



Review

# Navigating Uncharted Waters: Exploring Leaders' Challenges in the Era of COVID-19 and the Rise of Telework

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**Abstract:** This paper presents a systematic literature review of the challenges faced by managers during COVID-19, with a focus on teleworking. The study consists of an analysis of 53 articles published in the period 2020–2023 in journals indexed in the Elsevier's Scopus and Clarivate Analytics' Web of Science databases. The inclusion criteria were: (1) peer-reviewed articles; (2) empirical articles; (3) written in English. Five themes were identified: Leadership Styles, Organizational Support and Communication, Telework Productivity, Challenges Related to Telework, and Leaders' Attitudes Towards Telework. The positive results show that telework can improve work performance with the right equipment, training, and leadership. Telework can also improve sustainability by limiting commuting and providing decent work with greater autonomy and flexibility. The paper concludes with recommendations for future research on this topic.

**Keywords:** telework; remote work; working from home; leaders; COVID-19; pandemic; literature review; sustainability

## 1. Introduction

The world was taken by surprise in early 2020 when the COVID-19 pandemic emerged as a health crisis. The impact on companies was overwhelming and managers were faced with crisis management. This led to the closure of many companies, while in others production was slowed down or stopped altogether for safety reasons. In many cases, productivity fell as workers were absent, morale fell, and anxiety rose [1]. To keep operations running, services and sales were shifted to online platforms. As a result, millions of employees worldwide had to adapt to working from home or teleworking [2,3]. Telework, also known as remote work, refers to the ability of an employee to perform work either entirely or significantly from a location other than the employer's physical workplace, using technology to communicate with the employer [4]. Due to the introduction of lockdown and social distancing, teleworkers had to swiftly and with little to no planning adapt to a new method of working, which was unprecedented [5]. It is unlikely that firms will completely return to their pre-pandemic working norms, even though the long-term repercussions of this dramatic transition are still unknown. Many professionals anticipate that remote or hybrid work will be common in future workplaces [6]. As they benefit from the benefits and flexibility of telework, businesses are likely to continue to research and implement cutting-edge strategies to maximize telework productivity and employee satisfaction.

These circumstances present significant challenges and uncertainties for leaders. They are now faced with the task of making decisions under highly unpredictable conditions and adjusting their communication methods with employees. Face-to-face interactions have been replaced in the pandemic with information technology solutions like email, instant messaging, and video conferencing [7]. Additionally, leaders had to support staff as they themselves adapted to these new communication tools to retain efficiency with these new tools [8]. To prevent employee burnout brought on by the blending of work and personal life, leaders must adopt new strategies to inspire employees to achieve goals and objectives



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and to maintain a healthy work-life balance. Traditional leadership tactics are less likely to be successful in this context since productivity rather than hours worked at the site can now be used to gauge success [9]. Additionally, leaders must help staff members with technology and arm them with the tools needed for efficient remote work.

Working from home can assist us in achieving some of The United Nations sustainable development goals (SDG). Telework can in times of crisis maintain employment relationships and lower unemployment, therefore reducing hunger (SDG #1) [10]. That was the case among women in Africa and the Middle East, who were less likely to lose their jobs due to telework [11]. Teleworking can lessen road congestion and commuting, which will enhance air quality. That has to do with well-being (SDG #3) [12], and environmentally friendly cities (SDG #11) [13]. Teleworking allows for job enrichment since it allows for greater autonomy and flexibility, which can increase job satisfaction and give many employees and leaders decent work (SDG #8) [12,14]. The choice of work locations is likewise more flexible for teleworkers [15]. A comprehensive literature review shows that most studies on sustainable development goals focus on SDG 1, 2, and 3, mainly by environmental scientists and green sustainable science technologies. Management studies on sustainability are limited compared to the former disciplines [16]. The authors call for more research on green products and services, inclusion, and well-being, and improving renewable resources, among others.

Edvardsson and Durst [3] discovered only one study on teleworking in their literature review on the impact of various crisis types on human resource management, which is why they recommended greater research on the subject. More studies on teleworking have since been conducted [5,17,18]; however, they only consider the perspective of the employee. Considering how little has been written on leaders and telework, a review of the literature is therefore necessary.

The aim of this paper is to evaluate pertinent literature regarding the difficulties that leaders encountered during the COVID-19 epidemic when workers were suddenly required to work from home. According to the paper's objective, this will be accomplished by systematically reviewing pertinent papers and subsequently illuminating the following research questions:

- What has been studied about the telework-related problems faced by leaders during COVID-19?
- What are the research's primary conclusions?
- Are there any gaps in the existing literature that would warrant further study?
- Which research techniques were applied?

The following is the structure of the paper. It begins with a theoretical foundation. The procedure for the literature review is then presented. The key conclusions of the analysis are then provided. A discussion and conclusion round up the paper.

## 2. Theoretical Background

#### 2.1. Employees and Telework

Prior to the pandemic, studies showed that teleworking has both benefits and draw-backs. Flexible work schedules and perceived autonomy are benefits for the staff, which can boost job satisfaction [14] and reduce turnover [19,20]. Additionally, research on telework in non-pandemic settings has shown that businesses benefit from increased productivity and decreased absenteeism [21,22]. Flexibility is one of the most notable benefits of telecommuting, as it enables employees to use that time for leisure activities rather than commuting [23,24]. However, it can also make it harder for employees to discriminate between work and personal life [24]. Employees who have greater control over their work tend to put in longer hours, according to Peters et al. [25], which can have a detrimental impact on work-life balance. In addition, telework can increase social isolation [26]. The drawbacks of teleworking need to be considered in organizational policies.

The current study examines the association between leadership and employee wellbeing, with a specific focus on the impact of telework. Prior to the pandemic, research Sustainability **2023**, 15, 16471 3 of 24

findings suggested that the degree of remote work could influence this relationship, suggesting that the extent of telework may affect the correlation between leadership and employee well-being [27]. Skakon et al. [28] and Weber et al. [29] argue that there is a need for a more comprehensive understanding of how telework leadership is related to employee well-being and the specific circumstances under which this relationship is relevant. Similarly, Tanpipat, Lim, and Deng [30] discovered that workers' perceptions of organizational norms and support can enhance telework productivity and job satisfaction.

Employees' well-being while working remotely can be impacted by their emotional stability. Particularly, the increased autonomy that comes with teleworking is likely to benefit individuals with higher levels of emotional stability, improving well-being. However, remote employment can exacerbate physical, social, and psychological stress for individuals with weaker levels of emotional stability [31]. Wang et al. [32] noted that working from home might lead to troubles at work spilling over into employees' personal lives, leading to tiredness and stress. Teleworkers may also find it more challenging to comprehend the goals and values of the organizational units they are a part of [33].

One issue with teleworking is that there are fewer in-person interactions, which are crucial for building social bonds [14,25]. As a result of less employee visibility, managers' support for them is viewed as being less [34]. While Nayani et al. [35] claimed that digital communication can have a similar impact to face-to-face communication, the amount of study on this topic is limited. Leadership theories are typically built on face-to-face interactions. On the other hand, Glikson & Erez [36] claimed that the absence of personal interaction is one of the major communication issues experienced by remote workers. Because of this, unpleasant feelings may be repressed rather than expressed, which could lead to dissatisfaction and tension. Remote professionals may also rely more on textual forms of communication, which can lead to misinterpretation of the intended message and the conveyed feelings [37]. In this situation, the question of what steps managers should take to increase the chance of a successful deployment of telework, particularly during times of crisis, arises.

## 2.2. Leaders and Telework

From the beginning, leadership research has examined either the characteristics or the behavior of leaders, either without or with their followers. In recent decades, leadership research has focused on leadership styles such as transformational leadership, servant leadership, etc., with culture and leadership also playing a role [38]. Northouse's definition is as follows: Leadership is a "process whereby an individual influences a group of individuals to achieve a common goal" (p. 43). It is therefore not surprising that the focus of leadership and telework is on leadership styles that support employees in telework (see Table A1).

The well-known management theorist Henry Mintzberg [39] has analyzed the different roles that managers take on in organizations. These roles are the interpersonal role (figure-head, leader, liaison), the informational role (monitor, spokesperson, disseminator), and the decision-making role (entrepreneur, disturbance handler, resource allocator, negotiator).

Telework has a significant impact on all these roles, as we have already mentioned. Leaders must use digital platforms to strengthen teamwork, provide remote support, and preserve staff morale. Informational responsibilities are increasingly crucial in remote work environments. By monitoring remote team success using digital metrics and communication tools, managers serve as monitors [40]. As managers are required to enable open information exchange among geographically distributed teams, the role of disseminator becomes more important. Delfino and Kork [40] noticed that leaders tend to have more online meetings, while Kohont & Ignjatović [41] stress that online communication takes more time, and some information may be missing. When working remotely, decision-making positions become more complex. Kirchner et al. [42] conclude that remote working is a great challenge for managers in coordinating and collaborating with employees across distances. Managers who play the role of entrepreneurs must find digital tools and procedures that improve distance communication and innovation. Werder et al. [43] stress the importance

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of adaptability to the changing environment, especially in times of a pandemic, making strategic choices for telework vital. As disturbances can arise due to communication gaps, the role of a disturbance handler necessitates swift virtual conflict resolution. All these make the role of leaders more challenging, manifested in longer working hours and more stress [42,44].

The implementation of telework has revealed that leaders often exhibit hesitancy in adopting telework due to concerns about relinquishing control [45]. Wang [46] asserts that leaders prioritize outcome control as their primary concern, followed by behavioral control when considering their priorities in relation to telework. Similarly, a pre-pandemic study conducted on nearly 300 managers discovered widespread resistance towards allowing lower-level employees to engage in telework. Managers expressed apprehensions regarding trust, productivity, and potential underperformance [47,48]. However, it is important to note that not all leaders who previously utilized telework shared this emphasis on control. Carte et al. [49] recommended that leaders operating within a virtual environment should prioritize the cultivation of relationships among team members, facilitate easy access to information, support problem-solving endeavors, enhance the self-management capabilities of employees, and provide continuous motivation.

Numerous scholarly investigations have been conducted to examine the various obstacles and requisites for leadership during times of crisis in a broad context. However, the precise influence of telework on distinct leadership styles remains indeterminate. The advent of the COVID-19 pandemic has accentuated the importance of investigating effective leadership strategies that can adequately bolster the psychological well-being and productivity of teleworking individuals [50]. As leaders afford their employees greater flexibility and autonomy through telework arrangements, they must also be cognizant of the augmented responsibilities and workload that accompany this mode of work [51].

### 3. Materials and Methods

The main goal of this review is to provide direction for future research on telework and leadership issues. Its objective is to further analyze studies, classify them, look for themes, and identify gaps in our understanding. The systematic review was based on Jesson, Matheson, and Lacey [52] and the PRISMA 2020 guidelines with this objective in mind and predetermined literature search criteria [53].

#### Inclusion and Exclusion Criteria

The first stage was to create a research strategy and define the study's scope. The inclusion criteria were established after developing the study question. We chose peer-reviewed, English-language publications that were published between February 2020 and September 2023 and had the following keywords: "leadership", "COVID-19", "telework", and "working from home" in their keywords, title, or abstract. We selected English-language publications because the leading journals in the field are published in English, and it is common to produce literature reviews based on papers written in English (see [3,54]).

The two databases that were examined were Clarivate Analytics' Web of Science (WoSTM) and Elsevier's Scopus<sup>®</sup>. These databases comprise only research whose quality was confirmed by the peer review rule. Currently, these databases are the most commonly utilized tools to conduct literature reviews [55]. Finding publications using the Web of Science (WOS) and Scopus databases was the second stage. We found 182 papers using Scopus. The number of results decreased to 123 articles by restricting the search to only peer-reviewed, published literature. The Scopus result came to 77 publications after removing medical journals and excluding papers that were not in English. On WOS, the same criteria were applied, yielding 470 publications. The articles were combined into one file, and duplicates were removed, resulting in 519 papers.

Thirdly, the authors evaluated the titles, abstracts, keywords, and findings of the retrieved publications and screened them in accordance with the following criteria to discover the papers that were most pertinent to this review: (A) Is the article's main topic

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the remote work of employees during the COVID-19 pandemic? (B) Is management or leadership emphasized in the article? Articles that failed to meet both (A) and (B) were not considered for the review. There were 77 publications left after this procedure. A second exclusion was required after carefully reading the articles once again, leaving 53 publications for additional analysis. These papers reported on telework in public and private organizations.

The remaining 53 publications were categorized in the fourth phase, and the results were then entered into an Excel sheet. Subsequently, the papers were open-coded in the Excel spreadsheet, and upon further reading of the papers, they were then coded according to axial coding, and themes emerged in this way [56]. One of the authors did the initial coding, while the other author reviewed the coding and determined if there were any papers that should be omitted.

Writing up the results and outlining the key findings of each publication included the fifth and last stage. A virtual summary of the procedure is shown in Figure 1.

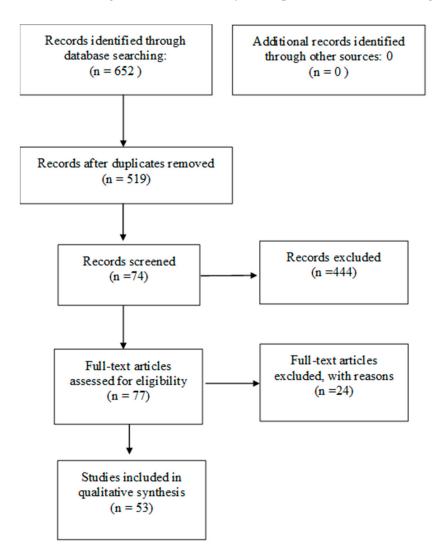


Figure 1. PRISMA 2009 Flow Diagram.

In essence, literature reviews do not involve any human interaction; therefore, the authors did not need permission from their university to perform their literature review. Nonetheless, they did follow academic standards for grammar, spelling, and punctuation errors.

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#### 4. Results

#### 4.1. General Observations

A total of 35 of the 53 papers included in the review were published in 2022, with the remaining 17 publications appearing in 2020, 2021, or 2023. The study discussed in these publications exhibits a notable geographic representation as it encompasses numerous nations from around the world, including Australia, Brazil, China, Denmark, Germany, France, India, Indonesia, Italy, the Netherlands, Poland, Scotland, Slovenia, South Korea, Saudi Arabia, Spain, Sweden, Taiwan, Thailand, the US, and Vietnam.

A wide variety of international peer-reviewed journals, including Advances in Decision Sciences, BMC Public Health, European Journal of Probation, Frontiers in Psychology, German Journal of Human Resource Management, Global Business Review, Journal of Asian Finance, Journal of Work and Organizational Psychology, Journal of Environmental Psychology, Economics and Business, Journal of Leadership & Organizational Studies, Knowledge Management Research & Practice, Leadership Quarterly and Organizational Dynamics, were found to have published the papers reviewed in this review.

## 4.2. Research Methods Applied in the Papers

The research reported in the review of the literature employed a range of research designs and methodologies, including focus groups, and collected data via surveys or interviews (see Table 1). 66.0 percent of the research in the publications employed surveys, compared to 34.0 percent that used other research techniques.

Qualitative	Number	Percent
Interviews	7	13.2
Focus groups	3	5.6
Written feedback/diaries	1	1.9
Quantitative		
Survey, questionnaire	35	66.0
Experiments	2	3.8
Mixed Methods	2	3.8
No information	3	5.6
Total	53	100.0

Table 1. Research methods used by scholars focusing on HRM in crises.

#### 4.3. Themes

Five key themes emerged from the thematic analysis: leadership during COVID-19, communication and support, productivity during COVID-19, challenges of teleworking, and leader's attitudes toward teleworking. Twenty-three of the fifty-three publications were related to leadership style.

### 4.3.1. Leadership during COVID-19

As already noted, 23 papers focused on leadership styles during COVID-19. The findings show that organizational leadership has been significantly impacted by the COVID-19 epidemic (see Table A1 in Appendix A). Organizational relationships have been impacted by the epidemic in both positive and negative ways, including factors like uncertainty and worry [57,58]. According to Chen and Sriphon [59], to modify one's leadership style and become a remote leader, one must learn and adapt to new ways of doing things. The deployment of telework during the COVID-19 crisis may not have been as successful as it could have been due to the challenges of making crucial changes in leadership behaviors during a crisis, particularly in delegation [60].

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Coun et al. [61] discovered that the leadership style selected had a significant impact on the workflow among innovative employees. Workflow benefited from empowering leadership, whereas direct leadership had the opposite effect. A related theory was tested by Garretsen et al. [62]. According to their research, telework caused a spike in directive leadership between March and June 2020. The results were different, though, during the COVID-19 crisis's second phase, which lasted from March to December 2020. The researchers noticed an increase in participative leadership but no significant change in directive leadership. Caniëls [63] investigated the link between virtuous leadership practices, emotional vitality, and physical fortitude. According to the findings, those who have worked with their boss for a longer period experience the favorable effect even more strongly [63].

By implementing more effective management techniques, including authentic leadership, managers can meet or even surpass their goals and boost employee commitment to telework, as shown by Monzani et al. [64]. Chen & Sriphon [58,59] conducted two studies on the actions of leaders and the impact of authentic leadership on telework during the COVID-19 epidemic. The first study showed that authentic leadership has a positive impact on social interaction and trust. Subsequently, they showed that authentic leadership not only has a positive impact on social interaction and trust but also that social exchange relationships have a positive impact on trust, building on their earlier research and reinforcing the initial findings.

Organic leadership has a favorable effect on organizational behavior and trust in leaders, claim Liu et al. [65]. Liu et al. (p. 4) define organic leadership as "a natural, motivating, compelling, relaxed, inspiring model of hard work, creativity and innovation, and fun". Additionally, when followers exhibited anti-prototypical characteristics, organic leadership had a higher impact on trust and organizational behavior. By examining follower behavior as well as leader conduct, the study offers a fresh viewpoint on employee behavior. According to the paper, companies should place more emphasis on effective followership than just leadership.

Herzog-Evans and Sturgeon [66] provided evidence based on leadership theories and self-determination theory that effective crisis managers are those who use a servant leadership approach by putting their employees' basic needs first while also reducing their levels of uncertainty. In a similar manner, empathetic, transformational and inclusive leadership seem to have a favorable impact on job satisfaction, motivation, and job creativity, according to Muttaqin et al. and others [67–69]. Inclusive leadership and supportive motivation seem to improve attitudes towards working from home among employees [70,71].

In Sweden, supportive leadership during the COVID-19 epidemic was the subject of a comparative analysis that revealed its importance for employee well-being during that time. The findings also revealed that there were few differences between office-based workers and those who teleworked [72].

Telework appears to suffer under paternalistic, authoritarian, and destructive leadership styles. When using telework, managers in India usually adopt a paternalistic leadership style, which is less effective because they cannot personally supervise their staff [73]. Dolce et al. [74] found that despite leaders' physical distance from their followers, destructive leaders can still be "too close" because of high cognitive demands and excessive technology use. This may decrease employee autonomy and lead to more weariness. Employees' associations between workaholism and technostress were amplified by high authoritarian leadership styles, whereas this correlation was mitigated by low authoritarian leadership styles. These results lead the researchers to recommend that leaders should be trained to avoid authoritarian leadership and be aware of its potential drawbacks [75].

## 4.3.2. Organizational Support and Communication

An emphasis on organizational support and communication was present in 14 papers in total. Table A2 in Appendix B includes research on the concerns and challenges leaders faced regarding support and communications during COVID-19.

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According to Henke et al. [76], effective telework requires clear and constant communication. They noticed that, particularly in the short term, the transition to digital communication presented difficulties for both teams and leaders. Leaders put more effort into adopting virtual technologies for communication. Kohont & Ignjatović [41] highlighted that employees frequently received information from multiple communication channels at once, with leaders typically communicating via email and mobile phones.

The third finding was that collaboration became more difficult as new techniques were learned, communication required more time, and some information was missing. However, the circumstances forced teams to be more innovative in their communication tactics, coming up with fresh ideas for staying in touch that they had not previously considered [76]. Young workers have a great desire for memorable occasions, praise, and consistent leadership feedback. As a result, it was particularly difficult to address the communication and social contact needs of young teleworkers during the pandemic [77].

According to Günther et al. [78], keeping employees informed and ensuring efficient communication boosted their well-being and decreased stress. George et al. [79] claim that spending money on tools that enable teleworkers to stay in touch with the coworkers who support them can boost productivity and creativity at work, as well as raise life satisfaction and interest, lower stress levels, and improve general health. While Wut et al. [48] agreed that social connections and a feeling of community are vital to maintaining professional engagement in a virtual setting, it can be difficult to forge emotional relationships with coworkers through virtual methods alone. Additionally, getting support from managers and being able to work independently can boost engagement at work. On the other hand, excessive communication and supervisory oversight can lead to tension and overburden [80].

Agile working practices were the main topic of study for Heidt et al. [81]. According to their research, the key is to give support and enablement priority when introducing telework in firms that have adopted an agile working environment. According to their research, the most important aspect of the success of teleworking is assistance. However, not all teleworkers were receiving the same degree of support, according to Miglioretti et al. [82]. Their research suggested that high-quality teleworkers have higher levels of job resources than low-quality teleworkers, including task control, supervisor support, and coworker support. According to a different study, organizational support can be inferred from emotional resources. Particularly, how employees feel their business is supporting them affects their emotional responses, which in turn affects how safe they feel psychologically. The study also showed that employees' levels of psychological safety were influenced by supervisors' online communication practices [82]. The employee's opinion of how supportive their home environment is toward their daily activities did not affect job satisfaction at the home office, in contrast to office work settings [83].

When their leaders communicated in a way that supported their families, those workers who prefer to keep work and personal life separate reported feeling more positive emotions and having a richer work-life balance. This suggests that managers should try to comprehend and consider the various family situations and needs of their staff through sincere conversations and interactions, using language that supports family-friendly policies, and demonstrating genuine interest and concern for family-related issues [84].

Unexpected results were found by Oakman et al. [85]. Their study showed that the abrupt switch to telework increased communication between various divisions and across the entire organization. They attributed this improvement to the quick adoption of online platforms that made it possible for workers from various areas to take part in meetings without having to travel. All employees were given the same chances to attend meetings, regardless of where they were physically located.

## 4.3.3. Telework and Productivity

Understanding the variables that affect teleworker productivity in this historical era—a third emerging focus of the research—was supported by eight studies (see Table A3,

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Appendix C). Organizations may better assist their employees in a remote work environment and make educated decisions about the future of work by studying the productivity of teleworkers.

Telework increased employment productivity during the COVID-19 epidemic, as shown by Baakeel [86]. This study also showed that telework does not interfere with communication. Additionally, Mukherjee et al. [87], who focused on social connections as a productivity hurdle, discovered evidence that participating in social interactions can significantly increase job productivity. According to Kowalski and Slebarska's [88] research, lower-level managers have a significant association between telework's advantages and effectiveness, indicating a connection between lower-level managers' perceptions of the advantages of external cooperation and their efficiency.

Additionally, Choukir et al. [89] presented proof of a strong and positive relationship between telework and job performance. The study also found that having the appropriate tools or technologies at home boosted workers' productivity. Suresh & Gopakumar [90] conducted research on how the IT sector transitioned to telework without sacrificing productivity or efficiency in support of that. They concluded that offering the right chances for training and development not only increased productivity but also fostered both personal and professional development. Tools to help staff transition to telework and organizational IT development received some attention. A document management system (DMS) and effective leadership may be crucial for preserving job performance during a pandemic, according to Eriksson et al. [91]. In the study, teleworkers' perceptions of process quality and coherence were both influenced by a DMS's functionality. Another study looked at how information technology might be used to help leaders perform better. Dos Santos et al. [92] proved that management controls boosted employees' perceived productivity and how well employees' aims correspond with the organization's goals.

Management controls, however, were not perceived the same way by leaders as by employees. The relationship between employees and the company's goals diminished with increasing management controls, showing that there were limits to how far management controls could be utilized to monitor personnel. One study, by Qu & Yan [93], indicated that telework decreased job performance but raised job quality, which was at odds with other findings. The literature on how telework affected employee productivity during COVID-19 is shown in Table A3.

#### 4.3.4. Challenges Faced by Leaders in COVID-19

Employees and supervisors are now more aware of the advantages of flexible working arrangements because of remote work during the pandemic. However, the findings seem to indicate that workers have profited more than leaders (see Table A4, Appendix D). Teleworking offers chances for flexibility and increases the value of time, which benefits both parties. Leaders understood the benefits of technology in enabling future remote work, but workers placed more value on the benefits of more family time and better personal well-being [94].

According to Rodrigues et al. [95], leaders who telework experience the same difficulties that employees do. They also have to continue to be productive and work as a cohesive team while working from a distance. Ipsen et al. [96] also discovered evidence that leaders who teleworked, regardless of their rank, had an increase in workload, which lends weight to their findings. The study suggested that managers found it difficult to serve as remote leaders. This was supported by research from Chafi et al. [97].

The increased burden brought on by remote work's flexibility and the need for constant availability expected by digital tools were just two of the challenges faced by leaders. Additionally, there was an increase in screen time and nonstop online meetings, little interaction with coworkers outside of the immediate work group, and challenges managing the duties of the job while working remotely [97].

Mucharraz y Cano et al. [98] studied the gender aspect of working executives in Mexico and found that burnout was more common in female executives who are mothers

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than in male executives. A mixed work organization, i.e., working from home and office, reduced burnout tendencies.

### 4.3.5. Leaders' Attitude towards Telework

Three publications were found that examine perceptions of telework, as shown in Table A5, Appendix E. One study contrasted leaders perceived self-efficacy with how their subordinates assessed their performance, while two publications focused on managers' general attitudes toward telework. The results are intriguing, as they indicate that leaders tend to overrate their own performance compared to their subordinates' opinions. Additionally, it suggests that more experienced leaders may be less concerned about not being able to meet their subordinates in person [99]. The general opinions of COVID-19 leaders about teleworking improved with more experience [100]. Leaders' concerns about productivity began to fade as they recognized the potential benefits of working remotely [101].

#### 5. Discussion

The aim of this paper is to evaluate relevant literature regarding the difficulties that leaders faced during the COVID-19 epidemic when workers were suddenly required to work from home. 53 papers were found as shown in Section 3—Materials and Methods. Most of the research focused on leadership styles, corporate communication and support, and the effects of telework on worker performance. The difficulties that leaders encounter during the pandemic and their attitudes about teleworking were only briefly covered in a few articles.

One of the key findings is that the pandemic has had both a positive and negative impact on organizational relationships. Factors such as uncertainty and anxiety have affected leadership behavior and the ability to adapt to remote working. The use of remote working during the crisis has presented challenges, particularly in delegation, which may have impacted success.

The research on leadership has mostly focused on leaders' traits and behaviors [38]. It is therefore no surprise that the greatest number of papers (23) in the review concentrated on leadership styles. Authentic, supporting, empowering, organic, and participatory leadership were among the several leadership philosophies that were successful throughout the epidemic, according to the analysis. Direct, dictatorial, and paternalistic leadership philosophies, on the other hand, have been proven to be unsuccessful for teleworkers. Thus, it may be inferred that the implementation of successful remote work during a crisis requires softer, more encouraging, and more informative leadership tactics. These leadership strategies increased employee engagement, job happiness, organizational behavior, and trust. These results agree with those of Williamsson et al. [101] and Edvardsson and Durst [3].

The review identifies topics that require additional study. How does telework, for example, impact executive decision-making? Which management strategy is most effective for teams with a range of locations? What is the long-term effect of different management styles on teleworking?

Fourteen studies looked at communication and organizational support, which are crucial for remote work. Effective telework requires regular and clear communication, despite certain difficulties in making the switch to digital communication. Although it has been harder to collaborate, teams have shown creativity in coming up with fresh approaches to communication. Additionally, the value of community, management support, and social networks in sustaining professional involvement in a virtual environment has been stressed. The studies have highlighted how important organizational support and aid are to the success of remote employment. These results are consistent with earlier studies that highlighted the difficulties that teleworkers have regarding organizational support and communication [32,36,37].

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More studies are needed on this topic. What channels are the best for deep and rich communication in telework? What kind of organizational support do employees need to perform well in teleworking?

There are worries that when workers are not directly under the supervision of managers, teleworking would reduce productivity. A total of eight studies highlight the value of productive telework. According to research, telework can enhance employee performance with the proper tools, instruction, and leadership abilities [86,87,89]. However, one study indicated that while telework may boost job quality, it may also reduce job performance [93]. This is in line with pre-pandemic research that found both beneficial and detrimental effects on productivity when switching to telework, highlighting the crucial roles that trust and empowerment play [19]. There is proof that social interaction can increase productivity at work. These findings are crucial for businesses to understand the future of work and effectively assist their workers. Given how few studies are found on this topic more research is needed.

Further research questions include whether there is room for more research into the similarities and differences between elements that affect productivity in typical work contexts and telework. Does productivity increase after a certain period when switching to teleworking, is there a learning curve involved?

The problems of being a distant leader, the increased effort, and constant availability are highlighted as the challenges experienced by leaders during the epidemic. The topic of gender and leadership was also highlighted. According to a study, female CEOs who are also moms may be more prone to burnout [98]. It has been discovered that mixed work arrangements, which include office and homework, lessen the likelihood of burnout. More research is required on this topic as just five papers on this subject could be identified. Future studies may examine efficient tactics and measures that businesses can use to assist staff members in maintaining a healthy work-life balance while conducting remote work. Future studies can also examine the viability and efficacy of telework as a long-term work arrangement, as well as how it affects employee and leaders' engagement, organizational performance, and work culture in general. Future studies need to take notice of the gender aspect of leadership and telework.

According to Bailey & Kurland's [45] pre-pandemic study, leaders' opinions regarding teleworking improved as they had more experience with it during the pandemic. As evidenced by the studies of Rose and Brown [99] and Williamson et al. [101], leaders increasingly lost interest in productivity issues after realizing that remote work arrangements might be fruitful. Only three studies on this subject could be discovered; thus, more investigation is clearly required.

Due to the pandemic's global scope, the research in the review was undertaken on every continent in the world. Consequently, there is no need for additional geographic coverage, but cross-cultural research is preferable to determine whether various cultural norms and legal systems have an impact on leadership and teleworking.

Surveys, interviews, and focus groups are among the research techniques employed in these investigations. There were 32 quantitative studies, 11 qualitative studies, and 2 mixed technique studies. Given that people could not interact face-to-face during the pandemic, the overemphasis on questionnaires is justified. To have a greater understanding of the topic, additional research should emphasize various research methodologies.

The search was restricted to Scopus and WOS, two search engines, and may not have included all available research on the difficulties leaders encountered with telework during COVID-19. This and other limitations of the study also need to be addressed. Furthermore, there are restrictions because the papers can only be in English, and the specified search terms might have missed important material.

## 6. Conclusions

This paper assesses the literature on the difficulties managers had while introducing remote work during the COVID-19 epidemic. A total of 53 publications in total were

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uncovered during the review process, with an emphasis on corporate communication and assistance, leadership styles, and the impact of telework on employee performance. Authentic, encouraging, empowering, organic, and participative leadership styles proved to be effective throughout the epidemic, whereas direct, authoritarian, and paternalistic tactics proved to be ineffective. Corporate support and communication dynamics were shown to be critical elements of a successful telework environment. The review also emphasized the need for more research on issues including the optimal communication channels for telework, the long-term impacts of management styles, and executive decisionmaking in telework. It has been discovered that telework productivity is impacted by things like leadership, training, and IT tools. This paper also explores the advantages and disadvantages associated with telework, encompassing enhanced flexibility and time management, as well as increased workload and difficulties in preserving team cohesion. Furthermore, the examination delves into the gender dimension of telework, elucidating that female leaders with children are more susceptible to burnout. Consequently, the study advocates for further investigation into the maintenance of work-life balance in telework, as well as the long-term sustainability and effectiveness of this practice. Additionally, it underscores the shifting perspectives of leaders towards telework and emphasizes the necessity for diverse research methodologies. Nevertheless, the study acknowledges certain limitations, such as the exclusive focus on English-language literature and the potential omission of crucial materials.

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#### Appendix A

**Table A1.** Literature on leadership and telework.

Authors/Year	Research Objectives	Research Method	Main Conclusions	Journals
Dolce et al. 2020 [74]	The purpose of this study is to examine how dysfunctional leadership affected the employment demands-resources model and the recovery model in France during the COVID-19 pandemic.	Survey with 716 remote workers.	The results showed a substantial relationship between destructive leadership and autonomy. Destructive leadership and rehabilitation also had mediated relationships.	Social Sciences
Muttaqin, Taqi and Arifin 2020 [69]	The present study aims to enhance job performance within Indonesian startup companies amidst the COVID-19 pandemic.	Survey among 120 startup companies.	The implementation of remote work necessitates companies to adopt enhanced control mechanisms and leadership strategies to ensure optimal working conditions for employees.	Journal of Asian Finance, Economics and Business
Spagnoli et al. 2020 [75]			The findings of the study revealed that the presence of high authoritarian leadership exhibited a discernible amplifying impact, while low authoritarian leadership demonstrated a discernible safeguarding effect on the association between workaholism and technostress, solely within the subset of individuals classified as complete remote workers.	Frontiers in Psychology

Table A1. Cont.

Authors/Year	Research Objectives	Research Method	Main Conclusions	Journals
This study aims to examine the ramifications of the COVID-19 pandemic on leadership within organizations, specifically focusing on the dimensions of trust, communal relationships, and social exchange relationships in the Southeast Asian context.		Survey, 220 managers	The present study's findings demonstrate the profound impact of the COVID-19 pandemic on organizational leadership across three crucial dimensions. Firstly, social exchange relationships have been observed to foster a heightened connection between trust and leadership within organizations. Secondly, communal relationships have exhibited a significant association with leadership, underscoring their influence on effective leadership practices. Lastly, the study highlights the pivotal role played by social exchange relationships in shaping leadership dynamics within organizational settings.	Sustainability
Coun et al. 2021 [61]	This study aims to investigate the mediating role of work-related flow in the association between empowering and directive leadership, as well as the moderating role of IT-enabled presence awareness, during two lockdown periods in the Netherlands amidst the COVID-19 pandemic.	Survey of 257 employees	Empowering leadership exhibited a notable positive correlation, both directly and indirectly, with innovative work behavior through the mediation of work-related flow. On the other hand, directive leadership solely exhibited a negative direct association with innovative work behavior.	Frontiers in Psychology
Kirchner, Ipsen and Hansen 2021 [42]	This study explores the experiences of Danish managers overseeing knowledge workers in the context of distance management during the COVID-19 pandemic.	International online survey of 1053 employees and 290 managers	The implications of this study suggest that both research and practice should take into account the potential effects on employee well-being and performance when considering the option of working from home (WFH). It is important to recognize that not only employees, but also managers, have distinct experiences with WFH, and they may encounter specific challenges in their leadership roles. Therefore, it is crucial to consider the impact on both employees and managers when examining the consequences of WFH on well-being and performance.	Knowledge Management Research & Practice
Liebermann et al. 2021 [67]	This study aims to investigate the perspectives of German leaders regarding the possibilities available to them for leading transformative efforts amidst the sudden shift to virtual collaboration within their teams.	Semi structured interviews with 20 supervisors	This study offers valuable insights into the necessary conditions for the manifestation of transformational leadership within the public sector amidst periods of organizational change. The presence of factors such as an excessive workload, time constraints, and conflicts between roles, coupled with limited autonomy, significantly impede the ability of leaders to exercise transformational leadership behaviors.	Zeitschrift fur Arbeits- und Organ- isationspsychologie
Chen and Sriphon 2022a [58]	This study aims to examine the impact of leader behaviors on the interplay between authentic leadership, trust, and social exchange relationships within the context of Thailand.	Survey, 360 responses	The results of this study indicate that the presence of authentic leadership within an organization plays a significant role in fostering trust and facilitating high-quality social exchange relationships.	Sustainability

Table A1. Cont.

Authors/Year	Research Objectives	Research Method	Main Conclusions	Journals
Chen and Sriphon 2022b [59]			The empirical evidence suggests that authentic leadership exerts a positive influence on social exchange relationships and trust, while social exchange relationships reciprocally enhance trust.	Advances in Decision Sciences
Ganguly et al. 2022 [73]	This study aims to examine the divergent perspectives held by Indian teleworking employees and their managerial counterparts.	37 semi-structured telephonic interviews.	There exist divergent viewpoints between managers and employees with respect to the significant overhaul of human resource (HR) practices, encompassing the appraisal mechanism, work environment, social isolation, work-life balance, technological challenges, workplace surveillance, downsizing, and work agreements.	Global Business Review
Garretsen et al. 2022 [62]	This study aims to investigate the potential impact of the COVID-19 pandemic on the prevalence of directive leadership behavior. The extent of this relationship is contingent upon the severity of the crisis and the existing adaptive strategies employed by managers across the globe.	Quantitative data set from consulting firm covering 27,000 managers across 48 countries and 32 sectors.	The initial period of lockdown witnessed a substantial surge in directive leadership, a phenomenon that was not replicated during the subsequent phase of lockdown.	
Herzog-Evans and Sturgeon 2022 [66]	In the context of disorientation, isolation, competing demands, and occasionally fear, this study examines the proficiency of effective managers within Scottish organizations in innovatively executing their fundamental responsibilities.	Semi-structured interviews with 26 Scottish criminal justice social workers.	During periods of crisis, effective managers exhibit servant leadership by prioritizing the fundamental human needs of their employees and mitigating their levels of uncertainty.	Leadership Quarterly
Krehl and Buttgen 2022 [9]	This study aims to enhance comprehension regarding the strategies employed by German leaders in effectively managing crisis-induced remote leadership through the utilization of digital tools.	155 diaries written by 31 leaders over a five-work-day period.	The findings of this study unveil that leaders exhibit a diverse range of leadership practices, wherein emphasis on building relationships is more prominent than focusing solely on task completion.	German Journal of Human Resource Management
Liu et al. 2022 [65]	The aim of the paper is to investigate the relationship between organic leadership and implicit followers in China.	Survey	The divergence in leadership styles and implicit followers has been observed to exert notable impacts on employees' trust in their supervisors, organizational citizenship behavior, and active followership.	Sustainability
Lundqvist et al. 2022 [72]	This study aims to analyze the role of the workplace environment as a moderator in influencing the effectiveness of leadership on the well-being of employees in Sweden.	Survey among 364 white-collar workers.	The findings show that the presence of a supportive leadership figure, specifically the immediate manager, emerges as a crucial factor in promoting employee well-being, irrespective of the physical location of their work.	BMC Public Health
Monzani et al. 2022 [64]	This study aims to conduct a comprehensive analysis of positive management practices in contrast to traditional management practices within the context of remote work in Spain.	Exploratory laboratory experiment simulating remote work context.	Participants in the authentic leadership × self-set goals condition outperformed all other experimental conditions.	Frontiers in Psychology

Table A1. Cont.

Authors/Year	Research Objectives	Research Method	Main Conclusions	Journals
Stoker, Garretsen, and Lammers 2022 [60]	This study aims to examine the impact of remote work arrangements implemented during the COVID-19 pandemic in Netherlands on alterations in leadership behaviors within organizations, as well as the subsequent changes in perceived managerial competence and productivity.	Online survey of 748 respondents, via management platform.	Managers perceive a substantial reduction in their exertion of control and an increased emphasis on delegation. Likewise, employees also perceive a noteworthy decline in the level of control exerted over their work.	Journal of Leadership & Organizational Studies
Tautz, Schubbe, and Felfe 2022 [68]	This study aims to examine the specific challenges associated with the practicability of transformational leadership and health-oriented leadership within a remote setting in Germany.	Survey and qualitative data with semi-structured interviews from 23 leaders and 18 followers.	The present study delves into a comprehensive exploration of the underlying factors that hinder the manifestation of transformational and health-oriented leadership within remote work environments.  Participants have consistently reported several obstacles, including a perceived absence of social presence, restricted opportunities for informal conversations, challenges in communication, and a dearth of mutual trust.	Frontiers in Psychology
Yuan et al. 2022 [102]	This study aims to investigate the impact of leadership style and trust in leadership on employees' affective commitment within the context of the epidemic situation in China.	Survey among 580 individuals in hospitality and torism sectors.	The results of the study revealed that the perception of transformational leadership exhibited a significant positive correlation with trust in leadership and affective commitment.	Tourism Review
Caniëls 2023 [63]	This study aims to examine the correlation between positive leadership and psychological energy, specifically focusing on the influence of remote work and the duration of the leader-follower relationship in the context of the Netherlands.	Two-wave time-lagged study design is used with a sample of 186 followers.	The study demonstrates a positive correlation between positive leadership behaviors and employee vigor. These positive leadership behaviors encompass acknowledging and praising the individual performance of followers, expressing personal gratitude towards them, providing encouragement, and offering assistance with designated tasks.	Frontiers in Psychology
Nguyen and Tsang 2023 [70]	The present study posits a moderated mediation model for anticipating work-from-home engagement in times of emergency, such as the COVID-19 pandemic, by incorporating established concepts such as inclusive leadership, organizational support, and perceived risk theory.	An online questionnaire of 794 valid answers	The research conducted revealed that inclusive leadership exerts both direct and indirect influences on work-from-home engagement. These effects are mediated through the distinct and sequential roles of perceived organizational support and employee motivation.	International Journal of Manpower
Tsang et al. 2023 [71]	To propose a new model predicting employees' intention to work from home during an emergency situation by integrating inclusive leadership and protection motivation theory.	Printed questionnaire of 887 valid answers	The study demonstrated that inclusive leadership and factors related to protection motivation theory have positive effects on employees' work-from-home intentions through the mediating role of employees' work-from-home-related attitude.	International Journal of Manpower

## Appendix B

 $\textbf{Table A2.}\ Literature\ on\ organizational\ communication\ and\ support.$ 

Authors	Research Objectives	Research Method	Main Conclusions	Journal
Lee 2021 [83]	Look into the psychological safety, organizational support, and feelings at work during the shift from office to home working during COVID-19.	Online qualitative survey that asked open-ended questions and collected self-reported text-based narratives in response.  131 participants.	The study shows that emotions were sparked by social comparison emotions and crucial socio-emotional resources (such as task, flexibility, communication, health and safety, and social support) during a health crisis.	Journal of Organizational Effectiveness: People and Performance
Miglioretti et al. 2021 [82]	Determine the effects of telework in Italy for high-quality, low-quality, and no telework scenarios on employee work engagement and work-family balance.	A survey conducted in three Italian organizations. A total of 330 replies.	Work resources, work engagement and work-life balance are significantly higher in high quality telework, while work demands do not differ or are lower.	Journal of Work and Organizational Psychology
Bergefurt et al. 2022 [84]	To examine the correlations between satisfaction with physical home workspace attributes, support of work activities, and mental well-being among individuals working from home (WFH) during the COVID-19 pandemic in the Netherlands.	Online questionnaire, 1219 replies.	The findings of the study indicate that there was no significant influence of temperature, noise, ventilation, and air quality on the level of satisfaction experienced by individuals in their home workplace. Unlike the office setting, personal attributes of individuals did not appear to have any correlation with their satisfaction with the workspace	Journal of Environmental Psychology
George et al. 2022 [79]	This study aims to examine the impact of work-from-home (WFH), on individuals' productivity in their professional endeavors and their overall sense of meaning in life. Additionally, it seeks to evaluate the perceived levels of stress and health challenges experienced by individuals since the adoption of WFH practices in the United States.	Online survey, 278 individuals working at least 50% in teleworking.	This study did find significant factors that contribute to both support and challenges in remote work, which have implications for various aspects of individuals' professional and personal lives.	Organizational Dynamics
Gunther, Hauff and Gubernator 2022 [78]	The objective of this study is to ascertain a comprehensive array of human resource management (HRM) practices and leadership behaviors that are specific to telework, and subsequently analyze their collective impact on the well-being of German teleworkers in terms of work engagement and job satisfaction.	Two online surveys, 280 people finished both.	The study's outcomes unveil distinct and complementary impacts of telework-focused human resource management (HRM) and leadership. Specifically, the research identifies the provision of healthcare as the most influential factor contributing to the association between telework-oriented HRM and the well-being of individuals in terms of social isolation and happiness.	German Journal of Human Resource Management
Heidt, Gauger and Pfnur 2022 [81]	This study aims to examine the influence of agile work characteristics on the effectiveness of remote work, specifically in Germany and the United States.	Online survey, 467 answers from Germany and 549 in the US.	The findings of the mediation analysis demonstrate that the attributes associated with agile work exhibit a direct, positive, and statistically significant impact on the efficacy of remote work.	Review of Managerial Science
Henke, Jones and O'Neill 2022 [76]	This research aims to investigate the transition of Canadian individuals who were not previously engaged in voluntary remote work prior to the pandemic and analyze their adaptation and acquisition of skills necessary for achieving success in a remote work setting.	59 people were interviewed in semi-structured interviews.	The backing of management and leadership is one of the main factors that makes telework possible.	Frontiers in Psychology

Table A2. Cont.

Authors	Research Objectives	Research Method	Main Conclusions	Journal
Kohont and Ignjatovic 2022 [41]	This study aims to examine the implementation of working from home (WFH) arrangements during the COVID-19 pandemic in Slovenia.	102 WFH leaders and staff participated in structured interviews.	The pandemic has abruptly and comprehensively transformed WFH, highlighting the heightened importance of work-family balance, effective communication among colleagues and supervisors, work structure, workload management, and organizational assistance.	German Journal of Human Resource Management
Lee and Kim 2022 [103]	Exploring mediating processes in family-supportive leadership communication and the moderating role of employees' work-life segmentation preferences in the United States.	Quantitative: online survey, only those who started working from home due to COVID-19, 449 respondents.	The results showed that employee-organization relationship (EOR) quality, positive affect, and work-life enrichment mediate the relationship between family-supportive leadership communication and employee creativity.	Management Communication Quarterly
Popaitoon 2022 [80]	By examining the impact of job demands and resources in three areas of work characteristics—task, social, and contextual—on employee work engagement and job stress, it will be possible to establish an effective work design for telework practices in Thailand.	Online survey with 1052 answers	Supervisor support, work autonomy, and the job resources listed under the social and task domains, respectively, can all improve work engagement for telework practices in Thailand. In contrast, the demands of the jobs in their respective fields, such as supervisory oversight and communication overload, might result in job stress.	Journal of Asia Business Studies
Oakman et al. 2022 [85]	The primary objective of this study was to discern the most effective strategies for managing remote work from home, with a specific focus on examining the firsthand experiences of Australian employees in the COVID-19 pandemic.	32 people participated in seven focus groups.	Effective strategies encompass managerial endorsement of flexible work hours, provision of essential equipment along with Information and Communication Technology (ICT) support, consistent online communication, modifications in performance management practices, and comprehensive training for managers.	Organizational Dynamics
Săvescu et al. 2022 [77]	This study aims to explore the experiences of employees and middle managers during the transition from office-based work to remote work in the specific context of the COVID-19 pandemic in Romania.	Three online focus groups.	The COVID-19 pandemic has brought about a significant transition process, highlighting the crucial distinctions between working from home and working from office. These disparities can be observed across five primary dimensions: personal, time, spatial, social interaction and technical.	Sustainability
Wut, Lee, and Xu 2022 [48]	This study aims to investigate the effects of the work from home practice on work engagement within the context of the pandemic in Hong Kong.	206 valid replies in a survey; PLS-SEM analysis.	The investigation revealed a negative correlation between the climate of teamwork and physical isolation, whereas a negative association was observed between the sense of belonging and psychological isolation. Moreover, work engagement was found to be compromised. Establishing affective social presence through virtual means may not be as readily achievable.	International Journal of Environmental Research and Public Health
Lee and Kim 2023 [103]	The primary objective of this research is to investigate the impact of family-supportive leadership communication on the promotion of creativity within the context of work-from-home employees in the US.	Survey among 449 employees working from home	The findings of the study indicated that the quality of the employee-organization relationship (EOR), positive affect, and work-life enrichment play a mediating role in the association between family-supportive leadership communication and employee creativity.	Management Communication Quarterly

## Appendix C

**Table A3.** Literature on telework and productivity.

Authors	Research Objectives	Research Method	Main Results	Journal
Baakeel 2021 [86]	This study aims to examine the effects and influences of remote working on employees in Saudi Arabia amidst the coronavirus pandemic, specifically focusing on communication, job effectiveness, as well as employee engagement and productivity.	Online survey, 57 answers.	The results of the study indicate that remote working has a substantial influence on communication, job effectiveness, and employee productivity. Nevertheless, the effects of remote working on employee engagement were found to be inconsequential.	International Transaction Journal of Engineering, Management, & Applied Sciences & Technologies
Suresh, and Gopakumar 2021 [90]	To comprehend the implications of the current ad hoc implementation of the work-from-home (WFH) policy in India and its consequential effects on employee efficiency and subsequent output levels, a thorough analysis is required.	Multi-grade fuzzy approach, five experts from various organizations.	The implementation of comprehensive training and development initiatives not only facilitates the improvement and optimization of employee performance, but also offers favorable prospects for both personal and professional growth.	Future Business Journal
Choukir et al. 2022 [89]	The present study aims to examine the intermediary function of attitudes and perceptions in the relationship between working from home (WFH) and the job performance of employees in the context of Saudi Arabia.	Survey 399 responses	The findings of this study provide empirical evidence supporting the existence of a substantial and direct association between working from home (WFH) and employees' job performance. Furthermore, this relationship is mediated by the attitudes and perceptions of employees engaged in WFH.	Sustainability
Dos Santos, Sallaberry and Mendes, 2022 [92]	This study aims to examine the impact of telework and management control systems (MCSs) on the alignment of objectives among civil servants in the Brazilian justice system.	Questionnaire, 468 employees of the Federal Public Ministry	The perceived efficacy of remote work and the discovery that both action and personnel controls exhibit a positive correlation with the alignment of objectives.	Revista de Gestão
Eriksson et al. 2022 [91]	This study aims to examine the factors pertaining to digital management systems and remote work in Germany and the US, and their implications for sustainable work practices, specifically in relation to process quality, trust, and sense of coherence, within the context of the COVID-19 pandemic.	Cross-sectional survey, 484 answers.	The findings of the study revealed a significant correlation between digital conditions and resources, and various indicators pertaining to the promotion of sustainable work.	International Journal of Environmental Research and Public Health
Kowalski and Slebarska 2022 [88]	This study aims to examine the perceived effectiveness of remote work among managers in Poland, with a focus on three key aspects: the manager's perspective, team dynamics, and external collaboration.	Survey on 141 managers.	The results of the study unveiled a noteworthy correlation between the advantages and efficacy of managers and their engagement in external collaboration, particularly observed within the cohort of lower-level managers.	International Journal of Environmental Research and Public Health
Mukherjee, et al. 2022 [87]	The purpose of this study is to examine the impact of reduced social interaction within the context of remote work arrangements on employee work effectiveness in India.	Structured questionnaire, 399 valid answers	The findings indicate that social interaction plays a crucial role in enhancing work effectiveness.	Revista de Gestão
Qu and Yan 2022 [93]	This study examines the comparative analysis of job performance in relation to both quality and productivity, specifically focusing on the contrasting environments of working from home and working from an office setting in China.	A quasi-experimental design, 861 answers.	The findings of the study demonstrate that remote work arrangements have a positive impact on job performance as measured by job quality, yet a negative impact when considering job productivity.	Asia Pacific Journal of Human Resources

## Appendix D

 $\label{lem:continuous} \textbf{Table A4.} \ \ \text{Literature on the challenges leaders faced in the pandemic.}$ 

Authors	Research Objectives	Research Method	Main Conclusions	Journal
Chafi, Hultberg and Yams 2022 [97]	This study aims to ascertain the requirements and obstacles associated with remote and hybrid work arrangements in Sweden, as well as explore the potential for establishing a sustainable future work environment.	Two studies: five workshops with focus groups and photo-elicitation method, 20 employees involved	The primary advantages associated with remote work encompass enhanced flexibility, autonomy, work-life equilibrium, and individual productivity. Conversely, notable obstacles revolve around social dimensions, namely the loss of camaraderie and increased isolation.	Sustainability
Ipsen et al. 2022 [96]	Explore how Danish managers experienced distance management, and the perceived organizational support (POS), and the effect of organizational support has on their JSA during the first year of the COVID-19 pandemic.	Questionnaire data from 1016 line, middle and top managers.	The findings of the study indicate that managers experienced heightened levels of work demands and invested additional hours in their roles as distance managers. Notably, managers primarily relied on their subordinates and colleagues in managerial positions for support, while encountering limited assistance from administrative personnel.	Frontiers in Psychology
Rodrigues et al. 2022 [95]	This study aims to examine the challenges encountered by Brazilian managers in effectively coordinating teams operating remotely amidst the COVID-19 pandemic.	Fuzzy scale survey with 39 managers.	The main difficulties evidenced are to reconcile personal and professional life tasks in the same place; to motivate collaborators in a period when social isolation affect employee's mental health and to keep team members integrated and working within the activities scope in a virtual environment.	Information Technology & People
Durakovic, Aznavoorian and Candido 2023 [94]	This study aims to investigate the initial encounters of employees and managers during the mandatory work-from-home (WFH) period in Australia. By gathering data from the perspectives of both managers and workers, this research seeks to examine the outcomes of a population-level experiment conducted during two significant lockdowns at the national and state levels.	Correlational and thematic analyses were on findings from 1579 respondents of online survey.	The primary challenges observed pertain to the harmonization of personal and professional responsibilities within a shared physical setting. Additionally, motivating employees during a period of social isolation, which has a detrimental impact on their mental well-being, poses another significant hurdle. Furthermore, ensuring the integration and active participation of team members within the parameters of virtual work arrangements presents a noteworthy difficulty.	Sustainability
Mucharraz y Cano et al. 2023 [98]	This study aims to understand how the recent COVID-19 pandemic impacted burnout levels among working mothers in leadership positions and how income and work schemes play an important role in their burnout.	Survey among 961 working mothers and fathers in leadership positions	The prevalence of burnout among working mothers in leadership roles surpasses that of working fathers. The implementation of a hybrid work arrangement, which entails a combination of remote work and office work, has demonstrated a reduction in burnout levels among working mothers.	Gender in management

## Appendix E

**Table A5.** Literature on the leaders' attitudes toward telework.

Authors	Research Objectives	Research Method	Main Conclusions	Journal
Bizilj, Bostjancic and Socan, 2021 [99]	This study aims to investigate the extent of virtual leadership efficacy as perceived by Slovenian leaders and their employees.	Survey, 382 were leaders and 526 employees.	The results of the study indicate that leaders possess a significantly higher self-evaluation compared to their subordinates. Furthermore, the effectiveness of their leadership is primarily contingent upon their prior experience with remote work and proficiency in utilizing communication technologies.	Changing Societies and Personalities

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Authors	Research Objectives	Research Method	Main Conclusions	Journal
Rose and Brown 2021 [100]	This study aims to examine the potential reconstruction of South Korean managers' overall attitudes towards working from home (WFH) and the subsequent impact on their expectations regarding the sustained adoption of WFH in the long term.	A survey, answers from 229 managers.	The findings of the study demonstrate that the obligatory implementation of work-from-home (WFH) arrangements as a consequence of the COVID-19 pandemic yielded noteworthy and statistically significant favorable outcomes regarding the attitudes of South Korean managers towards WFH and their inclination to persist with this practice in the foreseeable future.	Behavioral Sciences
Williamson, Colley and Foley 2022 [101]	This study aims to investigate the allowance decisions made by Australian managers regarding the option of working from home. The examination will be conducted across various levels, including the organizational, group, and individual levels.	Two qualitative datasets were analyzed, one from 2018 another from 2020.	At the organizational level, prior apprehensions regarding employee productivity have significantly dissipated, as managers have had a transformative realization that remote work can indeed yield favorable outcomes. Conversely, at the individual level, a novel manifestation of managerial discretion has arisen, as managers endeavor to regain control and exert their authority over employees operating from remote locations.	The Economic and Labor Relations Review

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