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# Teleworking during the Covid-19 Crisis in Italy: Evidence and Tentative Interpretations

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**Abstract:** The paper investigates the determinants and discusses the consequences of the switch towards Italian high-tech firms' teleworking due to the COVID-19 crisis. Teleworking is important to reduce traffic congestion and increase the sustainability of cities, and as such, it is important to understand what helps the successful transition of firms to telework. COVID-19 crisis represents a natural experiment that allows studying organizational ability to adapt to unexpected environmental changes rapidly. The study is based on a survey conducted in mid-April 2020 during the COVID-19 lockdown among Italian manufacturing firms' managers in high-tech sectors. The final sample is composed of 179 observations. Using path analysis, we model the organizational e-readiness as a mediator of the firm's technological and organizational characteristics in the rate of adoption of teleworking. Teleworking is also modeled as dependent on human resources and from the exogenous shock represented by COVID-19 lockdown. While teleworking has been imposed by COVID-19, organizational readiness plays a key role in shaping the rate of teleworking adoption during emergencies.

**Keywords:** teleworking; organizational readiness; COVID-19



**Citation:** Tokarchuk, O.; Gabriele, R.; Neglia, G. Teleworking during the Covid-19 Crisis in Italy: Evidence and Tentative Interpretations. *Sustainability* **2021**, *13*, 2147. https://doi.org/10.3390/su13042147

Academic Editors: Paola Demartini and Benyamin B. Lichtenstein.
Received: 10 December 2020
Accepted: 1 February 2021
Published: 17 February 2021



## 1. Introduction

Teleworking comes in the literature under various names, such as telecommuting, remote working, or working from home [1]. It can be defined as "an alternative work arrangement in which employees perform tasks elsewhere than is normally done in a primary or central workplace, for at least some portion of their work schedule, using electronic media to interact with others inside and outside the organization" [2] (p. 1525).

Teleworking can be important for individuals and firms, but at a system, a level can also provide a new and more sustainable way to reorganize cities [3]. Indeed, one of the most significant challenges facing the future of modern cities is that of traffic congestion that has several serious local, regional, and atmospheric issues, which have economic, social, and environmental impacts. Teleworking used on a large scale can—at least partially—solve the problem of congestion of city traffic in particular moments of the day (the morning and the afternoon), minimizing the need for workers' movements from home to workplace [4–6]. While management guru Peter Drucker predicted that working from the office will become obsolete at the beginning of the 21st century [7] only due to the COVID 19 pandemic, most organizations had to face the challenge of introducing teleworking practices. This forced adaption of teleworking due to the COVID-19 crisis can help adopt a defensive strategy to cope with modern cities' problems, including traffic congestion, unfavorable environmental, social, and economic impacts [4].

The influence of COVID 19 imposed telework already received much attention in the academic literature. While most studies addressed this issue from employees' point of

view (e.g., [8–11], scanty evidence from the firms' standpoint is available so far. This gap is attributed by [12] to the difficulty of obtaining firm-level data.

The present study addresses this gap by investigating the determinants of teleworking adoption in Italian high technology firms following the lockdown of economic activity caused by the COVID-19 emergency. Some previous research addressed investigation of teleworking adoption determinants [5,13–15]. In this respect, using the resource-based view of the firm [16], researchers highlighted that: A high level of IT endowment, output-oriented coordination and control systems, experience in the use of flexible work hours, size and sector of activity of the firm, workforce education profiles and context play a key role in shaping the teleworking adoption [13].

However, these determinants are proven to be important in "regular" conditions. The question of what happens to the teleworking adoption rate and the relevance of determinants in its adoption in the presence of an external shock was not a subject of analysis. We suggest that this exogenous shock magnifies the importance of some of the determinants of adoption and, at the same time, let some of these determinants become less important if not relevant at all.

The present paper investigates the determinants of teleworking adoption in Italian high technology firms following the lockdown of economic activity caused by the COVID-19 emergency. To investigate the issue, we used firm-level information data collected through a questionnaire administered to middle managers of Italian firms in Mid April 2020, just one month after the beginning of quarantine imposed by the Italian government to counter the COVID-19 pandemic. In particular, we focused on manufacturing firms active in hi-tech sectors as defined by OECD [17]. The choice of restricting the sample to hi-tech industries allowed us to reduce the heterogeneity of external conditions, i.e., firms' differences in the nature of production processes that entail different upper thresholds of possible adoption rates of teleworking [13]. Our study aims to provide a base for future investigations of relevant questions related to if and how the high degree of telework adoption during the emergency period will be translated into ordinary operations after the end of the emergency, contributing to cities' sustainability. Our final dataset is composed of 179 firms.

To carry on the analysis, we extended the model of determinants of telework adoption developed in [13,18] by introducing the notion of organizational readiness of firms, which represents a mediator between teleworking adoption rate and firm's resources and capabilities, and by including "COVID-19 restrictions factor" as an additional determinant of teleworking adoption rate. We empirically tested our model with the help of path analysis.

The rest of the paper is organized as follows: Section 2 presents the analysis's conceptual framework and the research hypotheses. Section 3 describes the statistical tool used and presents the data. Descriptive and inferential results are presented in Section 4. Section 5 offers a discussion of results and conclusions.

## 2. Theoretical Framework

### *2.1. Conceptual Framework*

The literature regarding teleworking determinants adopts the resource-based view of the firm as a theoretical background [16]. Resources are typically defined as either assets or capabilities. Assets, which may be tangible or intangible, are owned and controlled by the firm. Capabilities are intangible bundles of skills and accumulated knowledge. Resources and capabilities are the antecedents of teleworking adoption and can be classified into three categories: Technological, human resources-related, and organizational [5]. This model explains the adoption of teleworking that is planned by the firm.

Following the previous literature, we built our conceptual framework on a resource-based view [13,18]. In the particular situation faced by firms due to the COVID-19 emergency, firms needed to rely on their internally accumulated resources to move their functionality in the remote. Following [13], according to which firms offer teleworking only when a minimum level of technological and organizational requisites are met, we introduce

a notion of organizational readiness to define the firm's set of organizational features that supports teleworking. Hence, we affirm that firm's readiness for teleworking is a precondition of activating telework in the emergency condition and influences the degree of its activation.

In what follows, we develop our conceptual model and formulate our research hypothesis.

### *2.2. Research Hypotheses*

#### 2.2.1. Determinants of Organizational Readiness

Previous experience with teleworking is associated with the endowment of adequate resources and technologies to cope with it. Indeed, the adoption of teleworking will be less problematic if these technologies and processes supporting telework are already in use in the firm because employees are more skilled and have experience with them [15,19–21]. Hence, we formulate the following hypothesis:

**Hypothesis 1:** *Firms that adopted teleworking before the crisis will be more ready for teleworking adoption.*

The adoption of teleworking requires a change in management style, and direct supervision needs to be replaced by coordination based on mutual trust [13]. In this respect, management by objectives and performance is a key organizational capability that firms have to develop [5,22,23].

Nonetheless, managers are often reluctant to change their coordination and control habits, which suggests that there exist organizational barriers to the implementation of teleworking identified by a difficulty in the shift of responsibility from the manager to the teleworker [13]. Hence, we propose the following complementary hypotheses:

**Hypothesis 2a:** *Adoption of management by objectives increases the degree of implementation of teleworking.*

**Hypothesis 2b:** *If the coordination and control in a firm are primarily based on direct supervision, the degree of teleworking adoption is lower.*

Teleworking adopters rely more on information and communication technologies [21]. Moreover, teleworking increases the teleworker's use of synchronous electronic media (e.g., e-mail, virtual platforms) with both colleagues and supervisors [13]. Hence, we formulate the following hypothesis:

**Hypothesis 3:** *There is a positive relationship between the availability of virtual platforms in the firm and the degree of teleworking adoption.*

Office automation technology will facilitate more flexible, innovative approaches to work, such as teleworking [13]. The availability of PCs and other IT resources in the firm is positively related to employees' capabilities to manage new communication tools. The higher is the need for basic IT tools endowment when shifting to teleworking, the lower is organizational readiness due to lack of familiarity with the tools on the personnel side. As a result, we formulate the following hypothesis:

**Hypothesis 4:** *A higher necessity for the endowment of basic IT tools is negatively related to organizational readiness.*

#### 2.2.2. Determinants of the Degree of Telework Adoption

The resources available inside a firm allow the adoption of teleworking. Still, organizational readiness, an intrinsically dynamic concept that overlaps with organizational agility, has a crucial role. Organizational agility is defined as "the capacity of an organization to efficiently and effectively redeploy and redirect its resources to value-creating

and value protecting (and capturing) higher-yield activities as internal and external circumstances warrant. In addition to managing Stigler's demand shocks, agile organizations must manage supply-side uncertainty and adjust strategy as necessary and desirable" [24] (p. 17). Hence, on one side, organizational readiness allows to enhance competitiveness and manage resources efficiently [25,26]. On the other side, more flexible firms are more ready to change, manage uncertainty better, react faster to an unexpected shock, perceiving fewer obstacles in adapting to the new configuration of work thanks to their superior managerial cognitive capabilities concerning the sensing, seizing, and reconfiguring activities. Moreover, they can adopt more intensively teleworking and use it for strategic reasons. Accordingly, we state the following hypothesis:

**Hypothesis 5:** *Organizational readiness is positively related to teleworking adoption rate.*

Illegems et al. indicate that firms view teleworking as a social benefit offered to employees [13]. Thus, teleworking adoption is positively related to the firm's attention to employees' wellbeing and work-life balance [5]. From here, we formulate the following hypothesis:

**Hypothesis 6:** *Company's attention to employees' benefits is positively related to teleworking adoption.*

COVID-19 lockdown unexpected shock forced firms to react to mitigate the crisis's negative impact on firm activity. Hence, we formulate the hypothesis:

**Hypothesis 7:** *The exogenous shock of COVID-19 lockdown has a positive effect on teleworking adoption.*

The conceptual model is presented in Figure 1.

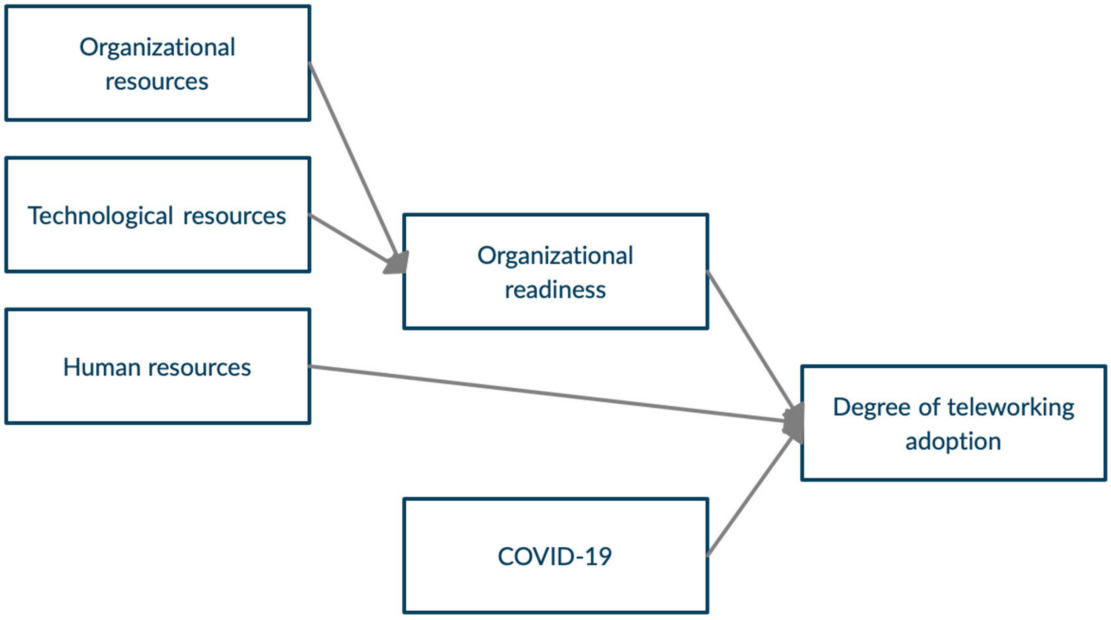


**Figure 1.** The conceptual model describing the determinants of teleworking adoption.

## 3. Materials and Methods

### *3.1. Methodology*

Our conceptual model was empirically tested on data coming from a survey of managers. The analysis was conducted using a particular form of a structural equation model that takes the form of path analysis. In particular, we considered only single indicators for each of the variables in the causal model. This approach allowed us to investigate

several causal relationships contemporaneously. In our model, we consider as endogenous variables, i.e., their variance is considered to be explained in part by other variables in the model, the degree of perceived readiness of the firm for the adoption of teleworking and the actual degree of teleworking adoption after the lockdown. Exogenous variables, i.e., their variance is assumed to be caused entirely by variables not in the causal model, include a series of variables elicited by questions aimed to estimate the firm's organizational, technological, and human resources. We also consider additional variables as the pre-lockdown experience with the smart working.

### *3.2. Data*

We collected primary survey data and additional archival data to validate our research model. A random sample of 800 firms was drawn from the population of 14,000 Italian firms enrolled in Fondirigenti. Fondirigenti is an Italian fund for continuous development of managers, created in 1998 to promote the diffusion of managerial culture in Italy. Currently, 14,000 Italian firms are enrolled in this fund represented by around 80,000 managers working at these firms.

Our study's respondents are managers of new product development functions, such as research and development (R and D), innovation management, and product management as these functional heads actively shape the capabilities and activities within their roles [5,27]. The survey was directly e-mailed to these managers. The present study is based on a subsample of 179 responses from managers employed by manufacturing firms active in high technology sectors, as defined by [17].

The survey was intended to understand the adoption of teleworking practices in Italian firms during the lockdown and took place in the second week of April 2020, one month after the beginning of the lockdown imposed by the first wave of COVID-19 in Italy. Given that the questionnaire addressed managers during a very stressful time, the survey included strictly necessary questions to make it short and ensure an acceptable response rate.

Table 1 summarizes indicators corresponding to the constructs included in our conceptual model.

**Table 1.** Descriptive statistics.

| Variable | N | Mean | sd | Min | Max |
|---|---|---|---|---|---|
| Degree of teleworking adoption | 179 | 2.933 | 0.859 | 0 | 4 |
| Organizational readiness | 179 | 1.849 | 1.119 | 0 | 4 |
| Organizational resources | | | | | |
| Previous experience with teleworking | 179 | 0.335 | 0.473 | 0 | 1 |
| Organization of work by objectives | 179 | 0.436 | 0.497 | 0 | 1 |
| Control and monitoring systems actions | 179 | 0.117 | 0.323 | 0 | 1 |
| Technological resources | | | | | |
| Endowment with virtual communication tools: Virtual Environments | 179 | 0.654 | 0.477 | 0 | 1 |
| Endowment with virtual communication tools: Chats | 179 | 0.525 | 0.501 | 0 | 1 |
| Endowment with virtual communication tools: VPN | 179 | 0.760 | 0.428 | 0 | 1 |
| Endowment with basic IT: Smartphones | 179 | 0.642 | 0.481 | 0 | 1 |
| Endowment with basic IT: PCs/Tablets | 179 | 0.860 | 0.348 | 0 | 1 |
| Human resources | | | | | |
| Adopting teleworking to benefit employees | 179 | 2.855 | 1.247 | 1 | 5 |
| Reasons for adoption of teleworking: COVID-19 emergency | 179 | 4.751 | 0.602 | 1 | 5 |

Indicators "Organizational readiness" and "Degree of adoption of teleworking" reflect the degree of readiness/adoption of teleworking, where 0 stands for no readiness/no adoption, 1 stands for low readiness/low adoption for approximately 25% of personnel, 2 stands for medium readiness/adoption for about 50% of personnel, 3 stands for high readi-

ness/adoption for approximately 75% of personnel, 4 stands for full readiness/adoption for all personnel.

Organizational resources are measured by indicators "Adoption of teleworking before COVID-19 emergency", "Organization of work by objectives", and "Implementation of control and monitoring of remote activities". These variables are measured as 0 = no, 1 = yes. The questions "Organization of work by objectives" and "Implementation of control and monitoring of remote activities" were adopted following [13].

Technological resources are represented by the question "What technological equipment, which could encourage telework, was provided by your company?". These variables are measured as 0 = no such equipment provided, 1 = technological equipment provided.

The question "Adopting teleworking to benefit employees" captures human resources following [13]. The question "Reasons for adoption of teleworking: COVID-19 emergency" measures the role attributed by firms to the reason COVID-19 in their teleworking adoption. For these indicators, we used established, multi-item measures in our survey on a 5-point-Likert scale (1 = lower intensity of the characteristic, 5 = higher intensity of the characteristic).

## 4. Results

### *4.1. Descriptives*

Table 1 summarizes descriptive statistics related to each question. Before the COVID-19 emergency, the degree of telework adoption in low-technology firms was higher, corresponding to 44% against 34% observed in high technology firms. In high technology companies that practiced telework before lockdown measures imposed by COVID-19 emergency, on average, 30% of all workers were involved in telework, spending 1,9 days in SW on average. All firms in the sample equally reacted to the situation imposed by COVID-19. Ninety-six percent of all firms, regardless of their size and geography, adopted telework to some degree. The degree of total overall adoption of telework is the same for high and low technology firms and corresponds to almost 75% of personnel.

Simultaneously, managers perceive their organizations as ready to implement teleworking only to less than half of their personnel.

To activate teleworking, companies relied on the following actions: 44% reorganized their management style to adopt a work by objectives approach, 12% implemented control and monitoring systems for remote activities.

Organizations provided the following technological equipment to facilitate teleworking adoption: 86% provided PCs, 76% VPN or systems for sharing corporate network online, 65% online platforms to manage virtual meetings, 64%—smartphone/company sim card, 53%—business chats. Given that variables relative to the endowment with basic IT tools like PCs/Tablets and smartphones are highly correlated, we constructed an aggregated variable "Endowment with basic IT tools". The provision of VPN or systems for sharing corporate network online, online platforms to manage virtual meetings and business chats are included in the estimation of the conceptual model as an aggregated variable "Endowment with virtual communication tools".

Human resources reflected attention paid by firms to employees' needs measured by the variable "Adoption of telework to benefit employees", which accumulated an average score of 2.86.

Dealing with COVID-19 emergency was the main reason for adopting telework, reaching 4.75 on a scale from 1 to 5.

### *4.2. Inferential Results*

We implemented path analysis to empirically test the conceptual model with the means of Stata 16 software. Due to the categorical nature of variables, an asymptotic distribution-free estimation method was preferred. The convergence of the model and the fit of the model was enhanced by using modification indices. Model optimization leads to eliminating several paths from the original model, while the inclusion of a direct path from

"Endowment with basic IT tools" to "Adoption of teleworking" was suggested. The final model presents overall good fit with chi2(6) = 10.03 ($p$ = 0.10), CFL = 0.943, TLI = 0.858, srmr = 0.029 [28–30]. It is presented in Figure 2.

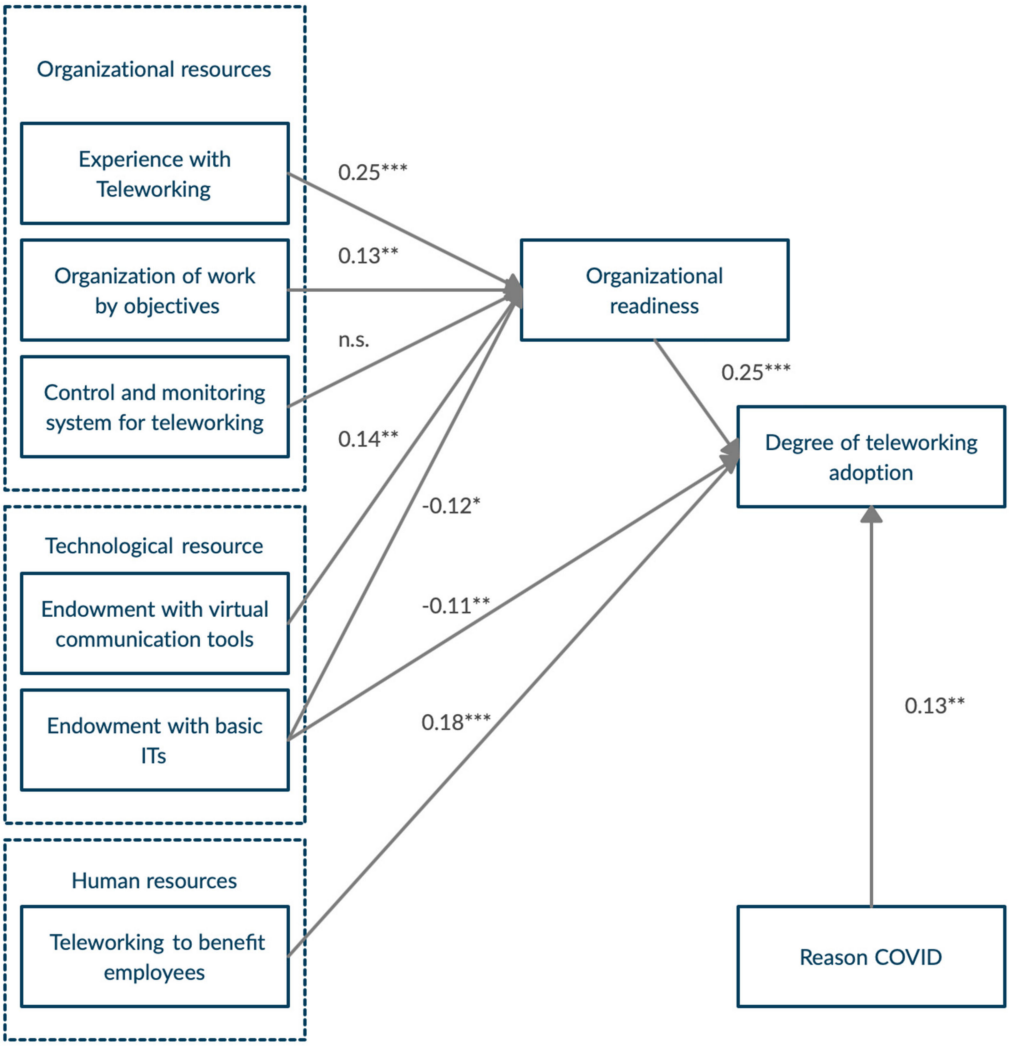


**Figure 2.** Results of path analysis. * $p \leq 0.05$, ** $p \leq 0.01$ and *** $p \leq 0.001$.

Overall, our conceptual model is confirmed by empirical estimation. Restrictions imposed by the government to deal with the COVID-19 emergency are demonstrated to increase the degree of telework adoption by Italian high-tech firms. However, the degree of telework adoption is determined to a larger extent by organizational readiness. Organizational readiness, in turn, is defined by organizational and technological resources.

#### 4.2.1. Determinants of Organizational Readiness

Previous experience with telework has demonstrated organizational readiness for telework adoption, as shown by the positive and significant coefficient on the corresponding path, providing confirmation for Hypothesis 1. Companies that already had experience with telework have developed systems and procedures as well as technological resources on which they could rely during the crisis.

Actions aimed to organize work by objectives also positively and significantly affect organizational readiness for telework adoption, confirming Hypothesis 2a. Investment into monitoring and control of remote work is not significant in its contribution to organizational readiness. Hypothesis 2b is not confirmed.

Endowing the employees with virtual communication tools enhances organizational readiness, which confirms Hypothesis 3. These tools include platforms for virtual meetings, company chats, VPN, and other technology to assist remote communication. This technology improves communication between team members and improves teamwork [24,31]. As it was put in the comments at the end of the questionnaire by one of the respondents: "When working from home, paradoxically, you have to communicate more with colleagues. I think it is an added value, it gives more value to communication even if by e-mail".

Endowment with basic ICT indicates that firms that during emergency had to intervene with the distribution of basic IT tools were in an inferior position compared to firms that already provided their employees with these tools before the crisis. This result confirms Hypothesis 4 and goes along with the literature that indicates that organizations should meet the minimum set of requirements to activate telework. Organizations that do not meet these minimum requirements are not able to react during crises quickly.

#### 4.2.2. Determinants of the Degree of Teleworking Adoption

Organizational readiness positively and significantly contributes to increasing the degree of telework adoption by firms. A higher degree of organizational readiness is associated with a higher degree of telework adoption, which confirms Hypothesis 5.

Companies' attention to employees' needs is positively related to the degree of telework adoption also at the times of COVID-19. This confirms Hypothesis 6.

Naturally, the emergency related to COVID-19 influenced companies' decisions about the degree of teleworking being implemented. This confirms Hypothesis 7.

Analysis of coefficients corresponding to the determinants of the degree of telework adoption demonstrates that organizational readiness is the factor contributing the most to its increase. Its contribution is almost twice as high as the contribution of COVID-19 itself. This evidence suggests that while restrictive measures due to COVID-19 diffusion affected all firms and forced them to rely on telework, some were more ready to face this challenge. Those companies managed to introduce telework to a greater extent. Moreover, we found that organizational readiness: (a) Is positively influenced, in order of relevance, by (a) previous experience with teleworking, organization of work by objective, the endowment of virtual platforms, (b) is negatively related with the need of basic IT endowments, e.g., PCs, (c) seems not to be altered by control and monitoring systems.

## 5. Discussion

The results of the present study suggest that the COVID-19 emergency served as a dramatic thrust for telework adoption. However, other factors played a decisive role in the definition of the degree of its adoption. Organizational readiness proved to be fundamental for defining the degree of adaptation of telework during the lockdown. Accumulated capabilities and resources together with a certain degree of agility, allow firms to be more inclined to modify their functioning in the face of an unforeseen event and exploit the redefining strategy changes [24].

Previous experience with telework is beneficial in dealing with the extension of telework for all personnel. Nonetheless, taking actions to enhance organizational readiness, like work by objectives and the adoption of virtual tools for communication, plays a fundamental role.

It may appear that firms that already experienced telework before the beginning of the crisis were those more ready for its adoption. In fact, 77% of those firms declare themselves prepared for adopting telework for at least 50% of personnel. However, among companies that did not experiment with telework before the crisis, 44% were ready to adopt it at the beginning of the restrictive measures imposed on the economy. Most companies adopted telework to a higher degree compared to what they felt they were ready for. As such, 68% of firms with previous experience in telework report higher adoption levels than their readiness levels. A similar pattern emerges among companies that did not have previous telework experience, with 73% of them adopting a higher level than their readiness level.

Organizations are not the same in adopting these measures. The sample size of the present study does not allow for the analysis of different firms' behavior separately. However, we observe some differences among the firms at the level of descriptive statistics. For instance, large enterprises are more active on endowment with virtual tools for communication: 84% of large firms made this investment against 63% of SMEs. This suggests that on one side, a large organization has more resources to invest in technology. On the other side, there is more need for technology to assist processes in large organizations than an SME.

Simultaneously, 46% of SMEs embraced actions aimed at reorganizing work by objectives, while only 26% of large companies took up these actions. It demonstrates that SMEs can be more flexible in changing their management style and reorganization in crisis times.

The next step of analysis should concentrate on investigating the heterogeneity of the role of determinants of teleworking adoption that, in turn, are shaped by strategies adopted by firms in dealing with unexpected events.

Overall experience with telework during COVID-19 is positive. Managers are generally satisfied with telework given the dramatic circumstances, attributing to teleworking's experience on average 3.79 on a Likert scale from 1 to 5. In this experience, many respondents see telework as a future development that will help increase productivity and creativity. One of the respondents left the following comment at the end of the questionnaire: "The (positive) experience will be useful in the future, to implement work plans from home, regulated and not induced by emergencies".

Some respondents noticed that providing technological resources alone is not sufficient for the application of telework, as another manager puts it at the end of the questionnaire comment: "The companies are not organized to manage and control the activities in telework. Moreover, the experienced managers, less young, know little about the tools. Above all, they cannot motivate and stimulate the imagination of the collaborators with text messages or video conferences." This observation underlines the importance of human resources in terms of manager training to embrace new forms of work organization and take advantage of them to increase R and D effort. This type of human resources has not been addressed in the literature before.

Previous research found that a minimum set of technological and organizational resources needs to be met to adopt telework successfully [13]. Our results suggest that organizational readiness is an important factor in this adoption. Analysis of managers' comments indicated that a significant role is played by managers' willingness to experiment with new methods and lead their teams remotely. As such, this finding requires an extension of the notion of human resources among factors influencing telework adoption. It needs to include managers' ability to apply work organization by objectives, forgo direct supervision and control for higher productivity and innovation, and motivate and coordinate remote workers. Future investigations should include this factor in the minimum set of requirements for telework adaptation.

Some managers see telework during the current emergency as a temporary measure and do not recognize the potential that telework can bring to R and D efforts in the company. Another comment at the end of the questionnaire states: " ... tasks involving the team and projects in continuous development deserve to be experienced in the company, where you can breathe the climate and share the objectives, in the long run, teleworking becomes alienating and turns off creativity and innovation."

## 6. Conclusions

Emergency related to COVID-19 forced companies worldwide to move some of their activities to remote where possible. The present research provides a first analysis of the telework efforts undertaken due to COVID 19 by Italian firms active in high technology sectors. While firms indicate restrictions imposed by COVID-19 emergency as their main reason to adopt telework, their ability to implement telework adoption, measured as the degree of this adoption, is dependent on their readiness to telework. Our analysis demonstrates that many firms adopted teleworking to the degree adequately supported

by their organizational readiness. The results of the present study confirmed previous findings of the importance of basic IT infrastructure, endowment with virtual platforms, and change in the organization of work. We also found evidence for an additional factor that should be considered in future investigations, represented by managers' ability to manage remote teams.

The firms willing to remain competitive should carefully consider the benefits and costs of teleworking and invest in promoting cultural change in the organization to take full advantage of teleworking opportunities. Companies need to invest in reorganizing their managerial approach to accommodate methods compatible with working from the remote, like organization of work by objectives. Moreover, there is a need to provide manager training on organizing distant teams, communicating, and motivating employees in the remote. Meanwhile, employees need to be assisted in reorganizing their working style, communicate efficiently within the team, and stay up to date with the company's objectives even from remote. Besides, governments should guarantee necessary infrastructure ensuring stable internet connection and the legislation in telework.

The study presents several limitations that should be addressed in future investigations. First of all, the only performance measure available at the time of data collection for the present study was the degree of telework adoption. The analysis assumes that more telework adoption is positive for firms. Future studies need to investigate if more adoption leads to better performance in terms of financial indicators, productivity measures and R and D results. Next, the measure of previous experience with telework observed in the present study is minimal. To better account for the role of prior experience, it is essential to distinguish the degree of previous telework adoption and explore the additional adoption undertaken by the firms due to the health emergency. Finally, the study concentrates on firms active in the high-tech sector. While this choice allows limiting heterogeneity given by different sectors of activity, it hinders the dynamics that firms in other sectors may face when dealing with telework adoption. Prospective inquiries should concentrate on the analysis of other industries to validate the results of the present study.

**Author Contributions:** Conceptualization: O.T., G.N. and R.G.; methodology, R.G.; software: O.T.; data collection: G.N.; writing—original draft preparation: O.T. Section 2.1, Section 2.2, Section 4.2; R.G. Section 4.1; G.N. Section 1; Section 5 was written jointly by the authors: O.T., G.N., R.G.; funding acquisition: O.T.; revisions: O.T. All authors have read and agreed to the published version of the manuscript.

**Funding:** The APC was funded by Free University of Bolzano, project WW 2093.

**Institutional Review Board Statement:** Not applicable.

**Informed Consent Statement:** Not applicable.

**Data Availability Statement:** Restrictions apply to the availability of these data. Data was obtained from "Ufficio Study", Fondirigenti, Italy, and can be requested for research purposes upon approval from "Ufficio Studi", Fondirigenti (www.fondirigenti.it).

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

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