off on Mondays or Fridays, you already have a lot more rest." (Company $n^{\circ} 3$, Interviewee 3.1, HR Business partner)
"I don't feel like, you know, I still have energy because. When you are at home at 5:30, you have a lot of stress to cook a meal to do some groceries. When you leave at 3:30, you have two hours more to do your things. And then it's not so stressful, you know."
(Company $n^{\circ} 5$, Interviewee 5, Owner)

Beneficial effects were shown to be addressed also to with the satisfaction of the team to perform the job. This effect is recognized in Company $n^{\circ} 2$ by both the Owner and the Office worker, and it is stated to have a decreasing effect over time, meaning that the rate to which satisfaction increases due the reduced hours will slow down when the teams become more accustomed with the reduction.
"And I think some employees showed their respect to the company. Like: "I don't wanna go away from this company because I like it here and I'm having a good time here"." (Company $n^{\circ} 2$, Interviewee 2.1, Office worker)
"Like in the beginning it's really like ohh, I'm so satisfied because of this and at a certain moment in time it's standard. And then people are looking for something new. If you give them four days of work, they're aiming for three days, and if you give them three, they want two days and so no." (Company $n^{\circ} 2$, Interviewee 2, Owner)

Finally, an Employee from Company $n^{\circ} 1$, affirmed an opposite influence on the overall team well-being that the one reported above. Due to the issue of a lack of time, that was already observed before, there has been an enhanced frustration at work when the new working schedule was introduced.
"Yeah, if they said that I had to stop every day at 3:00 o'clock, then I was quite stressed because I couldn't finish in time. But they ...they also presented it like a like a test. So, we try to do every day three hours less, but we have to see whether it works, whether it's achievable. And in the end, it was not achievable to work three hours less a day."
(Company $n^{\circ} 1$, Interviewee 1.2, Employee)

### 4.3 Teams process variables

After having discussed the insights related to the outcomes of reduced hours, it will now be illustrated how the variables at a team level that were outlined in the literature section of this paper and reported in the model were influenced by the reduction itself in the interviewed companies.

### 4.3.1 Effort

An effect of reduced hours at the team level that was widely discussed among the interviewees is its influence on the ability and willingness of team members to work. Employees of the company Company $n^{\circ} 1$ and the owner of Company $n^{\circ} 4$ agreed not only on how in their teams there is improved motivation to work but also on how that motivation comes from an exchange between employees and employer. In other words, the reduction in hours is seen by both employees and employers as a way to compensate the employees' efforts and therefore as motivation to continue to work harder. In addition to this enhanced motivation of team members, it appears that the reduced hours enable the employees to save
energy during the workday. This is a particularly critical aspect to be noted since it means that the motivation to work harder does not come at the cost of energy consumption, providing a win-win situation for both the company and the employees. Moreover, it must be highlighted how this situation is recognized by several people at distinctive organizational levels and within different reduced hours scheduled. Indeed, it was discussed by the employee of Company $n^{\circ} 1$, the HR business partner of Company $n^{\circ} 3$ and the owner of Company $n^{\circ} 5$, who belong to companies that have adopted reduced hours with and without flexibility. Nevertheless, this change in motivation was not experienced only in the short term but also in the long term, with the team members more willing to continue working for the company after the reduced hours were introduced, as described by the employee of Company $n^{\circ} 3$.
"It's a reward that doesn't cost us anything. We get the same salary in the month that the reduced hours are available...it's a reward to all effort we've made in in busy times, yeah...You have made a lot of effort in April and March and so this is a little bit to compensate your work effort and you get." (Company $n^{\circ} 1$, Interviewee 1, Employee)
"For example, January and April are the busiest months for us. So, what we do notice in the team is that in those times, it's more comforting to learn that in August you have more time off. So that makes it easier ... and more like an internal motivation to keep going through more busy periods of the year, because then you're getting rewarded in a way to chill out more in the times where it's less hectic, less busy."
(Company $n^{\circ} 1$, Interviewee 1.1, Employee)
"So, it's more or less giving and taking. We give them the freedom and the others give us a hand. " (Company $n^{\circ} 4$, Interviewee 4, Owner)
"They do notice that they are more relaxed, that they have more energy for work." (Company $n^{\circ} 3$, Interviewee 3, HR Business partner)
"With the reduction in working hours, it goes a little bit less energy to complete the week, of course, because you have fewer working hours. But the quality stays the same."
(Company $n^{\circ} 1$, Interviewee 1, Employee)
"But when you know: "Ok, it's almost 3:30." The six hours are almost done, the last 30 minutes or last 60 minutes, you give something extra to get it done, you still have enough energy for that." (Company $n^{\circ} 5$, Interviewee 5 , Owner)
"I haven't necessarily seen a change in motivation, but, what I do notice is that I very much want to work for this company and also want to keep working for it in the coming time, because I do see that they mean a lot in the positive sense for the staff, for the employees, for the colleagues." (Company $n^{\circ} 3$, Interviewee 3.1, Employee)

On the other hand, in other cases the reduced hours do not appear to be influencing the motivation of teams, with interviewees unsure about its effect or attributing the change to other aspects of their companies.
> "I think the important thing is still the feeling of a family, those people are willing to do whatever for the company...But this is this is not about the money or the reduction of hours. " (Company $n^{\circ} 2$, Interviewee 2, Owner)
> "The difference in motivation ...No, no, I don't know if that or that necessarily has to do with the fact that you started working fewer hours...I'm not sure if that's just the generation or if it really has to do with working full-time or part-time."

(Company $n^{\circ} 3$, Interviewee 3, HR Business partner)
"I haven't necessarily seen a change in motivation, but what I do notice is that I very much want to work for this company and also want to keep working for it in the coming time." (Company $n^{\circ} 3$, Interviewee 3.1, Employee)

Furthermore, related to the topic of effort, a common feature that characterized two of the companies of our sample was the appliance of a performance and benefits system to their team and team members, in order to increase their motivation. More specifically, Company $n^{\circ} 2$ and Company $n^{\circ} 4$ have some output requirement in the short and in the long term to check the overall team and personal performance.
"Everyone needs something from the other employee. So, if like the finance need input from the project managers and if she doesn't get the input. Yeah, something is wrong and other way around as well...So, during the day you all need input from each other during the week. So, then you know pretty fast if something is going on." (Company $n^{\circ} 2$, Interviewee 2, Owner)
"We want them to do a certain amount of work and if they can do, if they do it, the quality is good, and you don't hear us complain. But if the quality is not good or they don't do the work they have to do and then they want the 5th day free or the additional money, that won't be applied." (Company $n^{\circ} 2$, Interviewee 2, Owner)
"The standard is you need to do 2 window frames a day minimum...in one day our people do 2 window frames just so they work with more precision."
(Company $n^{\circ} 2$, Interviewee 2.1, Office worker)
"We have some inputs demands at the beginning of the week we have to do some targets:
"OK, how many people are you going to connect with?" And also in the in the longer time, in a month, we say: "These are the people you have to get a new job for"."
(Company $n^{\circ} 4$, Interviewee 4, Owner)

Additionally, Company $n^{\circ} 2$ combined the just described system to check the output to monetary incentives for their teams and team members. In particular, teams and singular members might get an additional monetary bonus in case they finish the job before and then have the possibility to take another job and to get paid again.
"And if one team is doing a really good job and they put work 8 days of work in four days or whatever, they get paid additional, but the other ones, if they don't do the work. Yeah, they don't get paid the additional." (Company $n^{\circ} 2$, Interviewee 2, Owner)
"They work for something now, for more days free. Some co-workers wanted to ...work five days, so they get paid 6 days... they do a six-day job in five days."
(Company $n^{\circ} 2$, Interviewee 2.1, Office worker)

### 4.3.2 Mutual support and cohesion

Probably the most relevant team-level implication among the interviewed companies of reduced working hours has to be the effects on how the team members work together. Basically, all the companies addressed a positive impact of the reduced hours on the way the employees work together in the team. This was assessed not only by the same employees, but also by owners and office workers and regardless of the chosen type of hours reduction. First of all, one Employee from Company $n^{\circ} 1$, and one of the Owners of Company $n^{\circ} 4$, observed that under reduced workhours the members work more as a team than they usually do in a normal schedule.
> "You do notice that sometimes I am finished with work earlier than a colleague of mine, so we also notice in those scenarios that we work much more together as a team because when I notice my colleague is not done yet...then I come over to help my colleague so that we are all out the door at the same time. So, we do notice more teamwork going on in those time frames. " (Company $n^{\circ} 1$, Interviewee 1.1, Employee)

"We now have a team that works very well together and where there are also initiatives from within the team itself to undertake things together."
(Company $n^{\circ} 4$, Interviewee 4.1, Owner)

The rest of the interviewees did not witness a direct enhancement of the teamwork among the members; however, they were clear in affirming there has been more support for each other in the team. During the reduced hours, helping, supporting, and having each other back, became critical values among the teams of Company $n^{\circ} 1$, Company $n^{\circ} 2$, and Company $n^{\circ} 5$.
"They are helping each other much more because they know they have more days free in in a week. So, when someone is free early, because they have like an easy job or they work just hard, sometimes they call and say like "can we help the other team?"."
(Company $n^{\circ} 2$, Interviewee 2.1, Office worker)
"...so when it happens for a day that I have only 5 emails and my colleague has 20, you just communicate, and you know that you don't let someone get behind."
(Company $n^{\circ} 1$, Interviewee 1.1, Employee)
"Last year was the first year and we can learn about it. What we can do better, more supportive to all the colleagues, keep the balance in the team so that everyone gets the benefit and not in a way that someone gets more benefit than the others. So, it's a learning process." (Company $n^{\circ} 1$, Interviewee 1, Employee)
"Yeah always, everybody. Even when the interns have questions, we all want to help. There's no problem. It's just one big family. " (Company $n^{\circ} 5$, Interviewee 5, Owner)
"I think what's also important is that you support each other. So not that what one person in the team is leaving every day three hours earlier and another one it's working full hours...you have to support each other in the team to make sure everyone is enjoying the time off." (Company $n^{\circ} 1$, Interviewee 1.2, Employee)
"Yeah, I'm the most experienced team member. Besides the founders, so I'm trying to help others of course also in that period." (Company $n^{\circ} 1$, Interviewee 1, Employee)
"I think in that period you have to monitor more and actively ask people if they. How they are in their work? If yeah. Because otherwise somebody can leave a bit earlier, but not everybody can leave 3 hours earlier. And in the end, that's not what you really want, you want it to be even. " (Company $n^{\circ} 1$, Interviewee 1.2, Employee)
"But we have to make sure that we help each other so we can all benefit... we have to make sure that everyone that we can help each other...so everyone has the benefit and not only one because he is done with his work." (Company $n^{\circ} 1$, Interviewee 1, Employee)
"I think that is because of the things we do and how we help each other also in the office. If I don't have anything to do, I make appointments for my colleague in his agenda and tell him. We just helping each other every time and if I have a question, I can ask someone and he's helping me or vice versa. So, I think it's a real value."
(Company $n^{\circ} 5$, Interviewee 5.1, Employee)

Another common characteristic that can be linked to the support and cohesion of team members is the fact of having an informal organizational environment both in term of organizational structure and relationships. For example, Employees from Company $n^{\circ} 3$ and Company $n^{\circ} 1$, and the Owners of Company $n^{\circ} 2$ described how also during the reduced hours the whole organization acted as a family with spread out responsibilities and horizontal structure.
"I think that's also because of the Dutch work culture we have. There's not much hierarchy on the work floor at all...It feels like a kind of friend group every day I come to hang out with them at the office...and you're just there for each other in the work-life if needed." (Company $n^{\circ} 1$, Interviewee 1.1, Employee)
"We want to the company be like family ... and we see that the people are willing to do more for you. " (Company $n^{\circ} 2$, Interviewee 2, Owner)
"...everyone is being responsible for all customers and that not just one person renews all contracts, but that several colleagues can do that." (Company $n^{\circ} 3$, Interviewee 3.1, Employee)
"And perhaps the working method has also changed. Certain things are in the hands of that person, and other tasks are in the hands of another person, so that responsibilities are spread out and clear...we are in the HR department but really we don't have a big team, so we don't have a lot of changes there. But I have seen in other teams that that has changed." (Company $n^{\circ} 3$, Interviewee 3.1, Employee)

Besides, in line with this conception of the company as a family, the activities outside the workplace appear not only to remain a constant even after the reduction was introduced but they are also stated to be enhanced after its adoption.
"No, it's more like a friend base than a colleague base working atmosphere so, no, that didn't change.... We say ohh, let's quit at 4:00 PM and do a board game and have a drink or something like that. This it's not only in, in the in the month when the working hours are reduced." (Company $n^{\circ} 1$, Interviewee 1, Employee)
"Once in two weeks, so also today we are going to play padel at the end of the day in the in the afternoon. And of course, we do other things with the team to have a little bit of, some team building. Not only things in the office but we do some fun things too with each other. " (Company $n^{\circ} 4$, Interviewee 4, Owner)
"We have to do fun things together. We have to have drinks with each other every week on Friday afternoon at end the week. Well, that is now done in a much more organic, natural way. " (Company $n^{\circ} 4$, Interviewee 4.1 , Owner)
"I'm a person that likes to have a lot of fun with the workers. So, I always plan something like a BBQ, or we go a day to. I don't know, to play cards or something...I do those things just to get the balance between private and work. they don't need to be best friends, but just that they can talk with each other and have a good bond with each other. Because
that's really important for a nice workspace."
(Company $n^{\circ} 2$, Interviewee 2.1, Office worker)

Furthermore, not only the horizontality of the organization and the informal activities between team member did not suffer any type of change, but also the relationships among them were not influenced and remained positive.
"We still saw each other every day. It didn't affect, no, the relationship between colleagues, we still have lunch together keep each other updated. So no, I don't think that was affected by the reduced work hours." (Company $n^{\circ} 1$, Interviewee 1.2 , Employee)
"The relationship informally has always been really good, I think. That's why I still work there, and that has changed, not necessarily, certainly not changed negatively but if it would have changed then that's positive. But I don't necessarily notice big changes in that no, not that." (Company $n^{\circ} 3$, Interviewee 3.1, Employee)

In addition, it was reported by Company $n^{\circ} 3$ and Company $n^{\circ} 5$ that, in order to ensure and enforce these synergies among team members, they adopted some team creation practices that revolved around the idea of having a preselection of the teammates, not based upon skills or experience but on the potential bonds they could be creating with the other team members.
"Yeah, but I choose wisely my colleagues, I don't care if you have less experience as long as you fit the team. That's the most important thing...I see them all having fun together ...We are all matching." (Company $n^{\circ} 5$, Interviewee 5, Owner)
"We have a first player that is the leader of the project. We always ask him: "do you know a friend of yours that wants to work for us and that you have like a good relationship with so you can put them in your team", and then we have like a lot of teams working with best friends so. That works better because you have like a lot of fun. You know each other. You know what you can expect from the other."
(Company $n^{\circ} 2$, Interviewee 2.1, Office worker)

### 4.3.3 Contribution balance

An additional point of discussion among the participants in this study was work allocation within and among teams. Several statements articulate this topic in different ways. All the

Employees of Company $n^{\circ} 1$ clearly specify the existence of a work allocation problem during the reduced hours. Nevertheless, this appears to be an issue that has always characterized the team also when the hours were not reduced, since it is strictly correlated to their way of working, with uncorrelated task and with a different number of clients. The Office worker from Company $n^{\circ} 2$ reported this unbalanced amount of work as well, but in this case among the different teams.
"Every colleague is in a different stage, was in a different stage in August when we did it. So, some colleagues had not that many customers already. So, their work was less than mine. The amount of work was not equally was not equal with every colleagues." (Company $n^{\circ} 1$, Interviewee 1.2, Employee)
"It's really hard to balance because some people were working more because they had...more clients, so more questions. For my colleague the clients were new and had a lot of questions, so they got busier than I was." (Company $n^{\circ} 1$, Interviewee 1, Employee)
"And it always happens, of course, that someone is busier than you. It depends on the clients that you have, of course." (Company $n^{\circ} 1$, Interviewee 1, Employee)
"Every project is different, so some people can get a real difficult project, more precise than other people...you could see the bits, but there you always have people that are better than the others. But that's no problem. At the end they need to do the same."
(Company $n^{\circ} 2$, Interviewee 2.1, Office worker)

On the contrary, the Employee and the Owner of Company $n^{\circ} 5$, did not find an unbalanced work allocation within the team, or at least it is not an issue for them since every team member is putting their best effort into their job.
> "But I don't see any difference in motivation or activity (motivation of team members and their activities)." (Company n ${ }^{\circ}$, Interviewee 5, Owner)
> "Yes and no, but it's often because someone has a more difficult tasks...that require more thinking, more technical things. However, I think everyone is working their best, yes." (Company $n^{\circ} 5$, Interviewee 5.1, Employee)

To conclude this section, there is the need to note also the contribution of the Owner of Company $n^{\circ} 2$ and the Employee of Company $n^{\circ} 3$ who described ways in which their companies control the work allocation. While in Company $n^{\circ} 2$ is up to team members to report whether the work allocation is unbalanced, Company $n^{\circ} 3$ is hiring more people to compensate for the fact that, despite the hours were reduced, the work to perform stayed the same.
"We always try to get that balance right so that everyone is responsible for their own. If the balance isn't right, they have to let us know I'm doing too much, I'm doing too less... " (Company $n^{\circ} 2$, Interviewee 2 , Owner)
"You do have that working less, the amount of work has remained the same though, so of course that hasn't changed. And, we are a growing company, so that's just growing as well. So, you do notice that the amount of work has stayed the same... but, they have also anticipated that to hire more people." (Company $n^{\circ} 3$, Interviewee 3.1, Employee)

### 4.3.4 Communication

From the analysis of the interviews, work-related and informal communication emerged as an aspect that has a critical importance within a schedule with reduced hours. Employees, Owners, and the HR business partner belonging to Company $n^{\circ} 1$, Company $n^{\circ} 4$, Company $n^{\circ} 5$ and Company $n^{\circ} 3$, have all assessed the fundamental role that communication, in particularly informal ones, among team members, had when the reduction was implemented.
"But I do think anyway that if you work fewer hours that connection with each other does become extra important. Whether you work at home or at the office."
(Company $n^{\circ} 3$, Interviewee 3, HR Business partner)
"Instead, and we have a lot of fun and talk to one another when we want to. It's not like:
"Ohh no, I'm gonna stop to talk to you because at 10:00 o'clock we have a break and then I'll answer your questions." No. When, say on Tuesday from 9 to 10, we start our day, we are chatting around and talking about our weekend for an hour long."
(Company $n^{\circ} 5$, Interviewee 5, Owner)
"People are free to make their own decisions, and when you question about your decision, you ask your colleagues: "Hey, can you look this with me? What do you think about this?" You give each other like advice or opinion or compliments when someone did it good." (Company $n^{\circ} 5$, Interviewee 5.1, Employee)
"I think with us there is also a lot of focus on cooperation. Of course, you have to find each other. Find each other well. Yes, so that you also keep each other informed of everything that's going on. " (Company $n^{\circ} 3$, Interviewee 3, HR Business partner)
"KPIs are still the subject of a weekly discussion here, but they don't apply as minimum targets. It's more of a conversation about; We see this week that the KPIs in that area are falling, have declined. What's going on? How are we going to fix that? It is a team conversation, what are we doing to solve that together..."
(Company $n^{\circ} 4$, Interviewee 4.1, Owner)
"But as long as I think that you communicated in the team and we're open about it and know you have each other's backs, then that's the way to work through it, I think." (Company $n^{\circ} 1$, Interviewee 1.1, Employee)

Nevertheless, despite the same Employee of Company $n^{\circ} 5$ reported the importance of discussing ideas within the team, they also observed that, when the reduction was implemented by the company, they started facing difficulties in communicating with another team member that had tasks not correlated to them.
"Like if a colleague works less, I'm talking less with them. I think that's indeed happening not because you don't wanna talk. But it's only a matter of time, like with one colleague, she's working from morning till Thursday, and she leaves around 2:00. I talk less to her than the others, but that's really a matter of time...and my daily tasks aren't really connected to her daily tasks. I think if my thoughts were more connected to her tasks, I would talk often to her. I'm not really connected to her with my work. I have not also a big reason to talk to her. " (Company $n^{\circ} 5$, Interviewee 5.1, Employee)

### 4.3.5 Coordination

Another practice that assumed importance within teams when the hours were reduced is the planning. The HR business partner and the Employee from Company $n^{\circ} 3$ both explained how planning and prioritizing individual tasks within the team is critical when you are working fewer hours. Furthermore, as it was already found beforehand, planning is even more fundamental when you are working with clients who have different working hours.
"If you only work 4 days a week, your week is naturally shorter, so you have to look further ahead. And even more so if, for example, you work with clients where you work 5 days a week. So, also take into account your colleagues' days off."
(Company $n^{\circ} 3$, Interviewee 3, HR Business partner)
"Yes the only thing you have to watch out for, I think, is that people then go to work on their day off anyway. Because they don't meet their deadlines or a schedule. But that's okay. Of course, you can provide guidance on how to plan your work, so that your day off is really free." (Company $n^{\circ} 3$, Interviewee 3 , HR Business partner)
"The work does stay the same, so you really have to learn and that also takes time to prioritise properly. To divide up your days, because it's obviously not the intention that you do the same work in 32 hours and always work overtime because you can't do it in 32 hours, so you really have to prioritise, " (Company $n^{\circ} 3$, Interviewee 3.1, Employee)

Strictly linked to what was just illustrated, the HR business partner and the Employee from Company $n^{\circ} 3$ and the Employee from Company $n^{\circ} 5$, have observed how another aspect that is particularly decisive for teams that are adopting a reduction in hours is the ability to coordinate tasks among team members. They assessed how, under reduced hours, you have to rely more on each other because other team members might take on the work you were doing or the opposite, and therefore being coordinated is a necessity.
"If Everyone works 4 days a week and you can divide that and you have 5 days in a working week, and Everyone has Another day off Then you have to arrange the handover very well. Because the moment colleague $A$ is not there, the other colleagues have to be able to take over that work. So, we also invest a lot in that."
(Company $n^{\circ}$ 3, Interviewee 3, HR Business partner)
"...sometimes when some we rely on each other, someone has to do step $A$ and then the other one has to step B. And if the person who said I'm working on it from home doesn't do it... you're getting in danger." (Company $n^{\circ} 5$, Interviewee 5.1, Employee)
"You do have to work much more within the team, Because yes if you have to schedule an appointment and someone is free that day, then Someone else has to pick it up" (Company $n^{\circ} 3$, Interviewee 3.1, Employee)

### 4.4 Additional codes

Until this moment, the assessment of the results was only based on the axial codes that were built from the companies' interviews following the variables that were identified in the literature. In this chapter, the open codes will be discussed, meaning that only insights that were not based on any already existing theoretical variables but emerged directly from our empirical analysis will be reported.

### 4.4.1 Initial phase of adjustment to reduced hours

The first innovative finding extracted from the interviews was related to the initial period during which the reduction was adopted within the teams. In particular, employees belonging to Company $n^{\circ} 3$ and Company $n^{\circ} 1$ stated the need for an initial period of familiarization of the team with the reduced hours. Interesting to observe is that the time required for the team to get used to the reduced hours greatly varies in the two cases, with Company $n^{\circ} 1$ needing one or two weeks and the employees of Company $n^{\circ} 3$ necessitating of 3 whole months. The fact that both these companies experienced this initial period of acquaintance is a key finding because it implies that, despite combining the reduction with flexible work solutions, the teams still require some time to internalize the new way of work that comes from the reduction. Furthermore, it is also critical to note, that all the people that recognized the necessity of some time to get use to the new schedule are all employees, whereas owners, office workers, and HR did not address this requirement. This might suggest that the implementation period of the reduction in the hours is probably underestimated by the same people who usually decide to adopt and practically plan the same reduction.
"There's definitely a little hop you need to get over it, to accept the new situation as it is, and to adjust to it." (Company $n^{\circ} 1$, Interviewee 1.1, Employee)
"So, in the beginning, it was a bit. We had to get used to the concept and we had to learn to be happy with it. But yeah, once after a week or two weeks we were used to it and I just enjoyed the time we could take off free so." (Company $n^{\circ} 1$, Interviewee 1.2, Employee)
"In the beginning it always takes some getting used to... I think that took 3 months for me and I was completely converted. And I would never want to go back."
(Company $n^{\circ} 3$, Interviewee 3.1, Employee)

In addition, the initial period of adjustment could be useful also to understand if the kind of reduction chosen actually fit the team. Indeed, the same employees of Company $n^{\circ} 1$ explained that at the beginning the reduction was too harsh on the team's job, creating stress and panic when the time was running out that made the overall work experience more frustrating than
what it was before. That was the reason why they later switched to a 2 -hours reduction that does not create those type of issues in their team.
"At first, we had too much time off and too much work to do in too little time. So, you had to work harder in those few hours. So, in the beginning, we were a bit more stressed about getting used to it." (Company $n^{\circ} 1$, Interviewee 1.1, Employee)
"At the beginning it was a bit frustrating because it didn't work to stop the work at three...so, it was a bit frustrating in the beginning. " (Company $n^{\circ} 1$, Interviewee 1.2, Employee)
"At first, I would say, two or three days that we did this, we really quickly noticed the lowkey panic that started half an hour before, you know, you should be clocking out, and then you go with the communication like, ok. But I'm not there yet. ok, can I help you?" (Company $n^{\circ} 1$, Interviewee 1.1, Employee)

Finally, there should be a mention for what the team of Company $n^{\circ} 1$ address to as an evaluation period. That is a phase that took place soon after the first introductory period in which the team was asked to reflect on and to assess the different problems that they experienced with the reduction until that moment. This was a functional way to, as stated before, understand the initial difficulties that the reduction created in the team and to came up with the solution of diminishing the hours reduced.

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### 4.4.2 Team tasks and responsibilities

Innovative findings were also gathered about how the responsibilities, and tasks performed by teams change under the reduced hours. The statements of the Interviewees of Company $n^{\circ} 1$, are clear in highlighting no major changes in the tasks during the reduced-hours period. The fact that there was reported no change in tasks in the teams of these two companies represents a crucial piece of knowledge since the task structures of the companies are opposite to one another: while the team in Company $n^{\circ} 1$ has independent and individual tasks, Company $n^{\circ} 2$, presents interdependent tasks among team members, and yet both experience no change. This means that regardless of the way the team works, a reduction in hours is not impactful on the tasks performed.
"In all cases, we have one concept, and everybody has the same function; even if some of my colleagues maybe have a higher degree than I do, we still have the same work title here...we are all in the same situation, there is no difference."
(Company $n^{\circ} 1$, Interviewee 1.1, Employee)
"It's a less busy period but our activities are kind of the same during the whole year. So, there was not really a difference, I think." (Company $n^{\circ} 1$, Interviewee 1.2, Employee)
"We all have our own clients. So, you really have your own work We do discuss situations with each other, but we don't do each other's work. We don't work together in that sense a lot; you just do your own job. No, there was not. There was not really a difference in working together." (Company $n^{\circ} 1$, Interviewee 1.2, Employee)

### 4.4.3 Team structure

In relation to the structure of the teams, different views were faced. The Officer worker of Company $n^{\circ} 2$ explained how after the reduction, no structural changes to the teams were made, since it was thought that the previous allocation was the best fit for the company 'job and also that reorganizing the teams would have meant spending too much time to rebuild
the member relationships. In contrast, the Owner form the same company (Company $n^{\circ} 2$ ), the Employee from Company $n^{\circ} 3$, and the Owner of Company $n^{\circ} 4$ observed changes in their teams. In particular, teams of Company $n^{\circ} 2$ and Company $n^{\circ} 4$ both experienced a substitution of unmotivated and troublesome workers with motivated and skilled ones. Whereas teams of Company $n^{\circ} 3$ went through changes in roles, spreading tasks responsibilities on large number of members.
"And I think that the colleges that had to leave or just left because they weren't the best fit...And if I look at the people that work now, they're really motivated." (Company $n^{\circ} 4$, Interviewee 4, Owner)
"A lot of people left the company because they were not satisfied with the basic rules we set with it. But all the people who left where the people we were not pleased with, where all the people who were not of a high quality, what we had always troubles with." (Company $n^{\circ} 2$, Interviewee 2, Owner)
"And perhaps the working method has also changed. Certain things are in the hands of that person, and other tasks are in the hands of another person, so that responsibilities are spread out and clear ... we are in the HR department but really, we don't have a big team, so we don't have a lot of changes there. But I have seen in other teams that that has changed." (Company $n^{\circ} 3$, Interviewee 3.1, Employee)
"The sales team used to have one person responsible for a certain customer or for several customers, but now that has actually changed to Everyone being responsible for all customers and that not just one person renews all contracts, but that several colleagues can do that." (Company $n^{\circ} 3$, Interviewee 3.1, Employee)

### 4.4.4 Management interest in employees

The last outcome from the interviews' analysis that should be highlighted in this section is the relevance that assumes the interest of management towards the team members within the participating companies even when the hours are reduced. Being interested in the
employees means not only the act of the management of understanding the wellbeing of the team members, which is still critically important, but also offering to the teams an organizational environment that is characterized by openness and trust between each other.
"So, every month we close the month financially and then we also share that with the staff. And so, then everyone also knows: What happened last month? What projects are going on? Where are our risks? So, everyone also knows about almost everything. There are a few things we keep to ourselves as owners, of course, but for the most part we just share"." (Company $n^{\circ} 4$, Interviewee 4, Owner)
"The basis of it all really is trust-trust in your team, your employer-that's the basis." (Company $n^{\circ} 1$, Interviewee 1.1, Employee)
"So, I think you need to support them in every way and keep talking with them to know what maybe they have private issues or something...you definitely need to speak with them because sometimes you think that someone is not working because he's a lazy person, but then if you talk with them, you hear a lot of more issues, like maybe have family issues or something." (Company $n^{\circ} 2$, Interviewee 2.1 , Office worker)
"We just look at what's the output and how well is someone. The well-being at the office. How is he doing? That's much more important than to see how much somebody have worked." (Company $n^{\circ} 4$, Interviewee 4, Owner)

### 4.5 Working from home with reduced hours

Finally, it was investigated if and how working from home solutions were implemented in a schedule with reduced hours and the outcomes that this combination has on teams. First of all, every company guarantees the possibility for team members to work from home. The solution adopted by all the firms is to leave a certain degree of freedom to the team members to work from home. Some of them, such as Company $n^{\circ} 1$ and Company $n^{\circ} 2$ reserve the decision to which day work from home completely up to the employees, while the Owner of Company $n^{\circ} 5$, assess how usually the team never work from home, but in case the members have a necessity they always allowed them to.
"You could also work wherever you want, but they also want us to be at the office some days a week. During the reduce work hours period it was kind of the same. So, you could work at home, you could work in the office." (Company $n^{\circ} 1$, Interviewee 1.2, Employee) "This year, in August when we have reduced hours, I am going to be working abroad. So, it's another form, I guess, of hybrid work...so as long as you have Wi-Fi, you're good to go." (Company $n^{\circ} 1$, Interviewee 1.1, Employee)
"I'll keep them free. Normally they never work at home, so when they ask me, I'll never make that an issue. And I'll leave them to it. I believe they do their work and I see they do the work, so that's fine." (Company $n^{\circ} 5$, Interviewee 5, Owner)
"But everyone on the on the office, they can put they can. They actually are free to do it whenever they feel like in a week...they are pretty free to fill in the week, but they have to do their job. So, if the job is done at the end of the week, we are fine." (Company $n^{\circ} 2$, Interviewee 2, Owner)
" $1 / 2$ of the time I'm at the office and half of the time I'm working at home. And in the period of the reduced hours I'm working three days from home and one day I'm going to the office." (Company $n^{\circ} 1$, Interviewee 1, Employee)

A compelling insight about this topic is that for the teams of Company $n^{\circ} 1$, and Company $n^{\circ} 3$ working from home was not something that was immediately implemented along with the reduction, but it required time. More specifically, a team member of Company $n^{\circ} 1$, did not feel comfortable in working from home at the beginning but they needed to get used to the situation and build trust among each other. On the other hand, in Company $n^{\circ} 4$, new team members are required to working in the office for the first months to then be later allowed to work from home.
"Last year I didn't really do that. I think most of my team members didn't really do that because I think we were still getting used to the situation. So, we didn't really dare, I guess, to do that. (working from home)." (Company $n^{\circ} 1$, Interviewee 1.1, Employee)
"Now we have a new employee that started two weeks ago. He has to go to the office and learn about our culture and what our clients are and, everything that you have to know to work here ...In the first couple of months for new employees it's good to learn how we work here and after that period it's ok to work from home. " (Company $n^{\circ} 4$, Interviewee 4, Owner)

Nevertheless, apart from comprehending how working from home is implemented in a schedule with reduced hours, evidence was found about the impact that working from home has on the reduction in working hours. Indeed, the Employee of Company $n^{\circ} 1$, reported that the overall job done by the team is not influenced by working from home or in the office. Implying, in this way, that working from home has no effect on the reduced working hours.

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## 5 Discussion

This paper started with the idea of exploring the phenomenon of working hour reduction at a team level, particularly focusing on its requirements and consequences. Firstly, it relied on the literature to analyze what other authors had already researched, consequently building the conceptual model that guided the research up to this point [Figure 6]. Secondly, the empirical case studies were carried out, and their results were illustrated and explained. In this chapter, following the abductive approach, these results will be combined with what was obtained from the theory to reach a final solution to our research question. In other words, the outputs of the interviewees will be interpreted in light of and compared to the literature findings in order to come up with theoretical implications both for the theory and for the companies. In the process, the conceptual model will be updated again in a way to account for the combined findings of the literature and the case studies. To conclude this section, the limitations of this study and ideas for future research will be expressed.

### 5.1 Theoretical interpretation and implications

As stated, in this section the discussion of our empirical results in light of the existing literature on the topic will take place, along with the implications that the same results will have on the literature.

### 5.1.1 Effects on teams

Starting from the initial information obtained from the empirical analysis, it was discussed how, in all the teams of the majority of the analyzed companies, the reduction in hours was implemented along with different kinds of flexibility measures. This is in line with what was assessed in the works of Van Os (2019) and Pang (2020) who reported how the ideals of our restless society and the experience of exponential globalization were among the causes that hindered the reduction in the hours worked and forced companies to opt for flexible work hours. The fact that in the empirical analysis traces of a combination of
reduced and flexible hours were found could be an indicator of how reduced hours do not need to be rejected in favour of more flexible schedules, but the two can easily coexist, enabling companies to not only exploit the advantages of reduced hours but also to have a level of flexibility that does not hamper their ability to work at a global level.

The first team-level output that was reported in the results section was the efficiency effects that came from the implementation of reduced hours within teams. As it was addressed, most of the companies experienced an increased ability to finish the work in fewer hours with regards to what they usually did before. More specifically, the issue with an 8 -hour schedule seems to be the last two hours of the workday, when the team is less productive. On the other hand, there is other evidence that interviewees are not experiencing any change in the team's productivity. Despite being related to an individual level, similar findings were already discussed by Pencavel (2014), Pang (2012), and Pang (2020), who assessed that not only does the workers' productivity decrease with longer hours worked, but that the reason behind this is related to physical and mental fatigue experienced by the workers. Thus, it is clear that, while the literature seems to report only improvements in productivity when the hours are reduced, the empirical findings at a team-level explain that this is not always the case. The reason behind this incongruence of outcomes between the individual and team levels could be the fact that, even if individually the reduction in hours fosters employees' performance, as it was widely acknowledged, team productivity is not only dependent on individual contributions but also on other team-related variables that will be discussed later in this section (Hoegl et al., 2001). Having reported this divergence between the team and individual levels is a critical piece of knowledge since it implies that the outcomes of the reduction at the individual level do not transfer themselves at the team level, which therefore serves as a justification for the existence of this and future papers about team analysis.

Probably the biggest drawback of reduced hours outlined in the empirical analysis was the issue of teams not having enough time to conclude their work. This problem was already depicted in the literature, as workers who have just started working fewer hours might experience difficulty performing the task in the predetermined hours (De Spiegelaere et al., 2017). Nonetheless, what resulted from the case-study analysis is that, with regards to teams, this is an issue much deeper than what might be gathered from the theory. First of all, this inability to finish the work in time is confirmed by the empirical analysis as well as being particularly relevant as soon as the reduced hours are reduced in the teams. However,
diverging from the literature, this phenomenon does not vanish with time but is still heavily present in teams that should have already become accustomed to the new schedule. In the second instance, from the interviews, we were able to decompose the problems into different manifestations. Indeed, some of the teams have experienced the issue of a lack of time directly, giving particular weight to the fact that, despite the hours being reduced, the amount of work to do was still the same. Others observed the problem from a different perspective, realizing that the intensity of work definitely increased, and therefore there was a necessity of being constantly focused on the job. Finally, there was an additional unit of interviewees that reported an increased number of hours spent working overtime by the team members to finish the work, meaning that the whole purpose of working hours reduction was deprived. These insights integrate more information into a problem that was just stated in the literature and not deeply researched, expressing how critical its consideration is for future research.

One particular insight obtained from the case studies is that there was increased team responsibility when working hours were reduced. Indeed, it appears that team members are more willing to take on tasks on their own without always relying on their supervisor. This finding is resourceful since none of the analyzed literature has reported it before. The closest references to it can be found in the works of Pang (2012), and Pang (2020), where it is assessed that workers under reduced hours usually show an enhanced commitment to the job. Therefore, it can be said that the fact that in our analysis team members are more responsible under the reduction not only offers an additional implication to the literature about working hours reduction, but it is also an indicator of how the team analysis reveals additional findings also at an individual level, since certain individual characteristics, in this case the improved responsibility, only manifest themselves while working in teams.

Another finding that was in line with what has been researched in the literature is the effect of working hours on the wellbeing of the teams. The case studies have indeed outlined that under reduced hours, the team members were able not only to have a better work-life balance, performing other things in their lives other than work, but also to experience a reduction in stress and a higher level of satisfaction in their job. These outcomes are harmonious with the literature on the topic, which assessed how a high number of hours worked is substantially impactful on the work-life balance of individuals (Albertsen et al., 2008; De Spiegelaere et al., 2017; Pang, 2020; Lorentzon, 2021). On the contrary, there has been a case in the empirical analysis that addressed increased frustration in the team after the reduction. However, this is
not something directly linked to the reduced hours but to the lack of time resulting from the reduction itself. This implication is concordant with the existing literature as well, since De Spiegelaere et al. (2017) have already explained that there are variables impacting work-life balance and therefore workers' wellbeing other than the lengths of the hours, and among those, particular importance has been given to the amount of overtime work, which depends on the additional time needed to finish the intended work.

### 5.1.2 Team processes insights

Referring to our conceptual model, another set of variables that was studied both in the literature and the empirical analysis were the team processes. Following the literature, these were variables thought of as influential on the relationship between reduced working hours and its outcomes. This initial idea was definitely confirmed by the case studies, in which interviewees addressed the importance of fostering the team process variables in order to have prosperous results from their teams. More specifically, with regards to Effort, there were multiple companies that tried to foster their team's motivation to work harder through benefits and monetary bonuses. Others were focused on building an informal and open organizational environment that would foster Mutual support and cohesion among team members. When it comes to the Contribution balance of work between team members and among teams, some of the companies have adopted ways in which they can check and reassign the amount of work, such as questioning team members about their thoughts on the current allocation and hiring more people. And finally, basically all the companies assessed how important it is for their teams to have of Communication, in particular informal communication, and Coordination, in terms of planning the work between team members with a long-term horizon. As reported beforehand, these findings are surely representative of the theory outlined by Hoegl et al. (2001) about the variables regarding Team design and processes.

Nevertheless, as discussed in the previous chapters, the team process variables from the research of Hoegl et al. (2001) are not only affecting the relationship between reduced hours and their outcomes but are also directly impacted by the reduction itself. This double relationship it is now confirmed also by the empirical results. In particular, despite the fact that some interviewees were unsure of the effect of reduced hours on their Effort, the
majority of them assessed an improved motivation to work, which appears to be related to the social exchange theory. Indeed, as already reported in the results section, the team members see the reduced hours as a favor for their work and are willing to put more effort into the job since they feel the presence of an obligation towards their employer as their relationship develops over time (Cropanzano et al., 2005; Davies et al., 2005). This result is congruent with what we expected following the theory that assessed a higher commitment, satisfaction, and productivity of the workers when the hours were reduced (Brown et al., 2011; Pencavel, 2014; Pang, 2012; Pang, 2020; Voglino et al., 2022).

Similar findings were obtained for Mutual support and Cohesion, with companies stating that not only do the members work more as a team, but there is also more support for each other when the hours are reduced. This is definitely a striking result since, from the reviewed literature, we initially thought of a totally opposite outcome, with people in teams facing more difficulties with socializing and building trust, respect, and support (4 Day Week Global et al., 2023; Hoegl et al., 2001; Tjosvold, 1984).

For the same reasons, we also believed that the Contribution balance among team members would have been distorted when the hours were reduced. From the empirical analysis, this seems to be confirmed, but only partially. Companies have indeed reported unbalanced contributions between team members and teams, but the two cases were companies characterized by teams with tasks that were not interdependent, meaning that different team members and teams performed the same tasks without functionally depending on others (Kiggundu, 1981). In contrast, other companies have not found any unbalanced contributions among their teams or at least explained that it is not an issue for them. Thus, considering that we first assumed from the theory that a decline in conviviality was responsible for hindering the contribution balance of the team members, we can say empirical results are neither confirming nor rejecting what the literature offers. The impact of reduced hours on Contribution balance, even if generally negative, is highly dependent on the context in which it is applied. If tasks are interdependent, it can be overlooked given that it does not seem to be significant, whereas in the opposite case, it results in an issue that should doubtless be taken into consideration.

In the first sections of this paper, it was mentioned about the work by Rübelmann et al. (2017), which found out that the implementation of a 30-hour workweek among knowledge workers hindered their informal and work-related communications. What was found out in
this research is that, also in this case, this is related to the type of tasks performed by the team. Indeed, while in the majority of cases the teams assessed how important it became for them Communicating with one another after the hours were reduced, we also found evidence that, when the team's tasks are not interdependent, difficulties in communicating arise. And this is something that was also critical when the Coordination variable was analyzed, with teams with interdependent tasks having to be more coordinated compared to a schedule with full hours since team members are always taking on the work left by someone else. Furthermore, during the reduced hours, planning and prioritizing individual tasks becomes fundamental, even more so when clients with different schedules are involved.

To conclude, it can be assessed that, until now, the biggest contribution of this research to the literature has been taking into consideration the role that task interdependency plays at team level. This is fundamental because, as it was discussed, it adds more depth to three out of five variables of Team processes, meaning that not only should it be accounted for in future theories about reduced work hours but also when researching teams in general.

### 5.1.3 Additional findings

In addition to the insights stated before that were already partially reported in the literature or supposed from the theory, our research also revealed completely new implications that add information about the topic of working hours reduction at team level. The first is the presence of an initial phase of adjustment for the teams to a schedule with reduced hours. This is a period in which team members get used to working fewer hours, and based on the empirical results, it seems to vary from company to company. However, no precise criteria were successfully found to explain the difference in length, a topic on which future research can draw. It has to be addressed that Rübelmann et al. (2017) have already discussed how the first period of implementation could create issues for organizations since they are required to go through a process of reorganizing their way of working and resources with employees learning to perform their tasks with the new schedule. Nevertheless, thanks to the results of our analysis, we were not only able to empirically confirm this statement at a team level but also to explain how harsh the reduction could be on the members' jobs when it is just implemented, creating stress and panic in the teams. Furthermore, it was also feasible to address a solution to this problem: an evaluation period at the end of the initial
phase to collect, evaluate, and implement the feedback of the teams about the reduction, maybe switching to another kind of schedule if it is required.

Another new finding that the literature has never properly addressed is how teams change in terms of responsibilities, tasks and structure when the hours are reduced. It was discovered that, regardless of task interdependency, no major change in tasks performed by the teams is experienced. Moreover, responsibilities seem to be spread over a wider group of individuals when the hours are reduced in the teams, and troublesome team members appear to leave the companies to be substituted by motivated ones without changing the structure of the teams. These are obviously preliminary insights that, for now, only offer a base on which future research can build comprehensive models that explain a complete set of structural changes that could happen as a result of a workhour reduction.

Finally, there should be a mention for what we called "Management interest in employees," which is a concept that literature has not touched on and implies an environment in which teams and members can not only be open and trust one another, but they can also be heard by the management with regards to their problems and wellbeing. It can be argued that this notion is particularly interesting since it appears to be neglected by the theory, but several were the participants in the empirical analysis that stressed its importance regarding the wellbeing of the team, and therefore it can be argued that it is impactful on the way teams approach the reduction of working hours.

### 5.1.4 Working from home

Multiple times, it was reported that one of the objectives of this study was to understand how working from home can be combined with reduced hours and what effect it has on them. It must be reminded that, however, we adopted a different approach to the one the literature proposed. Indeed, while the theory sees Working from home as an alternative to reduced hours (Ipsen et al., 2021), in this study it was treated as a variable capable of influencing the reduced hours. Our findings highlighted how, first of all, it appears the best way to combine both approaches is to leave flexibility on the decision to whether work from home or not and on which day to the team members. Moreover, it was also reported that, also in this case, this combination is not immediate, but employees need to first be
comfortable and earn the trust required to work from home on a reduced hours schedule. Lastly, the most important insight is the fact that there is no impact of working from home on the reduced hours, with team members not being able to tell any difference in their job when working reduced hours from home or in the office.

### 5.1.5 Final model

The discussion in the previous sections, resulting from a combination of the literature and empirical findings, enables us to now update the conceptual model we started this work with for an additional time. As it is clear from Figure 8, in addition to updating the findings at a team level, the team process variables: Coordination, Communication, and Contributions balance, are not affected by the Task interdependence of the team. It was also included in the model the "Management interest in employees" variable, which, as reported in the discussion, is not impactful on the reduction itself but has a role in influencing the team's success. Finally, the working from home variable was eliminated since it was demonstrated to have no effect whether it was introduced in a schedule with reduced hours or not.


Figure 8: Final conceptual model

### 5.2 Practical implications

Having combined the results from the case studies with the theory of the literature, it is now feasible to outline some practical team-level implications that are valuable for companies adopting reduced work hours. In the previous section, we already stated the advantages and disadvantages that a reduction in hours has on teams, guaranteeing firms with information in their decisions to reduce the hours. On the other hand, suggestions will be given in order to try to establish organizational practices and solutions that could potentially reduce the cons of reduced hours on teams and enable companies to have a smoother experience with their change of schedule.

It was seen that probably the major benefit of reduced hours at a team level is the improvement in productivity that they experience from being able to finish the work in fewer hours. Despite the fact that this is an important driver for companies to adopt reduced hours, it should not be forgotten that it is an effect that is not reported in all of our cases. Indeed, it is not enough to reduce the hours to have better team productivity; at the same time, the workload for teams should be reduced as well. In the particular case mentioned before, the team member stated that the team had not experienced any augmentation in productivity, but the amount of overtime they had to do definitely increased. It can be argued that the reason behind this phenomenon is the fact that, while the hours were reduced, the amount of work to do was not decreased, forcing the team members to overwork. Thus, offering a more appropriate workload to teams will not only increment the potential boost in productivity received, but it will also contribute to solving one of the major issues of worktime reduction: working overtime, which originates from not having enough time to finish the intended work.

Furthermore, the same notion of workload management is also meaningful to the overall well-being of the team, which is usually positively associated, but decreasingly over time, with reduced hours, given that the workload is reduced and the team members do not need to resort to overtime. Nevertheless, it is not only the amount of work that needs to be managed and taken under control but also how it is planned in the long term and how it is divided among the team members. It was addressed beforehand how, under reduced work hours, the team members must be able to take on the work of one another smoothly; therefore, there is a need to have a scheduled workload through the time of teams and among team members. This will make the members actions more coordinated and augment the success of the overall team.

Moreover, managing the workload between team members will also hinder one other issue of reduced hours: the unbalanced contributions of the members. Indeed, it seems that when the hours are reduced, the effort put into the job by the team members is not equal anymore, so having a plan of the workload requirements that each member should fulfil could be a potential solution.

However, companies should also be aware of the task independence in their teams, since it is something that is particularly impactful not only on the way the team is coordinated and
on the contributions of the members but also on other aspects of the team that guarantee its accomplishment. Generally, when tasks are interdependent, there should be particular attention paid to communication between team members, which could be severely hindered by reduced hours since everybody will be more focused on their work when compared to a full-hour schedule. To overcome this potential problem, one solution could be, as we have seen multiple times through this work, an informal organizational environment in which the values of trust and support for each other are taken as fundamental and where team members share feedback and help one another. In addition, different out-of-the-job activities can be scheduled in order to create and reinforce the bonds between members and foster their willingness to communicate about informal topics.

On the other hand, if the tasks are dependent on each other, there would be fewer issues with communication within the teams, but the team could report unbalanced efforts, and their coordination assumes much more importance given the fact that their job is influenced by other members. In the same way it is stated above, in these situations, accurate planning of the team workload and the individual requirements could reduce the problem. Despite the fact that, in the areas outlined, there could be a need to integrate the worktime reduction with some additional management and planning activities, when it comes to the effort of the teams, it seems to always be incremented regardless of the team context. In other words, it can be referred to as a free gain directly caused by the reduction, which implies that when teams start working reduced hours, the overall effort will increase without any other operation required.

A similar concept appears to be true also for team responsibility, which is augmented if the team members also have a certain degree of flexibility in their decisions and activities. For some companies, that appears to be followed by a change in the role structure, with responsibilities being spread among a larger number of people.

Another practical implication that should be accounted for by companies is the fact that, most likely, the effect of a worktime reduction would not be immediately notable, but there is the need to go through an initial phase of acclimating the teams to their new schedule. This is a period that could be characterized by stress and panic, probably resulting in a productivity loss; however, it is essential to comprehend if the type of workhour reduction chosen fits the teams and their tasks. For this reason, as one of the interviewed companies
did, it could be recommended to carry out a test of the schedule with the reduced hours and then have an evaluation of it, with team members giving their feedback, assessing the positive and negative points of it, and if necessary, switching to another type of reduction for the following phase. In a similar way, in the initial period, companies might also experience turnover in their teams, with members leaving their jobs; however, it seems that they would be substituted with ease and with team members that are motivated and willing to remain in the firm for a long time. In contrast, the tasks and activities performed by the team tend to be the same after the reduction.

### 5.3 Limitations and future research

It is obvious that this study presents different limitations in the way it was carried out that must be accounted for. First and foremost, the size and variety of our sample of interviewees are limiting factors in this research. With that, it is meant that not only could the number of participants involved be greater, but that it could also have been useful to interview a more diverse range of people in terms of role since, for this study, the majority of them are either employees or owners.

On the other hand, in order to have as much data as possible, this research aggregated companies from diverse industries and sectors without taking into consideration their intrinsic characteristics in depth. This is meaningful because the industry or sector of belonging can have an impact not only on the type of reduced hours adopted but also on the team's characteristics. Therefore, future research might draw upon the base set by this study on the topic of reduced hours at a team level and integrate it by taking a larger and more diverse sample size and specifying the industry where those samples come from. In this way, industry-specific results could be reached that outline the best practices and decisions for the companies in the industry regarding reduced hours at a team level.

Furthermore, it was already explained in the methodology section that this research is completely based on interviews and thus does not fulfil the Triangulation requirements for the validity and trustworthiness of data (Cope, 2014; Yadav, 2021), which would require the use of different sources of data. This could also be another starting point for future
research, which could decide to study the same topic of workhour reduction in teams but combining interviews with other data and methodologies.

Additionally, several of the findings explained through the discussion section were thought not to have been explored enough by the literature, and that can thus be a topic on which future studies might be built. For instance, overtime work is a drawback of reduced hours that, despite being found to be particularly relevant in our analysis, not enough is said about it in the current literature, meaning that there are still theoretical gaps to fill in. The same is true for the initial phase of adjustment, which was an innovative insight from this paper and should be further elaborated in the next few years. Finally, that is also the case for the changes in tasks, responsibilities, and composition that were found out in this paper, but they definitely require additional research to be completely explained and to reach a model that accounts for all the changes happening in teams when the reduced hour is applied.

## 6 Conclusion

Inspired by the partial findings for teams that Rübelmann et al. (2017) reported, this paper started with the idea of developing research about the implications that a reduction in hours has on teams and the role that team processes play. This was a topic, to our knowledge, neglected by the theory, and thus, we believed that a team-level analysis would not only enrich the literature but would also give a better basis for the companies to make more thoughtful decisions regarding the implementation of reduced work hours. In conclusion to this analysis, it can be argued that these main objectives of the study were met, and the research question, "What are the outcomes of reduced hours on teams, and what are other variables that play a role? " was successfully answered.

To be fair, however, it has to be said that the results we found are only a raw basis upon which future research should be conducted. More specifically, we surely enlarged the literature on the topic of worktime reduction by finding out different effects that it has on teams, both negative and positive, from an improved overall well-being and productivity to a possible lack of time and the risk of falling into overtime work for the team members.

Moreover, there were also innovative findings that were never discussed before in the literature and that could be influenceable at other levels of analysis, such as the required initial phase of adjustment, the changes that teams experience in their tasks, responsibilities, and structure, and the management interest of employees.

Nevertheless, probably the biggest results we obtained were related to the team processes. Indeed, it was confirmed that they affect the relationship between reducing the hours and their outcomes and are influenced by the reduced hours themselves.

Furthermore, it was also found that they were highly impacted by task interdependence, which was obviously taken into account while discussing how the team processes relate to workhour reduction in order to highlight specific characteristics for each of the variables. We are of the belief that this could have significant implications for both the topic of workhour reduction at a team level and the analysis of teams in general since it integrates additional features into the model proposed by Hoegl et al. (2001).

Finally, the reported findings were then used to illustrate a set of practices and activities for companies that will not only allow for a better transition to the reduced hour schedule but also hinder most of the disadvantages of the reduced hour schedule that were found in this paper.

## References

4 Day Week Global \& Autonomy. (2023). The results are in: The UK's four-day week pilot |. 4 Day Week Pilot Program. https://autonomy.work/wp-content/uploads/2023/02/The-results-are-in-The-UKs-four-day-week-pilot.pdf

Akerstedt, T., Olsson, B., Ingre, M., Holmgren, M., \& Kecklund, G. (2001). A 6-hour working day--effects on health and well-being. Journal of Human Ergology, 30(1-2), 197-202.

Albertsen, K., Rafnsdottir, G. L., Grimsmo, A., Tómasson, K., \& Kauppinen, K. (2008). Workhours and worklife balance. Scandinavian Journal of Work, Environment \& Health. Supplement, 34(5), 14-21.

Baltes, B. B., Briggs, T. E., Huff, J. W., Wright, J. A., \& Neuman, G. A. (1999a). Flexible and compressed workweek schedules: A meta-analysis of their effects on work-related criteria. Journal of Applied Psychology, 84(4), 496-513. https://doi.org/10.1037/00219010.84.4.496

Barck-Holst, P., Nilsonne, S., Åkerstedt, T., \& Hellgren, C. (2015). Reduced working hours and stress in the Swedish social services: A longitudinal study. International Social Work, 60(4), 897-913. https://doi.org/10.1177/0020872815580045

Bosch, G. (2001). Working-time reduction and employment: experiences in Europe and economic policy recommendations. Cambridge Journal of Economics, 25(2), 209-243. https://doi.org/10.1093/cje/25.2.209

Bosch, T., de Looze, M. P., \& van Dieën, J. H. (2007). Development of fatigue and discomfort in the upper trapezius muscle during light manual work. Ergonomics, 50(2), 161-177. https://doi.org/10.1080/00140130600900282

Brown, K., Bradley, L., Lingard, H., Townsend, K., \& Ling, S. (2011). Labouring for leisure? Achieving work-life balance through compressed working weeks. Annals of Leisure Research, 14(1), 43-59. https://doi.org/10.1080/11745398.2011.575046

Coote, A. \& Franklin, J. \& Simms, A. (2010). 21 Hours. Why a Shorter Working Week Can Help Us All to Flourish in the 21st Century.

Cope, D. (2014). Methods and Meanings: Credibility and Trustworthiness of Qualitative Research. Oncology Nursing Forum, 41(1), 89-91. https://doi.org/10.1188/14.onf.89-91

Cropanzano, R., \& Mitchell, M. S. (2005). Social Exchange Theory: An Interdisciplinary Review. Journal of Management, 31(6), 874-900. https://doi.org/10.1177/0149206305279602

Davies, F. M., \& Gould-Williams, J. S. (2005). Using social exchange theory to predict the effects of hrm practice on employee outcomes. Public Management Review, 7(1), 1-24. https://doi.org/10.1080/1471903042000339392

De Spiegelaere, S., \& Piasna, A. (2017). The why and how of working time reduction. European Trade Union Institute.

Dubois, A., \& Gadde, L. E. (2002). Systematic combining: an abductive approach to case research. Journal of Business Research, 55(7), 553-560. https://doi.org/10.1016/s0148-2963(00)00195-8

Eurostat (2023). Hours worked per week of full-time employment. https://ec.europa.eu/eurostat/databrowser/view/tps00071/default/table?lang=en (Accessed on 20 January 2023)

Eurostat (2023). Hours worked per week of part-time employment. https://ec.europa.eu/eurostat/databrowser/view/tps00070/default/table?lang=en (Accessed on 20 January 2023)

Feldman, D. C., \& Doerpinghaus, H. I. (1992a). Patterns of part-time employment. Journal of Vocational Behavior, 41(3), 282-294. https://doi.org/10.1016/0001-8791(92)90030-4

Gibbons, K. J. (2015). Small Seasonal Business Strategies to Improve Profits through Community Collaboration. Walden University College of Management and Technology.

Greenhaus, J. H., Collins, K. M., \& Shaw, J. D. (2003). The relation between work-family balance and quality of life. Journal of Vocational Behavior, 63(3), 510-531. https://doi.org/10.1016/s0001-8791(02)00042-8

Hochschild, A. (1997). The Time Bind. WorkingUSA, 1(2), 21-29. https://doi.org/10.1111/j.1743-4580.1997.tb00019.x

Hoegl, M., \& Gemuenden, H. G. (2001). Teamwork quality and the success of innovative projects: a theoretical concept and empirical evidence. Organization Science, 12(4), 435449. https://doi.org/10.1287/orsc.12.4.435.10635

Hollander, E. P., \& Homans, G. C. (1963). Social behavior: its elementary forms. American Journal of Psychology, 76(2), 347. https://doi.org/10.2307/1419191

Ipsen, C., Van Veldhoven, M., Kirchner, K., \& Hansen, J. P. (2021). Six Key Advantages and Disadvantages of Working from Home in Europe during COVID-19. International Journal of Environmental Research and Public Health, 18(4), 1826. https://doi.org/10.3390/ijerph18041826

Kaiser, G., \& Presmeg, N. (2019). Compendium for early Career Researchers in Mathematics Education. In Springer eBooks. https://doi.org/10.1007/978-3-030-15636-7

Kallis, G., Kalush, M., O.'Flynn, H., Rossiter, J., \& Ashford, N. (2013a). "Friday off": Reducing Working Hours in Europe. Sustainability, 5(4), 1545-1567. https://doi.org/10.3390/su5041545

Katz, R. V. (1982). The Effects of Group Longevity on Project Communication and Performance. Administrative Science Quarterly, 27(1), 81. https://doi.org/10.2307/2392547

Kiggundu, M. N. (1981). Task Interdependence and the Theory of Job Design Academy of Management Review, 6(3), 499-508. https://doi.org/10.5465/amr.1981.4285795

King, L. C., \& Van Den Bergh, J. C. (2017). Worktime Reduction as a Solution to Climate Change: Five Scenarios Compared for the UK. Ecological Economics, 132, 124-134. https://doi.org/10.1016/j.ecolecon.2016.10.011

Kyngäs, H., Mikkonen, K., \& Kääriäinen, M. (2019). The Application of Content Analysis in Nursing Science Research. Springer Nature.

Latack, J. C., \& Foster, L. W. (1985). Implementation of compressed work schedules: participation and job redesign as critical factors for employee acceptance. Personnel Psychology, 38(1), 75-92. https://doi.org/10.1111/j.1744-6570.1985.tb00542.x

Locke, K., Feldman, M., \& Golden-Biddle, K. (2020). Coding Practices and Iterativity: Beyond Templates for Analyzing Qualitative Data. Organizational Research Methods, 25(2), 262-284. https://doi.org/10.1177/1094428120948600

Lorentzon, B. L. (2021). Longitudinal, experimental evaluation of reduced weekly working hours for assistant nurses. Pacta Guideline Research.

Lowden, A., Kecklund, G., Axelsson, J., \& Åkerstedt, T. (1998). Change from an 8-hour shift to a 12-hour shift, attitudes, sleep, sleepiness and performance. Scandinavian Journal of Work, Environment \& Health, 24 Suppl 3, 69-75.

Marino, L., \& Capone, V. (2021). Smart Working and Well-Being before and during the COVID-19 Pandemic: A Scoping Review. European Journal of Investigation in Health, Psychology and Education, 11(4), 1516-1536. https://doi.org/10.3390/ejihpe11040108

Mutari, E., Figart, D.M., \& Power, M. (2001). Implicit Wage Theories in Equal Pay Debates in the United States. Feminist Economics, 7, 23-52.

OECD (2023). Hours worked (indicator).10.1787/47be1c78-en (Accessed on 20 January 2023)

Pang, A. S. (2020). Shorter: Work Better, Smarter, and Less-Here's How (Illustrated). PublicAffairs.

Pang, A. S. K. (2016). Rest: Why You Get More Done When You Work Less. Adfo Books.

Pencavel, J. (2014). The Productivity of Working Hours. The Economic Journal, 125(589), 2052-2076. https://doi.org/10.1111/ecoj. 12166

Pinto, M. B., \& Pinto, J. K. (1990). Project team communication and cross-functional cooperation in new program development. Journal of Product Innovation Management, 7(3), 200-212. https://doi.org/10.1016/0737-6782(90)90004-x

Rübelmann, J. L. R., \& Wolfsberger, J. N. (2017). The 30-hour Workweek A Promising Alternative for Knowledge Workers? Lund University Master Thesis.

Sarker, S., Xiao, X., Sarker, S., \& Ahuja, M. (2012). Managing Employees’ Use of Mobile Technologies to Minimize Work/Life Balance Impacts. Mis Quarterly Executive, 1 1(4), 143-157.
https://www.researchgate.net/profile/Manju_Ahuja2/publication/272089088_Managing _Employees'_Use_of_Mobile_Technologies_to_Minimize_WorkLife_Balance_Impacts/links/54ecb9d50cf28f3e6534a367.pdf

Schiller, H., Lekander, M., Rajaleid, K., Hellgren, C., Ã. kerstedt, T., Barck-Holst, P., \& Kecklund, G. (2016). The impact of reduced worktime on sleep and perceived stress - a group randomized intervention study using diary data. Scandinavian Journal of Work, Environment \&Amp; Health, 43(2), 109-116. https://doi.org/10.5271/sjweh. 3610

Seers, A. (1989). Team-member exchange quality: A new construct for role-making research. Organizational Behavior and Human Decision Processes, 43(1), 118-135. https://doi.org/10.1016/0749-5978(89)90060-5

Shao, Q. (2022). Exploring the promoting effect of working time reduction on life satisfaction using Germany as a case study. Humanities and Social Sciences Communications, 9(1). https://doi.org/10.1057/s41599-022-01480-2

Sinkovics, R. R., Penz, E., \& Ghauri, P. N. (2008). Enhancing the Trustworthiness of Qualitative Research in International Business. Management International Review, 48(6), 689-714. https://doi.org/10.1007/s11575-008-0103-z

Tannenbaum, S. I., Beard, R. L., \& Salas, E. (1992). Chapter 5 Team Building and its Influence on Team Effectiveness: an Examination of Conceptual and Empirical Developments. Advances in Psychology, 117-153. https://doi.org/10.1016/s0166-4115(08)62601-1

Tilly, C. (1991). Reasons for the Continuing Growth of Part-Time Employment. Monthly Labor Review, 114(3), 10-18. https://eric.ed.gov/?id=EJ424020

Timmermans, S., \& Tavory, I. (2012). Theory Construction in Qualitative Research: From Grounded Theory to Abductive Analysis. Sociological Theory, 30(3), 167-186. https://doi.org/10.1177/0735275112457914

Tjosvold, D. (1984). Cooperation Theory and Organizations. Human Relations, 37(9), 743-767. https://doi.org/10.1177/001872678403700903

Van Os, L. (2019). Less is more: Designing a set of requirements and an assessment scheme for the implementation and evaluation of the six-hour workday at the municipality of Amsterdam. University of Twente Master Thesis.

Visser, J. (2002). The first part-time economy in the world: a model to be followed? Journal of European Social Policy, 12(1), 23-42. https://doi.org/10.1177/0952872002012001561

Voglino, G., Savatteri, A., Gualano, M. R., Catozzi, D., Rousset, S., Boietti, E., Bert, F., \& Siliquini, R. (2022b). How the reduction of working hours could influence health outcomes: a systematic review of published studies. BMJ Open, 12(4), e051131. https://doi.org/10.1136/bmjopen-2021-051131

Wergeland, E. L., Veiersted, B., Ingre, M., Olsson, B., Åkerstedt, T., Bjørnskau, T., \& Varg, N. (2003). A shorter workday as a means of reducing the occurrence of musculoskeletal disorders. Scandinavian Journal of Work, Environment \&Amp; Health, 29(1), 27-34. https://doi.org/10.5271/sjweh. 701

Whiting, M., \& Sines, D. (2012). Mind maps: establishing 'trustworthiness' in qualitative research. Nurse Researcher, 20(1), 21-27. https://doi.org/10.7748/nr2012.09.20.1.21.c9304

Whittemore, R., Chase, S. K., \& Mandle, C. L. (2001). Validity in Qualitative Research. Qualitative Health Research, 11(4), 522-537. https://doi.org/10.1177/104973201129119299

Williamson, S., Cooper, R., \& Baird, M. (2015a). Job-sharing among teachers: Positive, negative (and unintended) consequences. The Economic and Labour Relations Review, 26(3), 448-464. https://doi.org/10.1177/1035304615595740

Yadav, D. (2021). Criteria for Good Qualitative Research: A Comprehensive Review. Asiapacific Education Researcher, 31(6), 679-689. https://doi.org/10.1007/s40299-021-00619-0

## Appendix A - Interview Plan

## Opening

Introduction of myself, the research and interview features (its length, aims, etc.).

Permission to record audio and transcripts. Explain the confidentiality and anonymity of data.

Explain that all the following questions are team-related ones.

## Questions

1. Can you briefly introduce yourself and what kind of work time reduction you experienced, or your organization chose?
2. Did the group members experience a change in terms of individual motivation, and effort?
3. How do you feel the everyday activities and performance of the team was impacted?
4. How the reduction in working hours affected the balanced and coordination of individual tasks? (a problem with reduced working hours is that the individual tasks become uncorrelated and unbalanced among the members, did you experience something like that?)
5. Did you also experience a redesign of teams? If so, how did you feel about it? (e.g., number of people involved, roles...)
6. Did the relationships with your colleagues change? And then if yes, how? (for example in terms of collaboration, informal chats, support for each other, belonging to the team...)
7. Do you think the overall well-being of the team was altered? If so, how? (work-life balance, satisfaction of the people for the job...)
8. What do you think could be possible problems with reduced hours, based on your experience?
9. Does/Did the company adopt working-from-home solutions? (for example during the COVID-19)
a. How was it implemented in a schedule with reduced working hours?
b. What do you feel were the effect of this combination?

## Ending

Is there anything you would like to add?
How do you feel my questions can be improved?

## Appendix B - Coding

| 1 st order themes | 2 nd order themes | Aggregate dimensions |
| :---: | :---: | :---: |
| 4 days, 6 hours a day | Reduced Fixed hours |  |
| 6 hours workday |  |  |
| 3 hours reduction a day |  |  |
| 4 days workweek |  |  |
| 4 days of work, 5 days of pay |  |  |
| 6 hours in August |  |  |
|  |  |  |
| Flexible 4 days workweek | Reduced Flexible hours | Working hours reduction structure |
| The reduction is dependent on the clients' time |  |  |
| Freedom to choose the free day |  |  |
| Freedom to employees to decide the hours |  |  |
| Reduction of hours within a day |  |  |
| 30 hours workweek and flexibility |  |  |
|  |  |  |
|  |  |  |
| No time at the beginning to work | Issues in the initial period |  |
| Hours reduced too much at the beginning |  |  |
| Initial frustration |  |  |
| Initial panic at the end of the day |  |  |
|  |  |  |
| Not a smooth starting | Time needed for getting use | Initial period of adjustments |
| 3 moths to familiarize |  |  |
| At the beginning was difficult to appreciate the reduction |  |  |
|  |  |  |
| Not enough time to finish the intended work |  |  |
| Deadlines might require more than 6 hours | Lack of time to finish work |  |
| Too little time |  |  |
| Hours reduced too much |  |  |
| Frustration resulting from not being able to finish the work |  |  |
| You are not able to do the same amount of work |  |  |
| More employees are needed |  |  |
|  |  |  |
| Willingness to achieve results | More intense work |  |
| Always focussed, breaks are essential |  |  |
|  |  |  |
| Employees are more motivate to the point of working extra | Working extra hours | Not enough time |
| Ready to work more to finish the job |  |  |
| Willingness to work more |  |  |
| Overtime working |  |  |
| Work overtime to finish the intended work |  |  |
| Risk of going back to working more |  |  |
| Motivation to work also extra hours |  |  |
| Overwork as something to avoid |  |  |
|  |  |  |
| Same amount of work in less time | Fewer hours are required to do the same job | Efficiency effects |
| The output is the same but with less hours |  |  |
| Projects are finished earlier |  |  |
| Increase in efficiency |  |  |



| Daily job requirements |  |  |
| :---: | :---: | :---: |
| Output demands short and long period |  |  |
| System to check if the work is done |  |  |
|  |  |  |
| Incentives system along with the reduction |  |  |
| Working an additional day to get a 6-day <br> pay |  |  |
| Communication is key |  |  |
| Communicate with each other |  |  |
| Communication to solve problems |  |  |
| Keeping others informed |  |  |
| Feedback and questions among members |  |  |
| Communication and chats are essential |  |  |
| Connecting with team members |  |  |
| When tasks are not correlated talks are not |  |  |
| frequent |  |  | Reduction resulting in less communication |  |
| :--- |
| Organization as a family |


|  |  |  |
| :---: | :---: | :---: |
| Switched to a flatter organization in the team |  |  |
| Spread out responsibilities | Horizontal structure is preferred |  |
|  |  |  |
| More time for yourself |  |  |
| More rest and free time | Time to do other things in life |  |
| Do things that increase happiness |  |  |
| Improved work-life balance |  |  |
| Do something else than work |  |  |
|  |  |  |
| Reduced frustration |  |  |
| Less stress among people | Reduction in stress and frustration | Effects on overall wellbeing |
| No need for holidays no more |  |  |
| Less energy required |  |  |
| No more stressed after work |  |  |
|  |  |  |
| More satisfied with the company |  |  |
| Satisfaction decreases with time | Positive effects on satisfaction that decrease with time |  |
|  |  |  |
| Frustration from the reduction | More frustrated after the reduction |  |
|  |  |  |
| 3 days at home 1 at the office |  |  |
| Freedom for office workers to work anytime and anywhere | Working from home in combination with reduced hours |  |
| Free to work at home with their own schedule |  |  |
| Hybrid work |  |  |
| Usually, one day at home but freedom to decide |  |  |
| Freedom to distance work |  |  |
| Working at home with the need to be sometime at the office |  |  |
|  |  |  |
| Not working from home at the beginning |  |  |
| Time to be comfortable to work from home | Time is needed to combine working from home and reduced working hours |  |
| New employees need to be in the office |  |  |
|  |  |  |
| Working from home prevents waste of time |  |  |
| More productive when working at home | Advantages of working from home |  |
| Working from home and reduced hours are beneficial for motivation |  |  |
| Working from home means better planning and work-life balance |  |  |
|  |  |  |
| More hours worked at home |  |  |
| Better communication and work at the office | Reasons to prefer working in the office | Working from home with reduced hours |
| No social pressure when at home |  |  |
| Easier to relate with team members in the office |  |  |
| Distractions at home |  |  |
| People might not work as expected |  |  |
|  |  |  |
| Working from home has no influence on the job | No effect of working from home |  |
|  |  |  |
| Female colleagues appreciate more working from home | Females more inclined to work from home |  |
|  |  |  |
| Employee caring is fundamental | Assuring employees well-being | Management interest in Employees |


| Speaking with employees |  |  |
| :---: | :--- | :--- |
| Trust in the work environment | Trust between employees and employer |  |
| Being open with employees |  |  |
|  |  |  |


[^0]:    ${ }^{1}$ Employment - Hours worked - OECD Data. theOECD. https://data.oecd.org/emp/hours-worked.htm

[^1]:    ${ }^{2}$ Employment - Hours worked - OECD Data. theOECD. https://data.oecd.org/emp/hours-worked.htm

[^2]:    ${ }^{3}$ Research suggests there's a case for the 3-hour workday. (2017, September 26). Business Insider Nederland https://www.businessinsider.nl/8-hour-workday-may-be-5-hours-too-long-research-suggests-2017-
    9? international=true

[^3]:    ${ }^{4}$ Netherlands 4 Day Work Week (2023). (n.d.). https://4dayweek.io/country/netherlands
    ${ }^{5}$ Microsoft Tested a 4-Day Workweek in Japan — and Productivity Went Up by 40 Percent. (2019, November
    4). Peoplemag. https://people.com/human-interest/microsoft-tested-4-day-workweek-productivity-went-up/
    ${ }^{6}$ Kelly, (2022, January 10). Two Major Companies Announced Four-Day Workweeks—This May Be the Tipping Point for Businesses To Join The Growing Movement. Forbes. https://www.forbes.com/sites/jackkelly/2022/01/10/two-major-companies-announced-four-day-workweeks-this-may-be-the-tipping-point-for-businesses-to-join-the-growing-movement/?sh=205eed7b2ad5
    ${ }^{7}$ Delaney, (2022, March 27). As Kickstarter Launches a 4-Day Workweek, Its CEO Steps Down. Time. https://time.com/6161220/kickstarter-ceo-aziz-hasan-four-day-workweek/

[^4]:    ${ }^{8}$ Shift work. Eurofound. https://www.eurofound.europa.eu/observatories/eurwork/industrial-relations-dictionary/shift-work

[^5]:    "We had like a 3-hour deduction, and we figured out afterwards in the evaluation that it was a bit too much. So now this year, we're going for two hours."
    (Company $\mathrm{n}^{\circ} 1$, Interviewee 1.1, Employee)
    "That's also the reason we changed it afterwards...so based on our evaluation of the situation, we came to the conclusion, ok, maybe 2 hours a day would be better." (Company $n^{\circ} 1$, Interviewee 1.1, Employee)

[^6]:    "No, no, I don't think working at home or working at the office effect. Has an effect on your job." (Company $n^{\circ} 1$, Interviewee 1.2, Employee)

