

Evolution, current situation, advantages and disadvantages in Spanish organisations in the field of teleworking.

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DEGREE IN BUSINESS ADMINISTRATION

AE 1049 - FINAL DEGREE PROJECT

ACADEMIC YEAR 2020-21

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1. INTRODUCTION

This paper studies the situation of teleworking, specifically how it has developed in Spain, how it has evolved and the current situation during the Covid-19 health crisis, as well as the advantages and disadvantages it entails for workers, employers and society in general, providing data and information as well as a personal view on the issue to be addressed.

The definition of telework is work that is carried out outside the company's premises through the use of new technologies. New technologies (ICTs) are a fundamental aspect of teleworking, requiring certain equipment such as a computer, internet connection, a digital camera device, etc. (Buira, Jordi, 2012)

Due to the current health crisis caused by the Covid-19 many companies have adapted to teleworking, at the end of 2019 in Spain there were 4.9% teleworking and halfway through 2020 30.2% of employed people were teleworking according to data from the EPA conducted by the INE. These data indicate the importance that teleworking has had in recent months, and even if companies have good results with this system, it could be that this increase is not temporary and is maintained in some jobs.

As this form of employment was not very common until a few months ago, there were legal loopholes in some aspects, which led to the drafting of a Royal Decree Law in September 2020 with the aim of regulating telework in greater detail, in order to guarantee workers' rights and avoid abusive practices by both workers and employers.

Telework has brought about a change in the current economic and social landscape, so the economic and health implications for workers, the difficulties of reconciling work and personal life and the disconnection from work will also be discussed.

2. METHODOLOGY OF THE WORK

The working methodology consisted of selecting different topics on telework that are considered appropriate for the explanation of telework and, once selected, to search in different sources and to study them in depth. After having information and understanding the topic to be dealt with, the different sources are quoted. In addition, a PESTEL report has been made, where the threats and opportunities offered by telework can be observed in a more concise way.

One of the fundamental aspects of the work will be the data, as it is the most objective information that can be found and helps to represent the situation that is being discussed. Personal opinions will also be made, being as reasoned as possible and with the aim of having a critical analysis of this area which is having an impact on companies and which is current. As the news is current and constantly changing, it has been updated until the end of the work.

3. HISTORICAL DEVELOPMENT

Throughout history there have been examples of teleworking, one example being textile manufacturing carried out by employees from their homes.

In 1973, this practice increased due to the oil crisis in the same year, when the Organisation of Arab Petroleum Exporting Countries vetoed oil exports to countries that had supported Israel in the Yom Kippur War, including the United States and its Western European allies. The oil shortage led to a sharp increase in the price of petrol and restrictions on its use, so some employers began to encourage working from home in order to avoid workers having to drive to the company's workplace. Apart from the energy-saving reason, teleworking continued to be promoted in order to better reconcile work life and improve social activity in "dormitory towns" (A. Blinder).

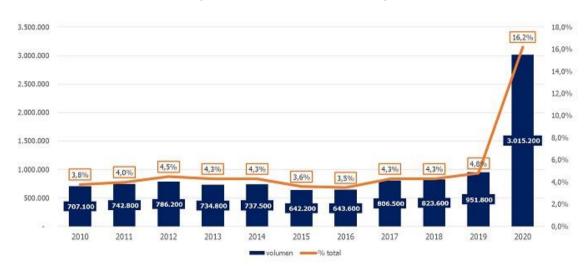
At this time, the use of the Internet was still in development, so it was a different kind of teleworking than today's teleworking, which was done using typewriters and computers.

In the 1980s they began to market personal computers, which made it even easier, until the 1990s and the beginning of the telework we know today, the arrival of the new generation of computers and the Internet, which allowed connections to be established with any place in the world, changed everything. The first country to introduce these advances was the United States and a few years later it would reach the most developed European countries, including Spain.

In the United States, tax reductions were introduced and in Spain in 2006 they established the Plan Concilia, a package of measures aimed at improving the lives of workers (flexible working hours, working hours, etc.), and one of the measures was teleworking, establishing pilot plans on how to carry it out.

In March 2020, after the global pandemic, many workers were forced to stay at home due to restrictions to contain the virus, restrictions on working hours and limited movement meant that employers once again encouraged teleworking to continue business activity. The need to keep up economic productivity and the technological facilities in developed countries led to record numbers of teleworkers, reaching in Spain more than 16% of the working population teleworking, or in other words, more than three million teleworkers (RHPress).

After this sudden boom, there have been legal loopholes that could harm the working conditions of workers, so the Spanish government approved in September 2020 a Decree Law updating the measures to the current characteristics of this era.



Graph 1. Telework evolution in Spain

Source: RHPress

4. LEGAL FRAMEWORK AND WORKING CONDITIONS

Due to the change in the business model that was taking place after the emergence of Covid-19 and which forced many workers to work from home, Royal Decree-Law 28/2020 was published on 23 September 2020 and entered into force on 13 October 2020.

The measures that can be found in this decree are:

They define when a worker is considered to be a teleworker, and that is when he/she teleworks at least 30% of his/her working day for at least three months and 50% of his/her working day for work placements or training. The law clarifies that teleworking as an exceptional form, as would be the case of companies that have adopted it due to the impossibility of travelling because of Covid-19, would not fall within the legislative framework of this law, and ordinary labour regulations would continue to apply, although in many aspects the measures coincide.

Another measure is that it is voluntary, both the employer and the employee have to agree to use this method, and it could be reversible by both parties at any time. Any dismissal or penalty for refusing to telework would be unjustified.

It must be stated in writing that both parties agree to the new way of working and submitted to the employment office.

The costs of working at home, such as energy consumption, printer costs, internet connection or computer equipment, etc., must be borne by the company. The form of compensation should be fixed in the company's agreements or collective bargaining agreement, but in practice the costs paid by the company are minimal or non-existent, because it is understood that the worker has the computer equipment and internet connection at a personal level, which means a significant cost saving for the company. Regarding working hours, workers have the right to flexible working hours, although the company may impose certain fixed hours during which it is mandatory to be available and work. These hours, as well as the starting and finishing time of the work, and the place where the employment is to be carried out, whether it is a fixed or variable place, must be stated in writing.

The company must ensure that the employee is disconnected outside the working day, respecting his or her rest. This is a problem that already existed with face-to-face work because of how easy it is to contact an employee by digital means such as e-mails or phone calls.

The company can monitor the employee's work activity, IT actions can be carried out to track whether the employee is keeping to his or her working hours, is performing efficiently or is making mistakes, all while respecting the private aspects of individuals as set out in the data protection law.

The law gives ample freedom to be modified or extended according to the particularities of the job, and therefore attaches great importance to collective bargaining, which may set its own conditions within the legal framework.

Staff in the service of public administrations are exempted from this law, as they will be exempted by a specific regulation, in the meantime they will be exempted by Article 13 of the Workers' Statute.

5. ECONOMIC SPHERE

5.1 Current situation

After the onset of the health crisis and the establishment of confinement in Spain, teleworking reached peak levels, exceeding 30% of the employed population. The improvement in the health situation has caused these numbers to fall, but they are still quite high compared to before the pandemic. In the last four months of the year, the number of teleworkers was over three million, 16.2% of the workforce (a figure three times higher than before the confinement), and in the first four months of 2021 the figure stands at 14.7% of the workforce, according to Adecco ^{1.} There is a downward trend compared to the beginning, but it seems that the figures have stabilised and telework will continue to be present in a large number of jobs in the coming years.

These figures are very high compared to 2017, when only 27% of companies were prepared to offer their employees the option of teleworking according to INE data. The pandemic has accelerated this conversion of the way of working, and has caused a change in the mentality of employers, although there is still a business culture of presenteeism and control to manage work. Although new technologies have made teleworking possible for many years now, the previous economic crisis in 2008 delayed this process even more, due to the uncertainty in the business sector. The great positive news about teleworking is that it has been the main way to overcome the economic crisis of the Covid-19 pandemic, as without teleworking, production and jobs would have been lost during the most severe period of the health crisis. Other companies, where

teleworking is not possible due to their characteristics, have adjusted costs through ERTES, which is a procedure by which a company that cannot carry out its daily activities to produce profits (in this case Covid-19), receives financial assistance from the State to pay a part of the salary of its employees, the employee becomes unemployed and receives 70% of the monthly basic salary for the first six months, and after that he/she receives 50% of his/her salary. During the peaks of the pandemic, 3.6 million workers went on ERTE.

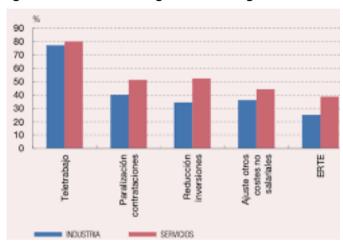


Figure 2. Relevant strategies for dealing with the crisis

Source: Bank of Spain (2020)

The profile of the teleworker has changed after Covid-19, previously the most common sector of the population in this field was workers close to retirement age and decreases as the worker gets younger, with a significant drop in the 16-24 age group. The employment of teleworkers in the 16-24 age group is still significantly lower today (usually in low-skilled jobs), but from this age group onwards the figures are very homogeneous across the different age groups. The gender of the worker is irrelevant when it comes to teleworking, with very similar figures.

Small companies are the ones that have implemented teleworking the most, especially those with only one person, the self-employed. This is followed by medium-sized companies (INE), which suggests that the smaller the company, the easier it is to integrate teleworking, as less logistics are needed to implement it.

The public administration is also trying to implement telework to some extent, as is the case in the private sector. During the peak of teleworking in March and April 2020 in the public administration, two out of three employees teleworked on a mandatory basis due to the seriousness of the situation, while in March 2021 the figure is one in four workers. (El País).

Recently in April 2021, an agreement has been signed between the Ministry of Public Function and Territorial Policy and the trade unions to give the possibility to public employees to telework part-time, two days of face-to-face work and three days would be telework. The agreement would be optional and reversible, as long as the job allows this function to be carried out from home, guaranteeing that services are adequately provided to citizens. Although it would be compulsory in exceptional situations, such as in the case of a problem similar to Covid-19 or the recent storm Filomena, which made it impossible to travel to the workplace.

Some 230,395 civil servants could take advantage of this measure, out of the total of 3.2 million civil servants in Spain, due to the fact that some groups are exempt where it is difficult to implement teleworking for organisational reasons, such as the armed forces, police, health personnel, teachers and justice personnel. The administration recognises that it is a complicated task to implement immediately, but that the good results of the months of confinement encourage this.

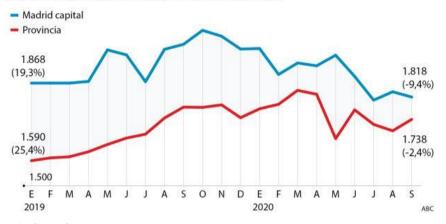
5.2 Economic profitability

During the most critical months of the Covid-19 pandemic, companies were forced to change their way of working and opted for teleworking, by the end of 2020 it is estimated that 40% of companies offer their employees to work from home (Sensame Time, 2020). Companies are continuing with this way of working as they are observing an increase in economic profitability, it is estimated that in a year of teleworking the company can save an average of between 1000 and 5000 euros per employee according to WorkMeter. This saving is produced by a reduction in fixed costs such as renting the company's offices. This is one of the biggest costs for the company, which seeks to position itself in central buildings or important business areas, in order to increase its visibility and gain notoriety. In large cities such as Madrid and Barcelona, the rent is even higher than in other Spanish cities, with the average rent in Madrid being €34.5 per square metre and in Barcelona €25.5 (El Confidencial, 2020).

Graph 3. Monthly evolution of rental prices

Evolución mensual del precio medio del alquiler

Cifras en euros (entre paréntesis variación interanual en porcentaje)



Adrián Delgado (2020)

The graph shows the drop in rental prices due to the decrease in demand as face-to-face work is limited. It is also possible to observe the difference in prices between an office in the city centre and an office in the surrounding municipalities. Where the drop has had the greatest impact is within the city centre, in this case in Madrid, as this is where the rental price was most inflated and the consequences of the drop in demand can be seen sooner.

Another cause of savings in fixed costs is the reduction of energy costs such as electricity, air conditioning, technology systems connected to the electricity grid, etc. Furniture, computers for personal use, office materials such as printers, internet connection, telephone network are costs that are transferred from the company to the employee. However, if the employee works more than 30% of the working hours from home, all these costs have to be paid by the company. For this purpose, the employee has to inform the company about the extra costs, among which usually costs that the employee already has in his or her personal life, such as electricity, computer or internet connection, are not paid.

The question of whether a worker is more or less productive at home or in the office is difficult to measure. Some studies show that there is a significant increase in productivity (the majority of those consulted), such as that of the consultancy Capgemini, while others do not see any increase at all.

There are factors that determine whether or not a variation occurs, the most important is the worker's will, if a worker is forced to telework without being in full agreement, his motivation and commitment to the company will be reduced and therefore productivity will also be reduced. Another factor is the worker's experience in the labour market, employees who have been working for less time in the company and do not have the mechanisms and way of working internalised are less receptive to teleworking, according to a study by the newspaper El Español 34% of employees with less than 5 years of activity in the labour market felt less productive teleworking. The workplace also has an influence, it is important that the worker feels comfortable and isolated from distractions and noises that can be found at home.

According to a study by CaixaBank Research, under favourable conditions telework can increase Spanish company productivity by 6.2% per year and could fall to 1.4% if conditions are not favourable, which is a large increase given that average Spanish productivity growth between 2000 and 2018 was 0.3% per year according to the Bank of Spain.

Table 1. Telework productivity in Spain Impacto macroeconómico del teletrabajo: escenarios

	Incremento de la productividad debido al teletrabajo	Potencial de teletrabajo *	Tasa de traslación **	Aumento agregado de la productividad
Escenario más favorable	30%	32,6%	75%	6,2%
Escenario menos favorable	20%	32,6%	25%	1,4%

Notas: * En los cálculos se tiene en cuenta que, en España, un 4,9% de los trabajadores ya trabajaban en remoto de manera regular antes de la crisis de la COVID-19.

Source: CaixaBank Research 3

The reasons for this increase in productivity are that teleworking helps the worker to concentrate more, and also avoids unnecessary breaks that waste time, such as being distracted by colleagues or going to the cafeteria. It is therefore ideal for mechanical jobs with a high degree of automation, but for tasks that require more creativity and innovation, and constant interaction with other employees, teleworking could limit their functions if the company does not provide their workstations with sufficient technological equipment to interact from different locations.

Another aspect to take into account is that teleworking reduces absenteeism and helps employees to keep their full working hours. This is because schedules are more flexible and hours can be easily made up, and employees are more likely to avoid losing work time due to delays caused by transport problems or any other aspect.

^{**}Porcentaje de trabajadores (sobre el total de trabajadores con potencial de teletrabajar) que pueden teletrabajar de forma adecuada.

According to a study by the employment consultancy TinyPulse, 91% of workers surveyed feel more productive working from home.⁴

Contrary to these opinions is the view that teleworking lowers the performance of the teleworker. This is related to the fact that at the beginning of teleworking good results were achieved due to the fact that it was a novelty and offered greater comfort to the worker, but they consider that the mental fatigue of this situation is considerably reducing productivity compared to face-to-face work. This is due to the complexity of separating work and personal life, the difficulty of continuing to learn new concepts individually from home. Also that teleworking can cause greater distractions by having your family environment at the workplace, personal items such as mobile phones and not having a person monitoring your activities.

As a conclusion to this section, a report by the Capgemini Research Institute estimates that in the next two or three years, three out of every ten companies will have more than 70% of their workers teleworking. This indicates that there is an economic benefit for the company, since it is thought that teleworking will continue to increase because companies obtain profitability. ⁵

5.3 Geographical and sectoral differences

In Spain there are geographical limitations to the implementation of teleworking, these limitations are related to the availability of internet connection, access to new technologies (computers, printers, etc.), and the predominant business sector in the area that allows teleworking.

Población ocupada con posibilidad de teletrabajar en 2019 En % sobre el total de ocupados Con posibilidad de teletrabajar Teletrabajó en 2019 Por comunidades autónomas Madrid 28.0 5.1 Cataluña 25,1 4,6 País Vasco 24,5 4,3 Navarra 23,0 3,9 Asturias 22,4 6,6 ESPAÑA 22,3 4,8 Cantabria 21,5 4,6 Aragón 21,2 4,9 C. Valenciana 20,9 4,9 Galicia 20,5 5,5 Baleares 20,0 5,8 Castilla y León 19.9 4.8 La Rioja 19.8 3.6 Murcia 19,3 4,0 Canarias 19,2 4,0 Andalucía 19,0 4,8 C.-La Mancha 18,2 4,5 Extremadura 17,5 5,0

Figure 4. Employed population with teleworking options by region in 2019

Source: Valencian Institute of Economic Research

As can be seen in the table, the autonomous communities with cities with a high level of business development top the list (Madrid, Barcelona and Bilbao) and the three autonomous communities with the highest percentage of rural population are at the bottom of the list. Emphasis is being placed on narrowing the technological gap between urban centres and rural populations, so these inequalities could disappear in the next few years with the arrival of 3G connection to all Spanish municipalities. It is estimated that currently 13.14% of the population in rural areas does not have an internet connection that allows teleworking, according to data from the Secretary of State for Telecommunications and DigitalInfrastructures.

Another great benefit of teleworking is that it allows workers to choose their place of residence, and in recent months it has been observed that many have opted to move away from the big cities and take up residence in rural towns. This is of great benefit in reversing the rural depopulation that has intensified over the last 50 years, because in the big cities there were more opportunities for training and work, as well as other facilities offered by the big cities such as leisure and infrastructure. As a result, according to the Bank of Spain, 42% of Spanish municipalities are at risk of disappearing due to lack of population. ⁶ Currently, with the possibility of being able to telework in these places, it is thought that the figure may be reversed, as significant population increases

have been observed in rural populations, this may be due to the fact that housing prices are significantly cheaper, being reduced by more than half, and in search of the tranquillity that these places offer compared to the big cities.

Agricultura, ganadería y pesca 4,1 30,1 Energía eléctrica, gas y agua 18,2 Industria Industria química 29.8 28,0 Papel; edición y artes gráficas 24.0 Maquinaria y equipo mecánico 21,3 Equipo eléctrico, electrónico y óptico 19,1 Fabricación de material de transporte Textil, confección, cuero y calzado 16,7 Otros productos minerales no metálicos 14.7 14,3 Industrias manufactureras diversas Alimentación, bebidas y tabaco 13,8 Metalurgia y productos metálicos 13,4 12,5 Caucho y plástico 9,6 Madera y corcho 13,3 Construcción 21,4 Servicios de mercado 45,0 Intermediación financiera 41,5 Inmobiliarias y servicios empresariales Educación y sanidad de mercado 35,9 17.8 Transportes y comunicaciones 13.9 Comercio y reparación Otras act. sociales y otros serv. mercado 10,4 Hostelería 8.0 36,0 Servicios de no mercado 22,3 TOTAL

Figure 5. Employed population with teleworking options by sector in 2019

Source: Instituto Valenciano de Investigaciones Económicas 7

Another major difference in teleworking is the variation in its use by sector.

It is very difficult to implement in the primary sector in which work is carried out to obtain raw materials; work related to agriculture, livestock or fishing is outside this area.

In the secondary sector, where raw materials are transformed into final consumer products, it is somewhat more feasible to implement it. It is more feasible to implement it in industry than in construction, especially in the chemical and paper industries.

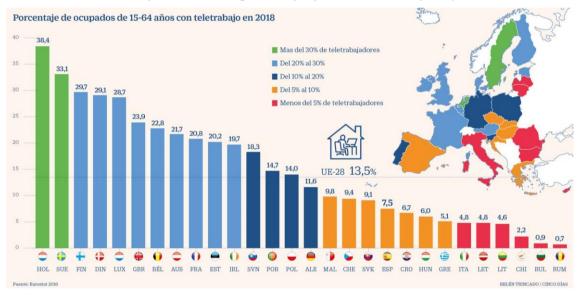
In the tertiary sector, services are much easier to combine with teleworking, as most teleworkers are in this sector. Financial services, real estate and business services top the list of the most feasible with over 40% of teleworking options, this is because in this type of work everything is highly digitalised and physical presence with clients is not necessary, making it possible to move the workplace simply by having a device that can connect to the company's servers.

Hospitality and commerce are relegated to last place for the same reasons as above, since in this job it is more necessary to be in face-to-face contact with the customer.

5.4 International overview

One of the main characteristics of teleworking is the internationalisation of work, which means that companies can hire workers from other countries without the need for the worker to change location. This encourages companies to expand the business market in search of the most talented workers and increases the demand for skilled jobs.

Spain was at the bottom of the list of countries using telework before the Covid-19 crisis. Although telework take-up has now increased considerably, it is still below the average for EU countries.



Graph 6. Percentage of employed teleworkers (2018)

Source: Belén Trincado / Cinco Días

The graph shows that it is mainly the Nordic countries that top the list. Countries such as Estonia and the Republic of Ireland stand out, but despite being countries where technology is a fundamental aspect of their economy and is widely accepted by their population, they are not at the top of this ranking.

Teleworking at international level has the big question of where the teleworker is taxed, the answer is not easy because each country follows its own laws, even within the EU countries there is no homogeneous regulation.

As a general rule, the worker's tax residence and where he/she must pay tax is the place where he/she resides for more than 183 consecutive days in the country (art. 9 of the Tax Law). ⁸ For example, if a Spanish teleworker works for a German company, but

continues to live on Spanish soil, he/she will continue to be taxed in Spain. There is also the possibility that a Spanish worker moves to another country and continues to telework for a Spanish company, in which case, if the country is a member of the EU, he/she can continue to pay social security contributions in Spain, provided that he/she does not stay outside Spain for more than 5 years (Regulation 1408/71). ⁹

Spain has an agreement for Social Security taxation with EU countries, and also has bilateral agreements with countries such as the United States, Japan, China and most South American countries with the same purpose of regulating taxation. On the other hand, there are also countries without an agreement, these countries are mostly places with tax systems very different from the Spanish one, such as Saudi Arabia, which does not have a social security system.

6. SOCIAL SPHERE

6.1 Employee satisfaction

In general the response to teleworking by employees has been good, with greater flexibility in working hours being the main reason for increased job satisfaction.

Although this satisfaction may not be sustained over time, a study by Cigna in collaboration with Kantar ¹⁰ (more than 10,000 respondents from Spain and other countries) found that teleworkers work longer hours than they did face-to-face, with 59% of workers saying they are working longer. In addition, they also say they spend more time online, with 79% saying they are always online, around a 10% increase compared to face-to-face work.

The No Surrender platform conducted a survey during the pandemic in more than 25 Spanish companies of different sizes and sectors, reaching 5,012 employees; the results were that workers rated teleworking with a score of 75 out of 100 points, indicating that there is good satisfaction.

At the organisational level, what employees rate worst is the lack of support from line managers.

Mi organización está reaccionando de forma adecuada, ayudando 81 10% 33% profesionalmente tanto como es posible y apoyando los trabajadores durante este periodo de cambios 77 En estos momentos me siento apoyado/a, informado/a y bien 13% 32% liderado/a por mi jefe directo/a 80 Mi organización se preocupa de mi salud y hace todo lo posible para 34% 9% asegurar un entorno de trabajo sin riesgos

Graph 7. Telework. Organisational level

Source: No Surrender 11

Como organización, estamos manteniendo un buen grado de servicio

a nuestros clientes y / o usuarios

■ En desacuerdo

■ Totalmente en desacuerdo



85

■ Totalmente de acuerdo

Graph 8. Telework. General scope

Neutral

96.896

■ De acuerdo

Source: No Surrender 11

They also asked other questions of which a high percentage of over 60% of workers who do not telework would like to do so.

The lowest scores were obtained for the compatibility of working with the family environment in the same home. 92% of Spanish households have had at least one person teleworking or telestudying. This entails adapting the space in the home to carry out the tasks, only 38.6% have a space adapted exclusively for teleworking, which can be a problem.

For teleworkers, the size of the workplace and natural light are the great advantages, while artificial light, which is necessary both in the early hours of the working day and at the end of the working day when it is needed, is rated badly. Other aspects such as noise, which can come from the home itself or from external aspects such as traffic or building work, are rated as a difficulty as they are unable to isolate it. Another aspect that limits comfort is the lack of suitable furniture; it is necessary to have an ergonomic chair and table, which allows the worker to have a good posture. In many cases, home furniture is used which is not adapted to the new uses it is given.

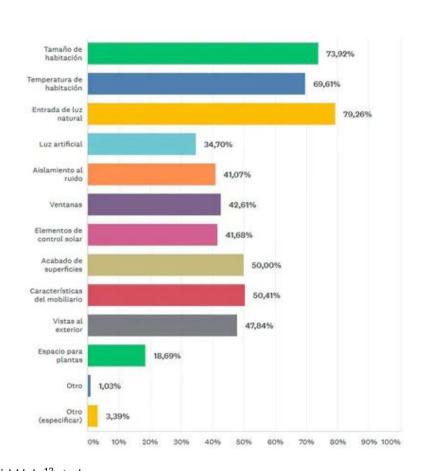


Figure 9. Telework in households

Source: Covid-Hab ¹² study

6.2 Access to telework

Sufficient technological means are necessary for teleworking. The elements necessary to access the internet (to be provided by the company) are as follows: A device with which to connect to the internet (computer, mobile phone, tablet, etc.). A modem, which is a device that converts digital signals into analogue and vice versa (RAE), there are

several types depending on how you want the connection to arrive, whether via cable, DSL or fibre. The DSL option is being replaced by fibre, which allows a faster connection and is the most widely used in Spanish homes. The home must have access to the Basic Telephone Network, except in some municipalities very far from urban centres, all municipalities have it. An internet service provider is needed, in Spain the most commonly contracted are Movistar, Vodafone and Orange, the cheapest tariff is no less than 25€ per month. Finally, connection software is also needed.

The great technological advances of recent years have made these products more affordable, allowing the whole population to have the purchasing power to buy them. Around 90% of the population feel that their digital media are at least sufficient, which facilitates the implementation of teleworking in their homes.



Figure 10. Quality of digital media at home

Source: Covid-Hab 12 study

A technological product that had a great impact during the first stage of Covid-19 was the webcam, a device that allows recording or broadcasting images, and is necessary to make video calls that are widely used in teleworking, for example to hold meetings by visualising the other person. It is also used in schools during non-face-to-face classes. The vast majority of laptops already have this device installed, but desktops do not, so many teleworkers were forced to buy one to continue their work activities. There was a massive public buying spree, which led to a sell-out on the official brand portals. During the first three weeks of the confinement, there was a 179% increase in the purchase of this device, a higher increase than that of other devices such as computers, which rose by 64%, keyboards by 40% and PC monitors by 138% (NPD Group). (NPD Group).

On the official platforms of the manufacturers, the entire stock was sold out, from the cheapest webcams costing around €10 to the most expensive ones costing up to €200. This led to some retailers on platforms such as Amazon selling their products at highly inflated prices, for example a basic Logitech model costing €34 was sold for €90 (Amazon portal prices evolved). This showed the huge amount of demand that had far outstripped supply.

The introduction of telework makes it easier for people with disabilities to access jobs. Working from home and avoiding commuting to the workplace avoids adverse and complicated situations, especially for workers with reduced mobility, although cities are increasingly becoming more accessible to all, it can still be complicated in certain situations.

It can also be beneficial for workers with special care needs to work from home, to facilitate their needs and not be dependent on third parties for mobility and greater independence.

For visually impaired workers, technological devices have been developed to recognise the words in a text and speak them aloud, as well as smart glasses that enhance limited vision, all of which allow the worker to telework as independently as possible.

6.3 Psychic repercussions

Despite the great advantages mentioned above, there are also reports that corroborate that there are negative psychological repercussions of teleworking. Obviously, not all people are affected equally and for some people the negative effects will have an impact on productivity and personal life, but for others they will be simple annoyances that can be easily solved.

The negative repercussions that can be caused are tension, stress, mental exhaustion, which would be due to the radical change in the way of working and could make the worker feel less effective in the company, and have a constant feeling of stress and work overload for fear of dismissal if he/she does not meet the work expectations. Another problem could be the "workalcoholic", a term used to refer to workaholism. This problem is also common in face-to-face work but with teleworking it has increased because the physical barrier between workplace and home disappears, making it much easier to stay connected to work. Feelings of fragility and vulnerability may also appear because the worker may be more insecure, anxious and irritable. And the repercussion that could be

affecting the worker the most is isolation and the feeling of loneliness due to the lack of physical contact, this results in feelings of insecurity and fear for not knowing how to control the situation, as well as losing social skills so necessary to communicate with other co-workers, it can also cause a lack of feeling of permanence in the company and feeling less motivated.

According to the Official College of Psychologists of Madrid, these are the guidelines that help to minimise the negative effects of teleworking: ¹³

The first is to organise your work, it is essential to have a discipline and a well-organised and well-defined timetable that is compatible with your personal life. By having a more flexible timetable, it is necessary to adapt it to personal needs and to be clear about working and resting hours. It is also important to organise the work place, it is important to avoid selecting a random place in the house, if the house allows for space to have a room only for work it is ideal, as this will help to know how to differentiate work and rest hours, in addition to greater concentration and avoid distractions. If the house does not allow an exclusive space for this, it is necessary to look for another place that also has good natural light, so as not to strain the eyes, and that has ventilation so that the quality of the air is adequate, for which it is advisable to open the windows frequently and even having plants could help. Ensure that there is no excess noise, as it is estimated that this can reduce employee productivity by more than 15%, as well as causing chronic nervousness and stress in the long term. And pay attention to the furniture, adapting it to the needs of the job so that it is ergonomic and comfortable to work in.

The second guideline is to carry out personal preparation and psychological care for work. Actions such as working in pyjamas cause the worker to enter a loop of monotony, so it is important before work to have a personal grooming and dress in street clothes. Working at home also involves taking the same breaks as in the physical workplace, so taking breaks between tasks to stretch your legs or eat something to eat is recommended. It is also necessary to leave aside technology that is not work-related, such as social networks or television, as they waste a lot of time. Sometimes people are tempted to look at them due to the stress of work, but it is better not to block them and continue with other tasks that are considered more pleasant to carry out.

And the third guideline is communication and relationships with colleagues and family members. Keeping in touch with colleagues is important to help each other and to get feedback, for which the same communication technology can be used to communicate and be able to see each other, as well as being a good way to avoid loneliness and the feeling that you are working alone. Senior managers can also communicate with workers to motivate and improve the work of employees. And lastly, a fundamental point is to

make the family understand that during working hours, even if the work is done from home, the worker cannot be aware of family matters, and also to negotiate with them that they cannot make excessive noise or interfere in the area dedicated to work during work. All these measures will help the worker to achieve well-being and balance between personal, work and family areas.

6.4 Physical impact

The main impacts that teleworking can have are sedentary lifestyles and eyestrain due to the increased influence of the screens of technological devices.

Teleworking, since most of the time it is carried out at the worker's personal home, implies a reduction in the physical activity that the worker would carry out if he or she were to go to the office. This, together with health restrictions, has meant that 50% of Spaniards have gained 3 kilos in the first months of confinement, according to a study by Seedo. ¹⁴ In Spain, obesity is a very serious problem among the population as it has a negative impact on our organism and daily activities. According to the WHO, 23% of the Spanish population is obese, and this is not only a national problem but also a worldwide problem, with many countries having similar or even higher obesity rates. Working at home also makes it easier to eat constantly because the kitchen is just a few steps away and can lead to overeating.

The impact that teleworking can have on this problem is nil if the worker eats a healthy diet and does sport, and even the time saved from commuting to work can be used for physical activity, which was previously more difficult to do because of the timetable.

The increase in the use of screens also implies some consequences, on average a worker already spends many hours in front of a screen but teleworking increases them even more because all activities are carried out through these, for example to meet with a supervisor or client in the office could be done in person but teleworking is an indispensable condition to use new technologies.

There are eye problems such as eye fatigue, which is due to intense use of device screens, and which is aggravated in cases where the teleworker already has previous eye problems such as farsightedness or astigmatism, and can even aggravate them. It can also cause discomfort such as irritation, red eyes or blurred vision. To minimise these problems and avoid eye problems, experts give some guidelines which are to use correct lighting and minimise glare, both from the physical space (windows and artificial light)

and from the screen of the utensil, regulating the intensity of the brightness or contrast that best suits each eye. It is advisable to tilt the screen of the work monitor (about twenty degrees) and place it slightly below eye level, as this is the most natural position for the eyes to look at something at close range.

Other guidelines are to blink more frequently, as this helps the eyes to be better lubricated, and lastly, a very important guideline is to give your eyes a break from time to time; looking up from the screen and resting for a few seconds is highly recommended.

6.5 Impact on mobility

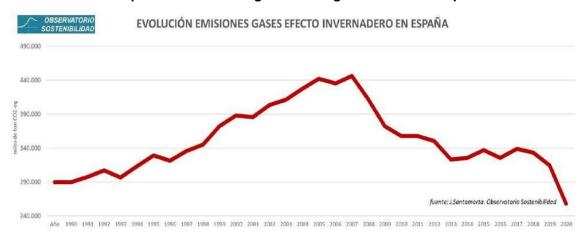
Teleworking has led to a decrease in road travel by cars and motorbikes, and in large cities also in metro and air travel.

Mobility habits have changed following the incursion of teleworking in recent months, the decrease in urban road traffic due to teleworkers not having to commute has led to a decrease in traffic jams, for example in the city of Barcelona urban traffic has decreased by 38% in the morning and by 37% in the afternoon (La Vanguardia).

Due to teleworking, traffic jams have been considerably reduced, waiting times in big cities such as Barcelona is an example of this drop, currently eleven minutes for every thirty minutes of travel, and make a total of 85 hours per year, or what is the same 3 days and 13 hours lost due to traffic jams; 1 day and 19 hours less than in 2019. In Madrid the hours lost due to traffic jams are 69, 48 hours less than in 2019. The cities at the top of the list with the most traffic congestion in 2019 are Barcelona, Granada, Palma de Mallorca, Madrid and Santa Cruz de Tenerife (ordered from most to least), which have benefited the most from teleworking. Madrid has fallen to tenth most congested city in 2020 and other cities such as Valencia have climbed to fourth place (TomTom Traffic Index).

Another aspect of the drop in car traffic is the increase in air quality in cities as pollution levels have dropped considerably. In 2020 Spain reduced its greenhouse gas emissions by 17.18% (infoLibre), although a large part of this percentage is due to the fact that during the first wave of the pandemic they were running at half-gas, but the drop in traffic also has a lot to do with the fact that each car on average consumes 100g per kilometre of CO2 (El Correo).

Graph 11. Evolution of greenhouse gas emissions in Spain



Source: J. Santamarta. Sustainability Observatory

Although the reduction in traffic and the consequent improvement in air quality due to the reduction of greenhouse gases suggest that teleworking helps to reduce pollution, other data suggest the opposite.

The British consultancy WSP carried out a study with 200 workers, comparing the impact of teleworking or working from the office, and concluded that a single person teleworking for a whole year would produce 2.5 tonnes of carbon dioxide, approximately 80% more than working in the company's office. This increase is due to energy costs, as it is much more efficient to use a single device to regulate the temperature or light just one office or building than it is for each worker in his or her own home. In addition, the energy of homes, which account for a fifth of greenhouse emissions in Spain, half of which are more than 30 years old, are not as energy efficient as offices, which are usually less old and more efficient. Efficiency can be seen in the energy insulation of the place, obsolete air-conditioning equipment that produces higher costs, or that the air-conditioning is centralised, wasting energy in all rooms of the house without the option of only airconditioning the room that is being used, in this case for work. According to the OCU, electricity consumption during confinement increased by 28%, 15 obviously not only has to do with teleworking, since the increase in hours at home due to restrictions has an influence, but as with fuel consumption, it is a variable that has a considerable influence. Although it may not seem like it, teleworking also causes some pollution, but compared to all the above ecological improvements, it is still environmentally beneficial to telework. The pollution of telework comes from the computerisation of all business processes and the carbon footprint that comes with it. Although it is pollution that cannot be seen like car fumes, there are thousands of physical servers and data centres located all over the world. The C02 produced by online activities is difficult to calculate, but it is estimated that during 2019 it accounted for just over 2% of total pollution and could soon exceed

3%. To get an idea, each search on Google leads to 12 grams of C02 emitted, according to data from the company itself (Google).

Returning to the field of transport, other means of transport such as suburban trains or the metro have seen their use decrease, during 2020 in the city of Madrid, which is the city that makes most use of this service, recorded 30% less mobility in this transport and the main cause is teleworking (Informativos Telecinco). The state-owned train company Renfe estimates that it will lose 50 million passengers by 2022 due to the rise of teleworking, a hard blow for the company as 47.4% of its customers are in the workplace. For the airlines, its main national airline, the Madrid-Barcelona shuttle has also seen a decrease in travel for the same reason, as well as travel limitations due to the pandemic.

The decrease in mobility, apart from affecting transport companies, particularly affects hotel and catering businesses whose bars or restaurants are located in office areas. These businesses have been among the most affected economically during the pandemic because their base clientele were office workers who demanded the daily menu and tourists, and in both cases their presence is scarce for health reasons. According to the Spanish Confederation of Hotel and Catering Businesses (CEHE), between 45,000 and 60,000 hotel and catering businesses are at serious risk of closure. To adapt to this situation, more and more businesses are incorporating the option of home-delivered meals in order to be able to continue offering daily menus to their workers.

7. BUSINESS ENVIRONMENT

7.1 Pestel Report

The pestel report is a strategic analysis tool to identify threats and opportunities that the company may encounter in the general environment.

The factors to be studied are: political, economic, socio-cultural, technological, legal and environmental.

Political factors present an opportunity for the company, because both national and European governmental institutions have a positive stance towards telework. During the

worst parts of the pandemic and its consequences of enforcing mobility limitations, these bodies encouraged the implementation of telework to minimise the negative economic effects of bringing business activity to a complete halt. The support of the European Union is essential to ensure that national governments also support telework and that common legislation and taxation actions are put in place.

Economic factors also indicate an opportunity, due to the elimination of fixed costs such as office rent, or the energy resources involved. Moreover, as we have seen during the course of this work, there are reports that corroborate an increase in the productivity of teleworkers with respect to face-to-face work.

Socio-cultural factors are not the most appropriate, particularly in Spain and in most countries workers are used to going to a workplace where they can have direct interaction with other employees, although this face-to-face way of thinking is changing faster and faster and the demand for non-face-to-face or semi-presential positions is booming.

Technological factors indicate that practically all companies and workers have the technological means to carry out this activity, many of these means were already available to the companies during face-to-face work, and workers also have their own means in the private sphere. The greatest difficulties are encountered by workers who are based in places where there is no internet connection (most municipalities are currently able to connect to an internet network) or who do not have the necessary means or knowledge to carry out online activities.

The legal factors are of recent implementation, due to the fact that teleworking was previously minimal and there was no such specific regulation for teleworking. The Royal Decree published in September 2020 establishes a series of measures to ensure that workers' rights are complied with and provides a number of mechanisms for companies to monitor the performance of employees' activities. It could be said that these measures are to some extent an opportunity for companies as they are not legally binding measures to restrict the implementation of telework.

Environmental factors are also a favourable point due to the reduction of emissions from the transport of workers to the offices, which causes high levels of pollution, especially in large cities.

As has been seen in the Pestel study, the implementation of teleworking offers a multitude of opportunities for companies and practically no threats, which encourages companies whose business activity allows its implementation to carry it out.

7.2 Implementation of teleworking

Once companies decide to implement teleworking, whether it is an obligation due to external situations or their own decision to take advantage of certain benefits, they have to follow certain procedures to be able to implement it.

The first thing is to define the positions in which the company has the capacity to allow teleworking, not all positions or tasks have the necessary technology to be able to carry it out. Also define what type of teleworking is chosen; home-based, where the worker works from home on a full-time basis, in a work centre, where the worker carries out their tasks in a centre set up by the company but which is not the usual one, and mobile work, which is when a combination of home and office-based work is carried out.

The second step is to set the guidelines to be followed, the company will have to draw up a protocol of how to work, the tools to be used at all times and in every situation, and set a timetable, among other day-to-day things. Nowadays, companies have at their disposal numerous programmes and applications that facilitate tasks. To communicate via chat with the different work groups that may exist in the company, applications such as Discord, Hangouts and Slack can be used. For meetings with video calls, applications such as Skype, Zoom, WebEx, Microsoft Teams or Google Meets are the most used by companies. Other very useful applications for teleworking (they can also be used for face-to-face work) are those that allow different types of documents to be stored and created together, such as Google Drive (Google), Icloud (Apple), One Drive (Microsoft) and Dropbox. All these applications should facilitate fluid communication between the components of the company so that problems do not arise and contacts are strengthened.

The next step after knowing which applications to install to develop the activity is to learn how to use them, in many cases the workers will already know or will adapt quickly to use them, but it must be taken into account that there will be employees who are not very familiar with the new technologies and therefore it will cost them more, it is important that this training is included in the working hours and that it does not mean an increase in working hours for the worker.

It must be ensured that the right technological equipment is in place, and the company must provide its employees with the necessary equipment so that they can work as if they were in the office. This includes equipment such as a computer, internet connection, printer, telephone or certain private network connections (VPN).

And finally, incorporating a system for monitoring and controlling the activities carried out. Keeping track of schedules and compliance with objectives and other areas of work

can help the company to empower its employees and be more effective by eliminating practices that do not bring benefits to the company.

7.3 Security

As in face-to-face work in the office, security is essential, especially in strategic companies or companies with confidential information of high intangible value. It is also necessary to safeguard customers' private information.

Security in teleworking has to be even stronger than on-site security because company information goes outside the company's premises and is more vulnerable to theft or hacking.

Some measures that help to keep all information more secure are:

Acquire a centrally managed corporate antivirus, as for businesses, a personal level antivirus (which can be free) is not enough. Antivirus protects computers from malware (malicious software), which is designed to infiltrate the computer and cause damage such as espionage, duplicate information stored in files to crash the computer (this action is called a computer worm), scams in exchange for data recovery (ransomware), or have remote access to the computer (Trojan) among many other types of malware. In addition to antivirus to prevent this damage, companies must make their employees aware of the dangers that can arise from downloading programmes or files without knowing where they come from, or surfing the Internet on unsafe websites.

Another measure that increases the security of devices is to update all software and operating systems to the latest version. Recent versions of these programs also update the defence systems and make it more difficult for hackers to enter the device than when it is not updated because they have more knowledge of the older versions because they have been on the market for longer.

Attacks can also occur via the connection to the router itself, from which the computer receives the wifi signal to connect to the internet. To avoid this, the connection must be encrypted; some encryption is obsolete, so it is also necessary to obtain effective encryption, the most convenient being WPA2 encryption. You also need to change the router's default username and password, because they have been leaked and found on the internet.

Working in places where you share physical space and wifi network (such as coworking spaces) with people outside the company can also be dangerous. To avoid eavesdropping via the wifi connection, it is advisable to use a virtual private network, so

that all data is encrypted via VPN. When leaving the workplace, the device should also be locked, even if it is only for a short time, to prevent data from being stolen manually. Using corporate services for everything related to work is highly recommended, as performing actions via email, cloud or other applications with personal accounts exponentially increases the chances of information being leaked. In addition, corporate services have better security systems and it is much easier for the company to recover lost information.

8. FINAL REFLECTION AND CONCLUSION

In conclusion, it seems that teleworking is here to stay in Spanish companies. Two years ago it would have seemed unthinkable and very long term, but the pandemic caused by Covid-19 has accelerated its implementation exponentially.

Based on what we have seen throughout the work, it seems that its implementation can have good repercussions for workers, business owners and society in general.

Workers save the time and hassle of commuting to the workplace and can have a better work-life balance, which in recent times had increased the gap, resulting in problems for workers. For business owners the implementation is also very positive, possibly the ones who benefit the most from teleworking, due to the savings on many high costs such as rent, office furniture, etc. The Pestel analysis shows the great opportunities for the company and the few threats that may arise from its implementation. And for society, the main benefit that can be obtained is the reduction of traffic and the consequent drop in pollution, especially in large cities where the traffic related to commuting used to collapse the main roads.

Although it is not all positive, working alone at home can lead to a feeling of loneliness among employees, which can be detrimental in the long run due to a lack of motivation and commitment to the company. Companies have to design an effective plan to be able to telework, it is not enough just to send workers to work at home, and in many cases its implementation will have an impact on added costs such as the online platform needed to telework. In society, the most affected are hoteliers whose main customers are the workers who come to the physical workplace.

Putting all these issues in balance, it seems that telework will have many more supporters than detractors. Before the pandemic, workers were probably reluctant to implement telework, but after this period of almost obligatory implementation, the population has changed its vision, as reflected in the workers' satisfaction surveys.

In my personal opinion, before doing this job I had many doubts about whether it was beneficial or not, but after doing this job I have realised the many advantages it offers, the only point for which I think it can be counterproductive is the decrease in interactions with other employees and superiors, which although there are technological means to make up for it, I believe that on certain occasions they are not sufficient. I think that the mixed model between teleworking and face-to-face work is going to be a very popular formula in the short term and many companies will use it to carry out their working days, and it is already being put into practice in many companies.

9. FUTURE WORK

For future work it would be appropriate to look at the medium and long term results of teleworking, as currently only short term results are available and may differ. It would be interesting to know whether the good results are sustained or whether they have only been due to the novelty effect and the uncertainty that has led workers to do their utmost to avoid losing their jobs, at such a difficult time for the country's economy.

It would also be interesting to delve even deeper into the social impact of workers. And on the environmental issue, it would be interesting to look more closely at the carbon footprint caused by computers and internet connection, as it is not a relevant type of pollution at the moment, but the increase in recent years could be worrying.

And finally, the inclusion of Industry 4.0 in teleworking, how it would be carried out and whether it would be even more feasible to telework, as everything is more automated and robotised. As currently in industry in general, it is a sector where teleworking is not easy to implement and the arrival of these new production processes could open the door to teleworking.

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