

## Remote work and teleworking as a new work scenario implemented in public management: A literature review.

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**Abstract.** The bibliographic review in analysis, is oriented to remote work and telework in public management, in which a database of 303 publications of Scopus was used, thus obtaining the corresponding bibliometry. Then, the study proceeded to limit the most relevant papers, using a data of 98 documents between original papers and systematic literature reviews. The results that are shared allow to know the importance of the topic under study, such as the obligation of SUNEDU in readjusting the requirements for the licensing of universities that provide distance education. The importance of the expression of emotions of people who perform remote work through words in different social media, generate that people better organize their professional work with their personal life, and also, thanks to the development of ICT, smartphones allow to integrate the above mentioned and reduce time in daily activities that are performed in person. Thus, due to the pandemic, there has been an increase in publications with a wide diversity of subject areas such as social sciences, administration, computer science, engineering, psychology, medicine, among others. For the analysis of the state of the art, globalization has been identified as initial topic, followed by the impacts of teleworking, human resources management, the theory of the work process, the importance of virtual training for professional development, the analysis of the approach of Big Data in social media and the balance between personal and professional life of teleworkers.

**Keywords:** *remote work, telecommuting, public management, human resource management, training, social media, pandemic.*

**Resumen.** La revisión bibliográfica en análisis, está orientada al trabajo remoto y teletrabajo en la gestión pública, para ello, se ha utilizado una base de datos de 303 publicaciones de Scopus, realizándose así la bibliometría correspondiente. Luego se procedió a limitar los artículos más relevantes, utilizándose así una data de 98 documentos entre artículos originales y revisiones sistemáticas de literatura. Los resultados que se comparten, permiten conocer la importancia del tema investigado, como la obligación de la SUNEDU en reajustar los requerimientos para el licenciamiento de universidades que brindan educación a distancia; la importancia de la expresión de emociones de las personas que realizan trabajo remoto a través de palabras en diferentes medios sociales; generar que las personas organicen mejor sus labores profesionales con su vida personal, y además, gracias al desarrollo de las TIC, los smartphones permiten integrar lo anteriormente mencionado y reducir tiempo en las actividades cotidianas que se realizan de manera presencial. Es así que,

debido a la pandemia se ha incrementado las publicaciones con una amplia diversidad de áreas temáticas como las ciencias sociales, administración, ciencias computacionales, ingeniería psicología, medicina, entre otros. Para el análisis del estado del arte se ha identificado como tema inicial a la globalización, seguido de los impactos que trae el teletrabajo, la gestión de los recursos humanos, la teoría del proceso de trabajo, la importancia de las capacitaciones virtuales para el desarrollo profesional, el análisis del enfoque del Big Data en los medios sociales y el equilibrio entre la vida personal y profesional de los teletrabajadores.

**Palabras Claves:** Trabajo remoto, teletrabajo, gestión pública, gestión de recursos humanos, capacitación, medios sociales, pandemia.

## INTRODUCTION

Since December 2019, the coronavirus disease (COVID-19) appeared in Wuhan and began to spread uncontrollably throughout the world, resulting in a pandemic that currently remains uncontained. Thus, nationally and globally, the governments of different countries were forced to take extreme measures to contain the spread of the virus, generating an economic downturn in each country.

In order to keep economies from further weakening, private companies and government entities began to implement remote work / teleworking as economic sectors were reactivating.

In the public sector, it is still a challenge to adapt to social, administrative and technological changes. As an example of this, in Chile, where the National Institute of Industrial Property (INAPI) which in 2019 had 185 workers, so they carried out the telework modality in 2017 reducing the working day up to 10% (Maximiliano, 2019).

Remote work is understood as the collective experience with respect to the fundamental principles and rights of work, in order to ensure the welfare of workers and business development, allowing at the same time improving the internal relationship, ensuring better working conditions, increasing productivity and salary, and therefore, allowing the development of a concerted culture in progress, prior agreement between worker and employer (Rueda & Vega, cited in Sierra Benitez, 2014).

The present research is developed through a systematic exploration of the existing literature in order to address at an empirical level on the implementation of remote work / teleworking and their results, especially in the public sector. In addition, this review shares the results based on bibliometrics and semantic analysis.

This review begins with a summary of the research process and its results that have been obtained, continuing with the introduction, where it is taken as an example of a result of the adaptation of teleworking in a Latin American country, as well as the conceptual precision of remote work. Then, the methodology is presented, with emphasis on bibliometrics, to continue with the results of the systematization, ordered in the evolution of publications, by countries, authors, types of publication and areas of interest in the subject, and finally the respective conclusions.

## METHODOLOGY

For the present review, the bibliometric method was used to perform the exploration systematically and in a deep way about remote work / teleworking as work scenarios in public management. Regarding the mentioned method, for Broadus, 1987 and Pritchard (1969, cited in Cancino et al., 2017) "Bibliometrics is the field of library and information science research that studies bibliographic material through the use of quantitative methods" (p. 7)

Bibliometrics is a working method that is currently being used frequently to carry out various analyses on the state of the art of phenomena, since it allows information to be classified according to criteria and categories of analysis such as the historical evolution of studies, sources, countries, authors, among others.

Decades ago, the time used to classify the data was very long, since the information that was collected was done manually, and thanks to globalization and the development of ICT, nowadays, the data can be processed in a better way, obtaining more accurate and reliable information (Ding et al. 2014; Garfield, 1955 and Merigó et al. 2015b, as cited in Cancino et al., 2017).

For the search for information on remote work/teleworking in public management, was conducted through a search protocol in the Scopus database. The argument that was used is as follows:

(TITLE-ABS-KEY ("remote work") OR TITLE-ABS-KEY ("teleworking") AND ALL ("Public") AND ALL ("management")), making 303 documents available.

A bibliometric analysis of the evolution of publications per year, per author, per area of knowledge and per country was carried out with the available documents.

The export of the data in RIS format made it possible to integrate the information into the VOS Viewer1 program, with which the analysis of co-occurrences of the key terms was carried out, as an exploration of the subject associated with remote work / teleworking.

In order to analyze the state of the art in greater detail, further filtering of the data was performed, including the language of publication, types of publications and the most recent years. The search argument used for this purpose is as follows:

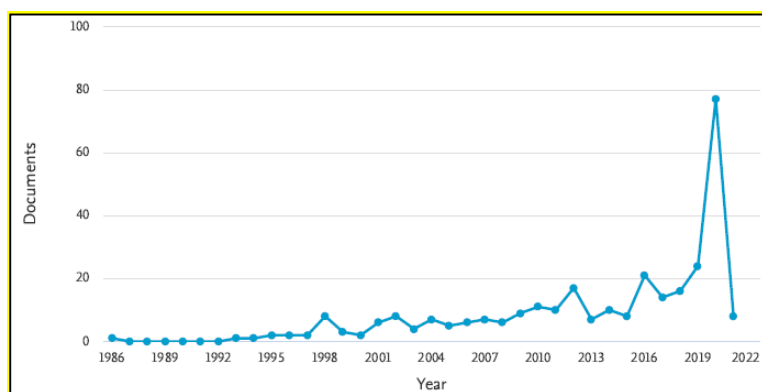
( TITLE-ABS-KEY ( "remote work" ) OR TITLE-ABS-KEY ( "teleworking" ) AND ALL ( "Public" ) AND ALL ( "management" ) ) AND ( LIMIT-TO ( PUBYEAR , 2021 ) OR LIMIT-TO ( PUBYEAR , 2020 ) OR LIMIT-TO ( PUBYEAR , 2019 ) OR LIMIT-TO ( PUBYEAR , 2018 ) ) AND ( LIMIT-TO ( DOCTYPE , "ar" ) ) The filters in the search protocol mentioned above, allowed to focus the data on 98 documents of higher relevance for the analysis.

For the more detailed semantic analysis and the drafting of the state of the art, the semantic map obtained with the VOS Viewer program was used to generate networks with the researcher's a priori categories and those that emerged from the systematic reading of the documents.

## RESULTS

### Bibliometrics of remote work / teleworking.

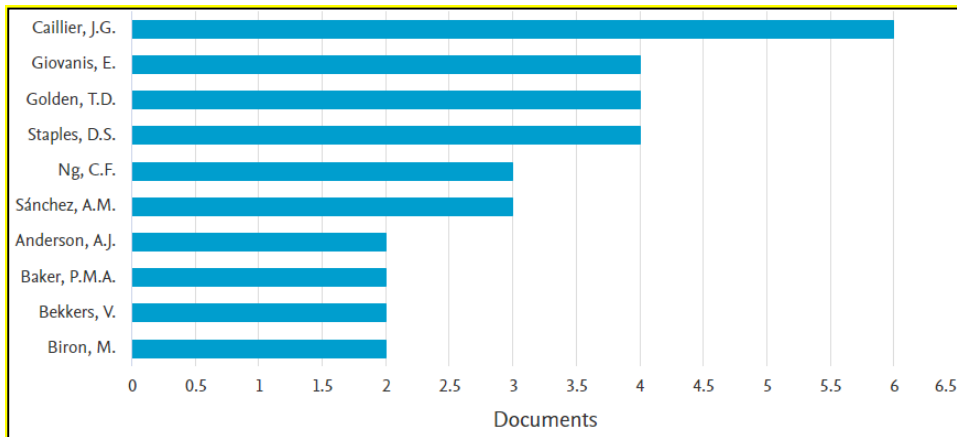
Figure 1 shows the evolution of the approach to remote work / telework in public management within the Scopus database from 1986 to the present, noting that since 2016 21 documents were published, in 2019 increased by 24 (+3) and in 2020 due to the pandemic of COVID-19 grew by 77 (+53) published documents, so, in my personal opinion, it is expected that in 2021 publications will increase.



**Figure 1.** Documents published by year

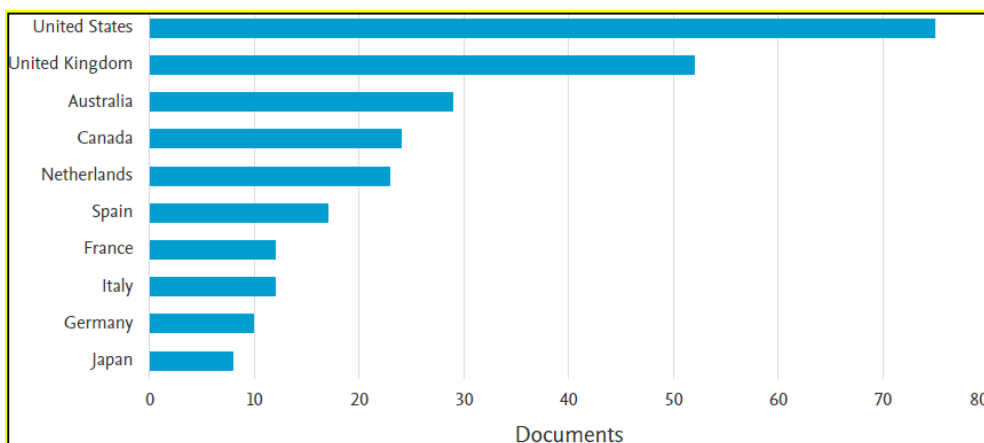
Source: Scopus database

Figure 2 shows the distribution of the authors, highlighting Caillier, J.G. as the author with the highest number of publications, followed by Giovanis, E., Golden, T.D. and Staples, D.S. with an equal number of publications.



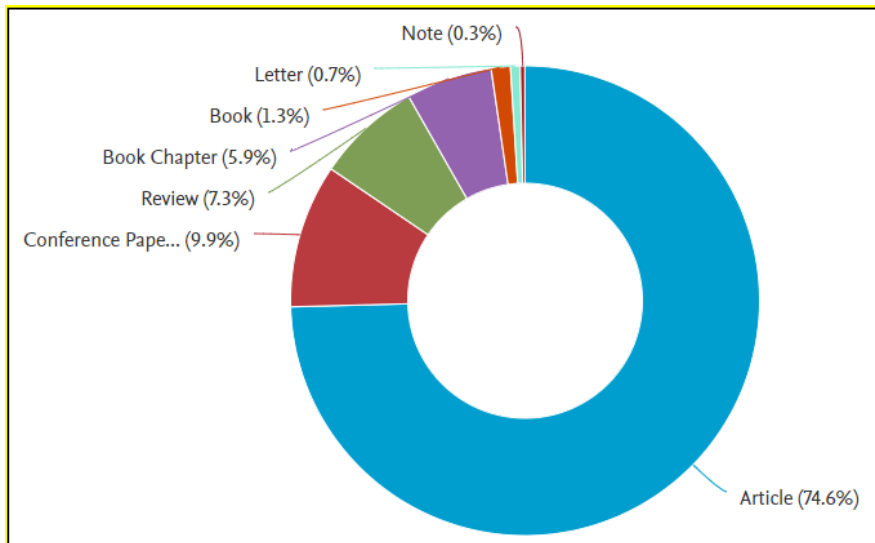
**Figure 2.** Documents published by author  
Source: Scopus database

Figure 3, which shows the number of documents published by country, shows that the United States has published the largest number of documents, followed by the United Kingdom, Australia, Canada, the Netherlands, Spain, France, Italy, Germany and Japan.



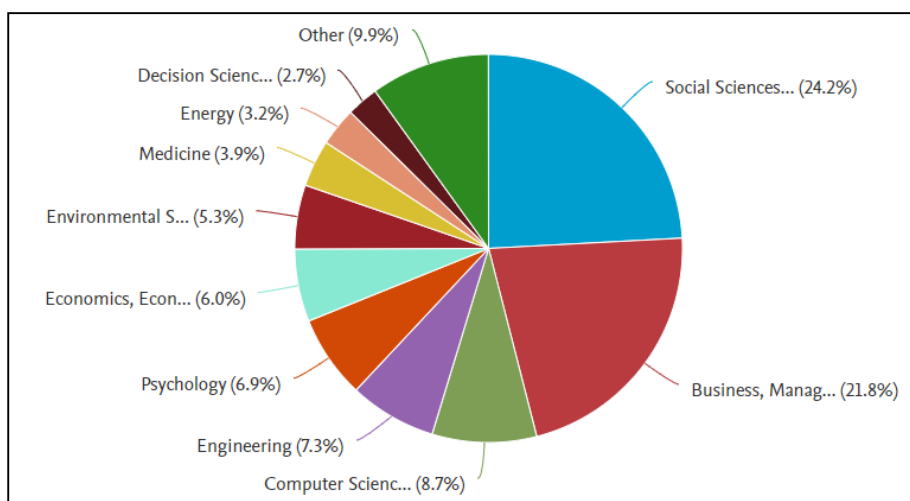
**Figure 3.** Documents published by country / territory

Figure 4 shows a pie chart on the type of documents published, stating that 74.6% of published documents are presented as original articles, followed by conference papers, literature reviews and book chapters.



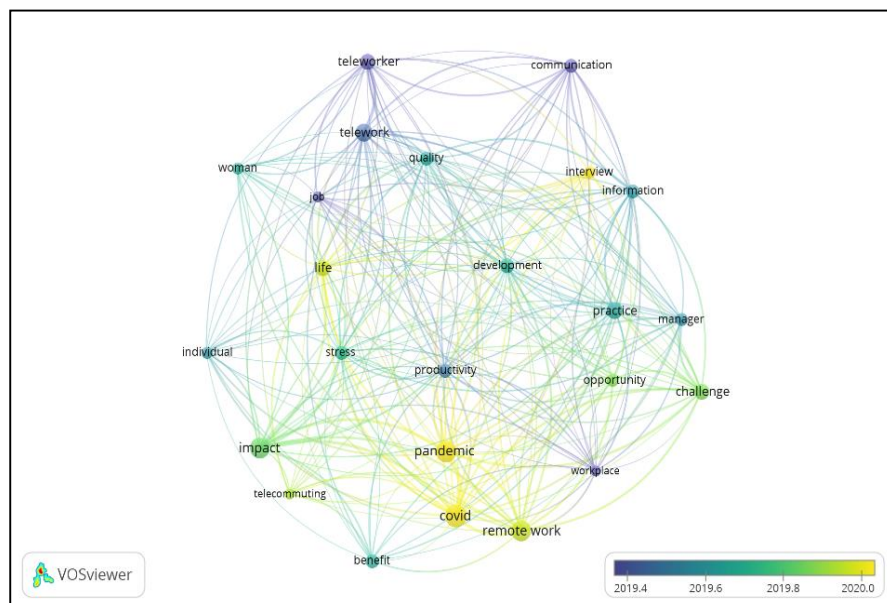
**Figure 4.** Documents published by type of document  
Source: Scopus database

Figure 5 shows the areas of study that have led to publications, with 24.2% in the area of business sciences, followed by 21.8% in the areas of business, management and accounting.



**Figure 5.** Documents published by subject area

Figure 6 shows a visual scheme of a network of nodes based on the key terms found in the publications of the Scopus database. In addition, as can be seen, the greatest evolution or development that has been possible was from 2019 and taking as a peak in 2020 with the appearance of the COVID-19 pandemic.



**Figure 6.** Semantic map with evolution

Source: Own elaboration

### Theoretical models.

#### Globalization.

Nowadays, digitalization has grown in the world by leaps and bounds, all thanks to globalization. But the latter has not only been beneficial for private companies, but also for the public sector, in order to provide better services to users, this due to the change from a mechanistic perspective to a more organic one, generating the development of more flexible structures ( Pulley and Sessa, 2020, cited in Contreras et al., 2020). Thus, thanks to information and communication technologies, telework was born worldwide, positioning itself in different sectors such as the service industry, which comprises the largest overall percentage of the workforce working remotely (17%), followed by the health industry (12%), the finance and insurance industry (10%), the manufacturing sector (8.5%), and the education industry (7.5%) ( He et al., 2020, cited in Contreras et al., 2020).

#### Impact of teleworking.

Hook et al. (2020) describe telework as a form of work "*full or part-time, from home, from a "telecenter" located near home, or from other locations*" (p.3). In addition, in relation to the pandemic that is currently being experienced since 2020, has led to be the best alternative to have a paid job and protect the health of the worker and his family.

The concept of telework has not been embraced since 2000 or since the 1990s, so Mokhtarian (1997) mentions that telework dates back to 1960 with the use of telephone and fax, with the purpose of freeing workers to travel every day to their work center (cited in Hook et al., 2020).

#### Impact of telework on workers in times of COVID-19.

COVID-19 has led to severe measures being taken in all economic sectors, and millions of people worldwide have lost their jobs.

Another of the impacts brought about by the pandemic of COVID-19 are the physical and mental problems, among others, so the authors Rodriguez-Nogueira et al,(2020), analyzed the impact of musculoskeletal pain and telework in university workers, where one of the results they obtained was that the pain was reduced in the time they were confined and teleworking, also modified their habits, frequency and types of activities (p.8), but in women it turns out to be the opposite, since those who work on computers suffer more musculoskeletal pain (p.9). In addition, he relates these two results to the

"morbidity paradox", which explains or gives the reason why men die younger than women, but women live longer, but with worse health than men.

### **Human resource management in the digital economy.**

As technology has evolved, it has allowed people to get closer, so at work it has helped to establish better personal relationships between colleagues, bosses and/or subordinates.

Thus, employers can achieve the flexibilization of work activities (administrative or operational), i.e. measure the performance of hired workers, time variants, and workplaces (Kalleberg, 2001, cited in Donnelly & Johns, 2020).

### **Theory of the work process.**

The authors Donnelly & Johns (2020) mention that this theory adopts a critical perspective on developments. In addition, it argues that owners and managers of human capital try to control the organization of work to improve the value they are able to extract from human resources. In addition, by performing good human resource management, a good instrumental role can be played in the work process (Thompson and Smith, 2010, cited in Donnelly & Johns, 2020).

### **Impacts related to mental health.**

Remote work and teleworking have not only generated physical problems, but also a large number of people had psychological or mental health problems, so a study found that working from home can bring negative or positive impacts depending on the home environment, organizational support and social connections outside of work. In addition, stress plays an important role, and according to the results of the study conducted, they obtained that people who perform remote work at a low intensity, experienced greater stress from work overload and not having total privacy, due to the complexity of the technology (Oakman et al., 2020)

### **Virtual training/study as a new development alternative.**

As has been described in this literature review, ICT has been the main tool to apply new management processes and/or new ways of working in the face of the COVID-19 pandemic, so it is also being much more widely used to keep developing as a professional.

In public entities or private companies to maintain the coordination "face to face" or in Spanish "cara a cara", has had to adapt to the tools of Zoom, Meet, Skype, MS Teams, among others, leading to have a success in millions of users, such as workers and employers, as well as students and teachers (Wrycza & Maślankowski, 2020).

In Peru, virtual or distance education was discouraged by SUNEDU, due to the licensing of universities, but due to the COVID-19 pandemic and the opportunity offered by ICTs for development, it was forced to make adjustments for universities (public and private) to expand their educational services with various requirements<sup>1</sup>.

### **Big Data approach to social media.**

In one country, a research was conducted on "Big Data" in social media (twitter), where it analyzed sentiments, emotions and themes during the COVID-19 pandemic, so it was classified as Business Intelligence & Analytics 2.0 using a descriptive diagnostic, predictive or prescriptive method (Bojja et al., 2020, cited in Thulin et al., 2019).

For the Big Data analysis, four periods of tweets related to remote work (500 thousand tweets) were taken as a base, obtaining as a result that twitter users started to talk more about remote work (7,382 tweets with an average of 713 per day) in the period of confinement that was taken in the world, and were related to the ups and downs of the COVID-19 results, so users (in English) used the phrase #remotework, the latter known as hashtag, in addition common words such as "work at home", "new job", "digital nomad", among others were accompanied (Thulin et al., 2019).

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<sup>1</sup> RPP. Retrieved from <https://rpp.pe/peru/actualidad/sunedu-realizara-ajustes-a-normativa-sobre-educacion-superior-a-distancia-noticia-1277647>

Thus, social media is an important tool to take into account when approaching employees who work remotely (outside the company), since the vast majority of people express their emotions (positive or negative) using different phrases and it is good to know them as employers.

### **Extensions of teleworking / remote work.**

Telework or remote work, in the world has been practiced before COVID-19 but at a medium pace, but with specific activities, and for a short time. Once COVID-19 appeared, it became more relevant for private companies and state entities, since currently, most workers perform this type of paid work, making their functions more flexible, leading to a restructuring in society and the labor market.

The group of researchers through their literature review, mention that the trend of teleworking has brought positive results for companies in efficiency, reduction of infrastructure costs, reduction of absences and make more efficient hiring, this due to innovation and technological changes, in addition to that new tasks or functions have been introduced, improved supervision and remote control, so it has been able to categorize "old" workers and "new" workers with various investigative and administrative functions respectively. Furthermore, in the results obtained by the researchers, they were able to confirm that *"remote work is increasingly common among civil servants with comparatively routine and standardized work tasks that were previously closely linked to the regular workplace, but are now digitized and can be carried out from home"* (P.8). Furthermore, he concludes that smartphones play a very important role in the digital transformation, as it integrates work life with private life, thus allowing them to better control their time, also allowing them to work with less hassle, with more efficiency and avoiding constant commuting, thus facilitating their daily lives (Thulin et al., 2019).

### **Work-life balance of teleworkers.**

In a published paper, Romanian researchers explain that through various studies related to telework, a common theme is the autonomy of performing their activities, as it allows workers to obtain efficient solutions, always supported by their organizations, since they can establish when, how and where to work, thus allowing them to organize in a better way their daily activities, and keep them in balance with family duties (Dima et al., 2019, p. 2).

Therefore, teleworking is the best alternative for workers to better perform their activities in a more professional way from anywhere, without being within the organization, without neglecting family duties, and companies/entities will be able to allocate infrastructure costs to other investments or expenses to provide a better service.

López-Igual & Rodríguez-Modroño (2020) mention in their research results that men are strongly related to telework, while women (31% less than 99%) reduce the possibilities of teleworking. In addition, they indicate that the status they have within the organization has a strong influence, highlighting the managerial and professional positions. Therefore, workers with part-time contracts are 38% less likely to telework. They also conclude that age, having children, living with a partner and living in a rural area are not significantly correlated with occasional teleworking (p. 10).

## **CONCLUSIONS**

Globalization has not only been beneficial for private companies, but also for the public sector, in order to provide better services to users, due to the change from a mechanistic perspective to a more organic one, generating the development of more flexible structures.

The concept of telework is not covered since 2000 or since the 90s, so Mokhtarian (1997), mentions that telework dates from 1960 with the use of telephone and fax, in order to free workers to travel every day to their work center.

Employers can achieve the flexibilization of work activities (administrative or operational), i.e. measure the performance of hired workers, time variants, and workplaces.

Working from home can have negative or positive impacts depending on the home environment, organizational support and social connections outside of work.



In Peru, virtual or distance education was discouraged by SUNEDU, due to the licensing of universities, but due to the COVID-19 pandemic and the opportunity offered by ICT for development, it was forced to make adjustments for universities (public and private) to expand their educational services with various requirements.

Social media is an important tool to take into account when approaching employees who work remotely (outside the company), since the vast majority of people express their emotions (positive or negative) using different phrases and it is good to know them as employers.

Smartphones play a very important role in the digital transformation, as they integrate work life with private life, allowing them to better control their time, as well as allowing them to work with less hassle, more efficiently and avoiding constant commuting, thus facilitating their daily lives.

Teleworking is the best alternative for workers to better perform their activities in a more professional manner from anywhere, without being within the organization, without neglecting family duties, and companies/entities will be able to allocate infrastructure costs to other investments or expenses to provide a better service.

## REFERENCES

1. Contreras, F., Baykal, E., & Abid, G. (2020). E-Leadership and Teleworking in Times of COVID-19 and Beyond: What We Know and Where Do We Go. *Frontiers in Psychology*, 11(December), 1-11. <https://doi.org/10.3389/fpsyg.2020.590271>
2. Dima, A. M., Tuclea, C. E., Vrâncanu, D. M., & Tigu, G. (2019). Sustainable social and individual implications of telework: A new insight into the Romanian labor market. *Sustainability (Switzerland)*, 11(13). <https://doi.org/10.3390/su11133506>. <https://doi.org/10.3390/su11133506>
3. Donnelly, R., & Johns, J. (2020). Recontextualising remote working and its HRM in the digital economy: An integrated framework for theory and practice. *International Journal of Human Resource Management*. <https://doi.org/10.1080/09585192.2020.1737834>
4. Hook, A., Court, V., Sovacool, B. K., & Sorrell, S. (2020). A systematic review of the energy and climate impacts of teleworking. *Environmental Research Letters*, 15(9). <https://doi.org/10.1088/1748-9326/ab8a84>. <https://doi.org/10.1088/1748-9326/ab8a84>
5. López-Igual, P., & Rodríguez-Modroño, P. (2020). Who is teleworking and where from? Exploring the main determinants of telework in Europe. *Sustainability (Switzerland)*, 12(21), 1-15. <https://doi.org/10.3390/su12218797>. <https://doi.org/10.3390/su12218797>
6. Maximiliano, T. A. (2019). *Evaluation and quantitative analysis of the teleworking system implemented at the National Institute of Industrial Property (INAPI)*. <http://repositorio.uchile.cl/handle/2250/171774>
7. Oakman, J., Kinsman, N., Stuckey, R., Graham, M., & Weale, V. (2020). A rapid review of mental and physical health effects of working at home: how do we optimise health? *BMC Public Health*, 20(1), 1-13. <https://doi.org/10.1186/s12889-020-09875-z>.
8. Rodríguez-Nogueira, Ó., Leirós-Rodríguez, R., Benítez-Andrades, J. A., Álvarez-Álvarez, M. J., Marqués-Sánchez, P., & Pinto-Carral, A. (2020). Musculoskeletal Pain and Teleworking in Times of the COVID-19: Analysis of the Impact on the Workers at Two Spanish Universities. *International Journal of Environmental Research and Public Health*, 18(1), 31. <https://doi.org/10.3390/ijerph18010031>. <https://doi.org/10.3390/ijerph18010031>
9. Sierra Benitez, E. M. (2014). *Good and or bad legal-labor practices in teleworking as a formula for the implementation of remote work in private companies*. [https://idus.us.es/bitstream/handle/11441/43995/Buenas and or bad practices....pdf?sequence=3&isAllowed=y](https://idus.us.es/bitstream/handle/11441/43995/Buenas_and_or_bad_practices....pdf?sequence=3&isAllowed=y)
10. Thulin, E., Vilhelmson, B., & Johansson, M. (2019). New telework, time pressure, and time use control in everyday life. *Sustainability (Switzerland)*, 11(11). <https://doi.org/10.3390/su11113067>. <https://doi.org/10.3390/su11113067>
11. Wrycza, S., & Maślankowski, J. (2020). Social Media Users' Opinions on Remote Work during the COVID-19 Pandemic. Thematic and Sentiment Analysis. *Information Systems Management*, 37(4), 288-297. <https://doi.org/10.1080/10580530.2020.1820631>.