Article

Teleworking in Manufacturing: Dealing with the Post-Pandemic COVID-19 Challenge

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Abstract: The quantity of teleworkers had already been rising in various work fields even prior to the COVID-19 pandemic. However, it was not until the pandemic that it spread to other sectors such as the industrial sector. There are still few studies looking at telework's impact on this important sector. This article is intended to discuss: (1) the extent of teleworking in manufacturing, (2) its adjustment to the industrial sector (challenges and benefits), and (3) its prospects for the future. To this end, 31 in-depth interviews have been conducted with four Plant Managers and seven Human Resource Directors of 11 industrial companies in Burgos (Spain) and surroundings, as well as 20 of their workers. Pre-pandemic teleworking was only active in one of the enterprises and now there are workers that work remotely in 9 out of 11. All interviewees agreed that teleworking will gradually expand. The study shows concerns and challenges when it comes to communication, trust, control, and productivity. It highlights the importance of establishing clear policies on teleworking and how to deal with remuneration, expense reimbursements, and equity between teleworkers and on-site workers. Overall, industrial-sector teleworking has brought positive results in terms of productivity and job satisfaction levels, but it has also resulted in new demands on aspects such as ergonomics, negative habits (food and physical inactivity), communication, and work–life balance.

Keywords: telework; working conditions; human resources in manufacturing

1. Introduction

Teleworking, or remote working, was already experiencing significant growth in several sectors prior to the COVID-19 pandemic (Felstead and Henseke 2017). The global pandemic forced many companies to adapt quickly to new ways of working, ensuring their business continuity. Lockdowns and restrictions led to a necessary implementation of teleworking as a solution to maintain production and ensure employee safety (Elizalde 2021). This unprecedented situation accelerated teleworking implementation.

This way of working is more common within information technology enterprises (IT) and banking or consulting companies (Weinert and Weitzel 2023; Li et al. 2021; Ortiz-Lozano et al. 2021). However, it was from the COVID-19 pandemic and the subsequent lockdown periods that teleworking quickly expanded into other sectors (Belzunegui-Eraso and Erro-Garcés 2020). The industrial sector hardly conceived working away from the factory.

Spain in 2019 had 4.8% of workers working remotely, and this figure did not increase until 2021, when it reached 17.6%. Although it has fallen back to 14% in 2022 (Eurostat 2022) once the lockdown period was over, this figure is still almost triple the 2019 figure.

Confinement became compulsory in Spain in March 2020 except for essential workers. Job posts that permitted working remotely were eventually developed from home. Legal

regulations in terms of teleworking were developed later on. Specific legislation was published in Spain on 10 July 2021 (BOE-A-2021-11472 2021), forcing enterprises and workers to a quick familiarization.

This legislation reflects the need for establishing teleworking agreements when it exceeds 30% of the workday. It also reflects the need for defining the location from which teleworking will be carried out and the expense reimbursements derived from teleworking (BOE-A-2021-11472 2021). Teleworking involves important changes in work, workers, technology, and organization (Kniffin et al. 2021).

Several benefits associated with teleworking have been identified such as reduced commuting, greater hour flexibility, and the possibility of reconciling work and personal life (Ahmed et al. 2014; Neufeld and Fang 2005; O'Keefe et al. 2016). Teleworkers are less likely to leave their jobs, especially in the case of men (Marx et al. 2021); they also have a higher commitment to the organization (Masuda et al. 2017) and better job performance (Abdel Hadi et al. 2021), although this improved performance is not confirmed in all studies.

However, working remotely also entails some challenges and risks such as lack of social interaction, difficulty setting boundaries between work and personal life, and the need for adequate technological infrastructure and remuneration (Edwar et al. 2020; The El Kadri Filho and Lucca 2022b; Felstead and Henseke 2017). Teleworking can lead to isolation, lack of support from colleagues and supervisors (Ruiller et al. 2019), and feelings of loneliness (Oakman et al. 2020). Telecommuters tend to front less physical activity (Fukushima et al. 2021), consume unhealthy foods (Henke et al. 2016), and may extend their working hours longer than recommended, even working while sick, which can have cumulative negative effects on their health (Ferreira et al. 2022).

Among the good practices we find social support, which is necessary for the worker to be involved and maintain their vigour at work (Pulido-Martos et al. 2021; Bentley et al. 2016). The company is responsible for working conditions at home and must advise the worker (El Kadri Filho and Lucca 2022a), also being in charge of expense reimbursements and compensation when it comes to adapting the at-home workspace (Carrizosa-Prieto 2022). It takes time for companies and workers to adapt to remote working (Pordelan et al. 2022).

With mobility restrictions lifted, some companies have decided to continue working remotely, though it varies depending on the specific positions and needs of each organization. In this way, teleworking is maintained in sectors where it seemed to have no application, such as in the health sector, where part of the care for chronic patients has become remote (Filip et al. 2022).

Within manufacturing, which involves physically manipulating materials and/or objects, physical presence at the workplace has traditionally predominated. According to data from the European Commission, manufacturing was the sector where teleworking was least implemented in 2018, where less than 2% of workers usually teleworked (European Commission 2020).

Since the book "The Machine That Changed the World" (Womak et al. 1990) was published, the lean philosophy has spread from Japan into the industrial sector. One of the fundamental aspects of lean manufacturing is being close to the production plant. Management is encouraged to spend time close to production, in the workshop, and not in the offices (Womak and Jones 2003; Liker 2020). This way, teleworking seemed impossible in manufacturing.

As in other sectors, the pandemic forced the implementation of teleworking in manufacturing. Although research on teleworking has proliferated (Raghavan et al. 2021), we have not found any specific studies on the implications of its implementation in the industrial sector. In this context, it becomes relevant to fully analyse the implications of teleworking on the industrial sector with the aims to understand its scope and identify best practices as well as the new challenges it poses for factories.

Thus, for the industrial sector, this article states several objectives:

(1) Analysing the extent to which teleworking has been maintained once it became possible to return to the factory asking how can teleworking be implemented in

manufacturing, and who are the workers that can telework, depending on whether their job posts can be adapted to teleworking or not;

(2) Determining how the industrial sector is adapting to remote working in terms of communication, control, productivity, health effects (exercise, diet, musculoskeletal problems), teleworking equipment, expense reimbursements and remuneration, and company policy about teleworking;

(3) Defining what the future prospects are in a sector where being close to production seems fundamental.

2. Materials and Methods

Research began with a review of the scientific and technical literature on remote working in different sectors, as well as in the industrial one. Academic databases were searched, such as Scopus and Web of Science, along with specialized journals and relevant documents that would help obtain an overview of the benefits, risks, and best practices in this area. During the literature review, we identified the main factors associated with teleworking (Table 1).

Table 1. Aspects of teleworking.

Geographical Location	Telecommuting enables work from non-office locations, eliminating the need for a central office presence.
Technology and Connectivity	Access to necessary technology and reliable internet connectivity is crucial for telecommuting.
Flexibility in Working Hours	Telecommuters often enjoy flexible work hours, accommodating personal and professional needs.
Communication and Collaboration	Effective communication and online collaboration tools are essential for remote interaction.
Productivity and Performance	Employee performance is assessed by results and goals achieved rather than in-office supervision.
Work–Life Balance	Telecommuting enhances work–life balance by reducing commute time and associated stress.
Loneliness	Teleworkers may experience social isolation, and employers must address this to maintain employee morale.
Health and Ergonomics	Teleworkers need proper ergonomics and support for their physical and mental health when working from home.
Training and Onboarding	Remote training and onboarding processes must be developed to integrate new hires effectively.
Policies and Agreements	Formal policies and agreements outline telecommuter expectations, employment terms, and compensation.
Management and Supervision	Result-oriented supervision and trust replace constant in-person oversight.
Time Management	Employees must manage their time effectively without direct supervision to meet deadlines and stay organized.
Organizational Culture	An adapted culture promotes inclusion and collaboration among remote and in-office workers.
Resilience and Business Continuity	Telecommuting aids business resilience, ensuring operations during emergencies and crises.
Legislation and Regulation	Compliance with varying labour laws and regulations in different locations is essential for telecommuting.

Since there were no previous studies on teleworking in manufacturing, it was decided to perform qualitative research. A qualitative study allows for exploring the situation in a new environment, such as manufacturing, and collecting subjective experiences.

The critical aspects identified by previous research in other sectors (Table 1) served as the basis for the design of semi-structured interviews to be carried out. We also considered the law that regulates remote work in Spain (law 10/2021) for the design of the interviews. We interviewed directors and workers from different companies within the industrial sector.

The aspects considered in the subject of study include the following: the scope of remote work (companies and positions), the location of remote workers, ergonomics in teleworking stations, remote communication and collaboration, impact on productivity, effects on habits and health, disconnection from work, and expense reimbursements and compensation.

We started with general and open questions about the benefits, risks, problems, and opinions in relation to teleworking in the industrial sector. Open inquiries enable the discovery of new perspectives or elements that were not considered in earlier research and may expand the scope of investigation by uncovering fresh insights or areas previously overlooked in prior studies, allowing participants to express their opinion freely and broadly. It was further on when we focused specifically on the aspects treated by the scientific literature.

Interviews began with teleworking feasibility in the industrial sector, its scope, and the experiences, benefits, risks, and concerns of participants, both during the pandemic and once the restrictions were over. Participants were then asked to be more specific in aspects such as positions that allow teleworking and its impact on worker satisfaction, health, and well-being; teleworking's adaptation to regulations; the necessary means to work remotely; and teleworking's impact on productivity and dedication.

2.1. Sample

The industrial companies selected were all from Burgos (Spain) and its surroundings, considering different sizes and distance from the main urban centre, which will result in a representative sample. The University of Burgos contacted the managers and directors and the polygon association, explaining them the purpose of the study and the process to be followed for conducting the interviews. Once the participant companies were identified, the workers selected were those who had experience in teleworking.

Interviews were conducted between November 2022 and June 2023. All the interviews lasted between 39 to 77 min. Interviews were recorded and subsequently transcribed.

In total, 31 interviews were carried out in 11 different industrial plants of different sizes. Some are individual businesses and others belong to multinationals with different locations and policies (Table 2), altogether representing 2753 workers. Four of the facilities are located far from the city's polygons (more than 10 km and 15 min away) in towns of less than 40,000 inhabitants. In the sample, there are various types of companies; automotive, pharmaceutical, logistics, plastic injection, chemical, metallurgy, and food.

Two different perspectives were analysed when carrying out the interviews in each of the companies. On the one hand, the perspective related to the enterprise's management and, on the other, the one on the part of the workers. For this purpose, directors from each of the companies were interviewed, namely 4 Plant Managers and 7 HR Directors, providing a vision of the management of the factory. In addition, 20 workers from 9 of the 11 factories participating in the study were also interviewed.

For the perspective of management, 4 Plant Managers and 7 HR Directors were interviewed, depending on the availability of the plant. Among them, 4 are women (one Plant Manager) and 7 are men (3 Plant Managers).

Subsequently, interviews were conducted with 20 workers from 9 of the companies in the sample—7 women and 13 men—as shown in Table 3. It can be observed that out of the 20 workers interviewed, 18 can work remotely, at least to some extent, and only 2 of them (10%) have no possibility of teleworking (one of which teleworked during the pandemic but the company does not allow them to telework now). Out of the 18 who can work remotely, 5 chose not to work remotely. This way, 13 out of the 20 interviewees work

remotely on a regular basis. The workers were selected from among qualified workers and middle management posts, discarding direct production operators who are not able to work remotely.

Table 2. Interviewed companies and managers.

	Manager Interviewed		Do You Work Remotely?	Can You Work Remotely?	Workers in the Facilities	Workers in the Enterprise
	Position	Gender				
1	Plant Manager	Male	No	Yes	95	95
2	HR Director	Female	Yes	Yes	102	102
3	Plant Manager	Male	No	Yes	200	200
4	Plant Manager	Female	Yes	Yes	22	22
5	Plant Manager	Male	Yes	Yes	133	26,481
6	HR Director	Male	No	No	148	148
7	HR Director	Male	No	Yes	277	149,000
8	HR Director	Male	Yes	Yes	172	2185
9	HR Director	Female	Yes	Yes	201	201
10	HR Director	Female	Yes	Yes	803	27,000
11	HR Director	Male	Yes	Yes	600	1700

Table 3. Workers interviewed.

Gender	Enterprise	Teleworking	Can Work Remotely
Female	2	Yes	Yes
Male	2	Yes	Yes
Female	4	Yes	Yes
Female	4	Yes	Yes
Female	5	Yes	Yes
Male	5	Yes	Yes
Male	6	No	No
Male	6	No	No
Male	7	No	Yes
Male	7	Yes	Yes
Male	7	No	Yes
Male	8	Yes	Yes
Male	8	No	Yes
Female	9	Yes	Yes
Female	10	Yes	Yes
Male	10	Yes	Yes
Male	10	No	Yes
Female	11	Yes	Yes
Male	11	Yes	Yes
Male	11	No	Yes

The average age of the workers interviewed is 42.2 years, with a minimum of 26 years and a maximum of 56 years (standard deviation 7.91). Among them, 35% are women and

65% are men (Table 3); 60% are married and 83.3% of those married have children (the rest have no children). Lastly, 95% of the interviewees have a university degree and none were production workers (production workers could not telework in any of the companies, as they are the ones the most linked to the product).

2.2. Data Analysis

The six researchers who signed the article participated in the design of the interviews. The design of the manager interviews was carried out in two brainstorming sessions, the first one lasting three hours and the second one two hours. Once 8 of the 11 interviews with the managers were carried out, the interviews with workers were then designed in two other brainstorming sessions.

The interviews were recorded, with the prior informed permission of the participants, and transcribed. The interviews were conducted by two researchers; while one asked the questions, the other took notes and could ask for clarification on any particular aspect.

Six researchers conducted a thematic analysis (Nowell et al. 2017) as part of this qualitative research analysis. They first prepared and reviewed the qualitative data, which included interviews and field notes. Independently, each researcher generated codes to label relevant excerpts, identifying recurring patterns. In the initial analysis meetings, a codebook was created to ensure consistency, helping to standardize the coding process. Subsequently, in regular meetings, they convened to collaboratively identify overarching themes, refining and defining them through discussion and consensus (coding and comparison are iterative processes). This collective effort looked for a comprehensive interpretation of the data, incorporating diverse perspectives and experiences captured during the analysis. Several meetings were held to extract the relevant results, which are those presented in this research.

Through this analysis, we seek to provide a complete and enriching vision of the perception of teleworking for managers and workers in manufacturing to contribute to the debate and understanding of this crucial issue.

3. Results

3.1. Extension of Teleworking in Industry

Only one of the companies interviewed allowed working remotely prior to the pandemic and on a limited basis (9.09%). However, 9 of the 11 companies (81.81%) allow post-pandemic teleworking to a greater or lesser degree.

Workers see teleworking in the industry as increasing and symptomatic of improved working conditions. One worker stated, "*Working remotely allows a better way to control work-life balance and to my mind it shows that the company cares about employees.*"

Workers see advantages in hybrid teleworking a few days a week. One of the workers, a maintenance manager, who is 51 years old and has 23 years of experience at the company, said:

> "*Working one day a week at home allows me to get all the bureaucratic work done and have a longer-term view of the challenges of the department. In the factory I can't concentrate with so many interruptions.*"

The percentage of workers with the possibility of working remotely within the industrial sector, according to the interviews, is between 20 and 40% of the positions. Nine of the eleven managers establish that this is the percentage of workers who could work remotely in their factory and the percentage is higher in the other two cases. But still there are many positions where it is difficult to work remotely since they are linked to production ("Blue-collar work"). People in support departments, commonly referred to as white-collars, can work remotely. In this way, the perceived distance between these two groups may increase, as reflected in communication.

3.2. Implementation of Teleworking in Industry

With the aim of analysing the influence of teleworking on communication between on-site production employees and those working remotely, the following question was

asked: "*Do you believe that communication is affected by teleworking?*". Interviews indicate that it can be affected both positively and negatively. Contrary to all expectations, some of the managers interviewed consider it easier to contact those who are working remotely: "*You can check if they are active on Teams and you know they are going to answer*".

On the other hand, one of the workers stated: "*If you're in the factory and there's a production problem, the operators are going to ask you for help which they can't do if you're working remotely*". Another worker also talks about this lower communication: "*I don't see my colleague in the office and I don't know if he's working, cooking, or at the doctor... so I don't contact him*". A manager also said that teleworking generates distancing among the staff by avoiding communicating day-to-day situations that would be reported if working face to face: "*Since they are not in the factory, operators do not look for them to inform them of problems and information is lost*".

Trust and control are named several times in the interviews. A manager fully supporting teleworking shows confidence in this way of working "*Those who don't work at home don't work at the factory either as there are many ways to simulate you're working*". Another even defends that workers become more responsible when trusted: "*When we are not observed we behave differently to when we are, it's like parents with children*". "*When the father is not in front of the child he behaves better*". And another states that he does not feel that control decreases when teleworking: "*I am certain my workers are doing their jobs. Just like when working face to face, you can quickly tell who works and who doesn't, for me, remote working isn't something that affects this control*". The workers also stressed the importance of trust: "*I think your superior has to trust you and your professionalism, otherwise the work cannot flow*". Although some managers were concerned about the lack of control as a result of not seeing the worker continuously, as one manager says, "*Being at home I do not know if they are working at the same time as they eat or do laundry, it is something difficult to control*".

One of the main worries on the part of remote workers is the demonstration of results. If they do not provide visible results, they think their managers might wonder whether they have been working or not. One worker states, "*when I was physically at the enterprise's facilities they already knew I had been working*". Some workers may suffer from anxiety or even work longer hours if they feel they have not reached the foreseen results. When asked the question "*When you telework, do you work more or less than in person?*", some of the answers were as follows:

"*I work longer hours as I feel like I have to prove I've been working.*"

"*When teleworking I work longer because it is close by and easy to just get started.*"

When teleworking, "*I feel obliged to answer emails that if I worked in the office I would not open.*"

Most managers and all workers agree that productivity has increased. The interviewees highlight the ability to perform tasks efficiently and be more focused than when they go to the office: They affirm that in the home environment, interruptions and distractions that are typical of an office environment are considerably reduced ("*In the office people do not stop entering and interrupting me. There are days when it is difficult for me to finish the task I started*"), which has favoured a greater focus on tasks and increased productivity. However, the importance of establishing clear boundaries between work and personal life is also mentioned to prevent distractions from home from interfering with work focus.

Teleworking allows working hours to be more flexible, but it can also lead to greater difficulty in disconnecting and separating work from personal life. Some interviewees mention the importance of establishing disconnection routines such as turning off electronic devices or setting time limits to avoid burnout and promote a healthy work–life balance.

"*Being at home I'm always available which doesn't happen when I go to the office. Once you leave the office they don't contact you.*"

Teleworking has generated changes in worker's eating habits. Some interviewees mentioned that being at home throughout the day results in making it easier to prepare

healthy and balanced meals. However, others pointed out that the proximity of the kitchen and the constant availability of food can lead to an increased consumption of snacks and unhealthy foods.

> *"Having the fridge close, I'm going to peck a lot more than if I'm in the office."*

Interviewees highlighted the importance of incorporating physical activity into the daily routine during teleworking. Not having to commute results in more time to exercise at home or outdoors. However, some mentioned that lack of social interactions and time spent at work can lead to decreased physical activity and an increasingly sedentary lifestyle.

> *"In the office I moved more by going back and forth to talk to people or solve problems. From home I don't move from my chair."*

Musculoskeletal problems also appear. The lack of ergonomic furniture, adjustable chairs, and adequate desks has been one of the main factors contributing to these problems. In addition, lack of awareness about proper posture and lack of regular breaks for stretching and moving can aggravate musculoskeletal problems.

> *"At home the office is with a chair in the dining room, which is not as comfortable as the one I have in the office."*

Managers said they provided their employees with recommendations on how to organize their position, as well as ergonomic risks and guidelines to follow. In most cases, workers had to sign that they were informed and had the right conditions for work. By law, companies cannot enter the worker's homes, so they cannot evaluate the situation. Workers also state that they do not want their position to be evaluated; however, they would like to have someone to advise them in person or by remote means. It seems that if the worker feels like they are being evaluated, they will choose to avoid it, but if they feel that the company wants to help and advise (the difference between a culture of control or trust and help), they welcome the support.

Some companies have only provided a laptop (8 out of 11) for their employees working from home. Two others have provided screens and chairs to workers who have requested them. One of the companies has given workers EUR 300 for them to equip their at-home workplace, with the aim of creating a comfortable and ergonomically adequate place to develop teleworking, whether the employee ends up teleworking or not.

Regarding the location of the teleworking workstations, most managers agreed that it should be the same (90.91%). A minority (9.09%) say that the location does not matter as long as it complies with the ergonomic conditions. One of the companies, as an exceptional case, has established two pilot offices, one in the mountains and one on the coast to provide its potential teleworkers with other possibilities which meet the appropriate conditions for teleworking. This ensures compliance with health regulations and facilitates their employees to move to more attractive locations.

Not all companies have a clear policy regarding teleworking. The largest tend to have policies in place, except for one, where the head of HR regretted that she had already submitted 10 proposals that are still not approved. Without a clear policy, granting the ability to telework can lead to discrimination. In the interviews with workers, they tell us that there are realities in which there are differences with the ability to telework depending on who grants this alternative ("*Depending on the person in charge, it can be easier or more difficult to tell them that you are going to start to telework*"). Also, workers who have responsibility for other people express the problems that the absence of a clear policy can bring, as indicated by one individual: "*I have been trying to bring in telework for one of my employees for a long time, but as there is no clear policy they have not yet granted permission*". As it is not a standardized decision, this generates conflicts and challenges. Companies that have established policies determine which positions teleworking can be implemented for and to what extent (days per week).

When it comes to remuneration, there is a diversity of opinions among managers. There are those who consider it essential to compensate the expenses involved in working

from home and affirm "*Being at home they have to have heating on, have an internet connection, a better chair or a double screen and it is something that the company must assume responsibility for*". Others consider it absurd to reimburse the additional expenses of teleworking when management wants the worker to go to the factory and say "*How are we going to pay teleworkers more if what we want is for them to come to the factory*". This situation is seen frequently in companies located at a greater distance from the capital city, where they note that "*It costs the worker €200 per month to come to work at the factory which is money saved if they stay at home*".

This conflict generates tensions between managers and employees and can generate a sense of inequality between teleworkers and on-site workers. "*If I pay some for not coming I should also pay others for travelling here, otherwise it would not be fair*", said the head of human resources at one of the companies. Teleworkers consider that there should be partial compensation for the expenses associated with working from home, while on-site workers have a growing feeling of inequity, as they are not paid for the travel and inconvenience of on-site work. All managers and workers show a clear need: the existence of a fair and transparent remuneration policy that addresses remuneration issues and ensures pay equity between teleworkers and on-site workers.

3.3. The Future of Teleworking in the Industry

All interviewees, both business leaders and workers, believe that remote working is here to stay and will progressively spread.

Overall, teleworking has been seen to have yielded positive results with greater satisfaction. As one of the workers says: "*Since beginning teleworking I think I manage my time better and I am more comfortable since I can reconcile being close to my loved ones with developing my work*". In some cases, telework is even helping workers stay in their jobs, as another says: "*I am very grateful to the company for giving me the possibility of teleworking, since in my current situation it is a point that would make me consider staying in the job*".

Four of the managers (36.36%) stressed that young people who are currently entering businesses come asking about teleworking possibilities. Managers feel that when other companies offer more teleworking possibilities than their company, this can cause them to lose workers. According to one of the managers:

> "*Multinational companies have another way of looking at this—they allow remote working in many of their positions and this deprives us of new potential employees.*"

Teleworking is happening in the industry. Companies and workers have been adapting progressively, and when asked about the future of teleworking, everyone agrees that it will increase. This is because of the demand from workers. Companies that do not implement it will be under pressure to do so if they do not want to lose talent to those that do. In addition, technologies are being developed that make it increasingly feasible to telework.

Teleworking is presented as a key to attracting and retaining talent. The companies farthest from Burgos express the need to implement teleworking if they want to employ good professionals (workers have a higher personal cost for going to the factory). One of the directors interviewed stated "*it is difficult to find qualified technicians who will come to work 40 km from the capital, teleworking allows us to access better professionals*". Young people are also demanding telework, and in the case of some professionals, it is essential to offer it (three companies named the lack of electronics professionals and commented that they especially offer them to telework more days if necessary).

4. Discussion

In accordance with the objectives of the research and answering the questions posed in the introduction, the following conclusions can be made:

Regarding the extension of teleworking in industry (first question), there is a significant increase in teleworking in the companies analysed. Before the pandemic, only one of the companies allowed teleworking on a limited basis. However, after the pandemic, 9 of the 11 companies interviewed have implemented teleworking to a greater or lesser extent. It is

demonstrated that teleworking has been implemented in industry, specifically in support positions, reaching between 20% and 40% of workers in industrial plants, although there are still plants that resist its implementation.

The adaptation to teleworking in the industry is progressive (second question). Communication, control/trust strategies, workers' ability to manage their time, teleworking stations, compensation and remuneration, and teleworking policies must be adapted.

Teleworking will be maintained and increased in the future (third question). Workers value and demand it, which means that if companies want to attract and retain talented workers, they must offer this type of work. Companies that already offer teleworking push those that do not adopt it. Both company managers and workers agree that teleworking is here to stay and that it will spread progressively. Young people entering the labour market seek this possibility, and many older workers see advantages in telecommuting one or two days a week.

4.1. Conclusions Similar to Research in Other Sectors

Impact on communication and business culture: It is observed that communication between teleworking workers and those in the plant can be affected both positively and negatively. Some managers find it easier to contact teleworkers through digital tools, while other managers and workers perceive a lack of information and a loss of the sense of belonging to the company.

Trust and control: There is ambiguity regarding trust in teleworking. Some workers consider that total trust on the part of their superiors is necessary to achieve results, while some managers fear a lack of efficiency and decreased productivity without direct control.

Productivity and perceived benefits: In general, an increase in productivity and job satisfaction is observed with teleworking. Workers emphasize the ability to perform tasks efficiently, the reduction in interruptions and distractions, and flexibility in time management. Managers consider that this option makes their employees happier and mostly consider them to be productive.

Challenges and concerns: Despite the benefits, some challenges associated with teleworking are also mentioned. Workers indicate the need to establish clear boundaries between work and personal life and to have an adequate ergonomic environment. Managers want to ensure that objectives are achieved, tasks are monitored and evaluated, and communication problems are addressed.

Clear policies and equity: There is a need, expressed by managers and workers, to establish clear policies on teleworking, both in terms of the possibility of teleworking, as well as the remuneration and compensation of expenses. The lack of policies can generate conflicts and inequalities between teleworkers and on-site workers.

4.2. Particularities of Teleworking in Manufacturing

There are no space-saving advantages: In other sectors, mainly with office work, where in some cases offices are rented, teleworking can save space, with fewer workers present in the workplace. In the manufacturing sector, space is mainly occupied by machines, and there are no space savings with teleworking. Also, space is a less important factor in costs. Teleworking is seen as an advantage for the worker; managers accept it to increase worker satisfaction and attract talent.

Part-time teleworking (a few days a week or a few hours a day): Full-time teleworking is not allowed, with some exceptions. Both managers and workers understand that the best balance is achieved by teleworking one or two days per week. Workers gain flexibility and work–life balance, and the company counts on workers' presence in the plant, which is still considered necessary.

In establishing teleworking in manufacturing, special attention must be paid to the relationship between blue-collar and white-collar workers. Blue-collars, unable to telework, may experience discrimination and have difficulty contacting white-collars who are teleworking.

In summary, in the industrial companies analysed, teleworking has experienced a significant increase and has become an option increasingly accepted and demanded by both workers and companies. While it presents benefits in terms of productivity and work–life balance, it also poses challenges in communication, trust, ergonomics, and the need for clear policies and fairness.

These results are expected to contribute to knowledge about teleworking in industry, providing a solid foundation for informed decision making by business leaders and offering new perspectives for future research in this field.

4.3. Limitations

The study was carried out in the province of Burgos (Spain). Commuting to companies located in the capital takes roughly 15 min and commuting to those outside the capital takes no more than an hour. The elimination of commuting is a key aspect in teleworking, so part of the study cannot be generalized to other locations.

There may also be cultural aspects specific to this province which must be taken into account before generalization, especially in terms of teleworking implementation.

The study analysed 11 industrial companies in Burgos, which means that generalizations should be made cautiously. It is also a study specific to industry, which makes it difficult to generalize to other sectors. This study is qualitative and its conclusions must be complemented with quantitative studies in order to be generalized.

The workers interviewed are middle managers and support positions. Teleworking does not apply to production operators, who are the ones with the machines and the who are closest to the product.

The effects of the COVID-19 pandemic are still recent, so the results may be influenced by the pandemic and not only by teleworking implementation.

Informed Consent Statement: Informed consent was obtained from all subjects involved in the study.

Data Availability Statement: Data is unavailable due to privacy restrictions.

Conflicts of Interest: The authors declare no conflict of interest.

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