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CONSIDERATIONS IN THE USE OF WORK- FROM-HOME (WFH) FOR POST-PANDEMIC PLANNING AND MANAGEMENT

1. Introduction

At the writing of this paper, in March of 2021, businesses and organizations worldwide were looking forward to post-pandemic operations in societies freed from lockdowns. Whether these hopes are realized may remain uncertain for years to come. Epidemiologists have warned that at any time and place, a range of outcomes are possible. There could be further lockdowns due to new waves of Covid-19 or other diseases, or completely open societies, or conditions somewhere in between (See for example Saad-Roy et al, 2020, and Murray and Piot, 2021).

Meanwhile, managers face questions regarding the future use of work-from-home (WFH) arrangements. Even prior to the Covid-19 pandemic, work-from-home had reached a fairly wide state of adoption. A 2019 survey of firms in six nations—Australia, France, Germany, Singapore, the U.K., and U.S.—found 38% to 45% of companies having WFH policies (Condeco, 2019). Typically these policies applied only to certain groups of employees, many of whom combined online

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remote work with periods of work at the firms' physical premises. Covid-19 drove up WFH usage dramatically: "Before the pandemic, about 15% of US employees were working from home at least some of the time. During the first half of April, half of US employees were doing all of their work remotely" (Sull et al, 2020).

Initial questions for managers are whether to continue, expand, or scale down remote work, or in some cases whether to introduce it. Beyond that, there are many considerations to address, involving the best uses of WFH and how best to manage it. This paper does not aim to provide definitive answers. Indeed, a core message is that conditions and results may vary. However, there appear to be some general findings and principles which are useful to know about. The paper sets out to elucidate these in two ways: through a concise review of the extant literature, and analysis of findings from an original, international survey. Both are presented within the context of attempting to plan for a future beyond the COVID-19 pandemic and its associated lockdowns. While WFH during the pandemic cannot be equated with the option during normal circumstances, this article shows that successful use of the concept is dependent on understanding its limits, fostering good communication, ensuring access to resources, and focusing on the cultivation of company culture outside the four walls of a traditional business structure.

2. Review of the Literature

As Besley and Stern (2020) stated, emergence from lockdown is an economy-wide matter of "transition from rescue to recovery," and many companies decided to make remote work an ongoing part of their transition. In midtown New York City, vacancies in commercial office space were high at the end of 2020, as numerous business tenants either did not renew their leases or rented less space than before: "Employers have discovered that productivity does not necessarily suffer in the absence of shared work space and that smaller office footprints and more lenient work-from-home policies might make lasting economic sense" (Haag and Rubenstein, 2020). In Australia, the pandemic led many firms and nonprofit organizations to make policies allowing employees to work from home permanently (de Prazer, 2020), and a multinational survey of CFOs found 74 percent of organizations planning to shift some employees to permanent remote work (Lavelle, 2020).

A key incentive is that WFH provides measurable benefits to all parties involved. Employers can save money on physical facilities and workplace amenities, while employees save the time and cost of commuting and may, ideally, enjoy a "better

balance between family and work.” (Kwon and Jeon, 2020) Productivity may also increase with use of WFH. In a pre-pandemic experiment conducted at a Chinese firm, Stanford professor Nicholas Bloom found that customer service employees working from home outperformed those co-located in call centers. (Bloom, 2014) A wider-based longitudinal study, conducted with a group of companies in 2013 and repeated during lockdowns in 2020, found productivity gains from online remote work for a range of various kinds of “knowledge workers” (Birkinshaw et al, 2020).

But there are potential downsides as well. Bloom, for example, noted that his research dealt only with a type of work “which is easily measured and easily performed remotely.” He posited that “The more robotic the work, the greater the benefits” of having employees work from their homes, and cautioned: “More research needs to be done on creative work and teamwork” (Bloom, 2014). Indeed for some companies, creative work has been a factor that weighs against the use of work-from-home. IBM, which had been an early adopter of WFH in the late 20th century, announced plans in 2017 to move thousands of remote workers back into co-located office facilities. According to IBM executives, the decision was driven by the belief that innovation works better when people collaborate in person—and for many companies in rapidly changing industries, “the value of innovation is so strong that it trumps any productivity gain [from working remotely]” (Kessler, 2017).

Kessler noted that Google, another company relying heavily on innovation, has long minimized WFH arrangements. Google moved quickly to a WFH basis in response to the pandemic but has shown no interest in maintaining a large remote workforce. The company entered 2021 with plans to move to a “hybrid” model, in which employees could work remotely part of the time while spending the majority of each work week on company premises. Google’s hybrid model is a complex one, involving the design of new collaborative spaces and use of flexible scheduling (Kelly, 2020; Wakabayashi, 2020).

In short there appears to be no simple consensus on the value of remote work versus work done in physical colocation, either among companies or among researchers. A pre-pandemic article, which summarized many research findings, concluded that impacts on productivity may vary depending on the type of work involved (Useem, 2017). For individual projects and work that requires extended contacts with clients, “the office has little to offer besides interruption.” Therefore, provided that home interruptions do not present a major concern, these types of work might be done more productively from home (Useem, 2017).

Some have argued that even creative work in small groups can be accomplished on a WFH basis more easily than in the past, thanks to the emergence of increasingly sophisticated tools for remote interaction. One example is pair programming, an approach to software development that normally requires two coders working side-by-side. An expert in pair programming reported that new tools allow the pair method to be used between remote partners, in a form that nearly replicates in-person pairing (Prakapchuk, 2020). However, many work activities require collaboration in teams or groups larger than two—including most software projects, of which pair programming is only one possible element. In a large-scale (n=608) study of software developers who were forced to work from home during the pandemic, researchers found that several factors important to team productivity were negatively impacted, especially “awareness of what colleagues are working on,” “ability to make decisions at a team,” “ability to brainstorm with team members,” and “difficulty communicating with colleagues.” (Miller et al, 2021). Also, many work activities are not as structured or as narrowly focused as writing predetermined segments of code. Remote collaboration can become more challenging in complex multi-person exchanges and in cases that call for making judgments about others, such as employment interviews or investment decisions, because “we make sense of the world and our interactions through our body language, emotions, and embodied experiences, all of which are much different in a virtual space” (Howard-Grenville, 2020).

2.1. Findings on effective management of work-from-home

Keeping in mind that different types of work may be more or less conducive to WFH, it is possible to find agreement on some basic principles for managing remote workers effectively. A factor mentioned by several authors is assuring that remote employees have a strong sense of “autonomy” or “self-efficacy,” since they must manage themselves to a large degree. Thus, an early study of remote work found that “it may be possible to enhance employees’ work performance through management efforts to improve employees’ remote work self-efficacy” (Staples et al, 1998). Elaborating further, a study during Covid-19 recommended creating “empowered environments ... by ensuring that employees have access to important information, resources, and support ... and provid[ing] opportunities for growth and development” (Travers et al, 2020). Other researchers have focused on the virtues of “transformational leadership,” with one study

describing transformational leaders as those who are able to “act as inspirational role models, consider their employees individually ... [and who also] motivate their employees through an effective communication of a positive vision for the future” (Bark et al, 2016).

In a global survey conducted in April 2020, employees cited “frequent” and “high quality communication” from management as important factors in making the pandemic-driven transition to WFH (Sull et al, 2020). These newly remote employees valued “total transparency” on topics such as the reasoning behind management decisions, and how the company’s business was doing. They also found value in multimodal, interactive forms of communication, including live video sessions combined with email updates, and mechanisms that allowed them to ask questions and give feedback. (Sull et al, 2020) Some companies have even tried to recreate, online, the informal interactions that can lead to serendipitous exchange of useful ideas and information. One way of doing this is to hold virtual “watercooler meetings” periodically. A venture capital firm, using this method to share news and insights about subjects that could affect the investment portfolio, found the meetings to be “highly effective” for “staying on top of changing needs” (Manes, 2020). Some research suggests that informal, online socializing among remote workers may help to boost productivity, regardless of whether work topics are discussed (see for example Miller et al, 2021). Although it appears that more research in this area is needed, startup companies that offer “watercooler”-type socializing software have flourished during the pandemic (Finnegan, 2021).

There have been attempts to use personality testing to identify employees or job candidates who are best suited for working from home. One notable pre-pandemic study applied the “Big Five” OCEAN model, which measures personality along five dimensions—openness to new things, conscientiousness, extroversion, agreeableness, and neurotic tendencies—but the findings defied the research team’s hypotheses, and did not appear to be highly useful. By the criteria of the study, the best WFH candidates were both agreeable and neurotic; the researchers found the other three personality factors to have no significant effects (Clark et al, 2012). More recently, the owners of the Myers-Briggs personality test published an independent research report, which concluded with recommendations for using Myers-Briggs Type Indicator (MBTI) profiles to tailor work-from-home arrangements to individual candidates (Thompson et al, 2018). At nearly the same time, however, a survey article in *Scientific American* questioned the validity of personality testing for uses like those just mentioned (Chen, 2018).

Finally, research has been done on helping remote workers to maintain focus and energy levels. One potential solution to “Zoom fatigue” was suggested by researchers in online education, who reported that “shorter, more frequent sessions” work better than long sessions requiring sustained attention (Thistlethwaite et al, 2020). Also, “building in downtime between videoconferences” and taking occasional breaks away from the screen can be helpful (Ebner and Greenberg, 2020). Other researchers note that online group meetings, which tend to receive a great deal of management attention, are not the only aspect of WFH. People working from home spend much of their time either in solitary work at the computer screen or dealing with phone calls and messages, and as a result, they may find that they can never truly step away from their jobs; they experience “work intensification and a greater inability to switch off” (Felstead and Henske, 2017).

Further, parents with young children face a paradox: While WFH may require them to spend more time than usual on job-related tasks, there is also a dramatic increase in “unpaid work time” devoted to child care and related home duties (Craig and Churchill, 2020). According to Couch et al (2021), such people often work at odd hours to maintain their productivity, such as late at night or on weekends, which presents another difficulty in the sense that colleagues and managers may not be available at those times. The authors suggest that managers should take this into account when planning and scheduling remote work. For example, in reporting and commenting on one person’s work diaries, they wrote:

- [The woman] perceived that “WFH involves excellent levels of productivity, but this doesn’t just happen in a neat 9-5 clock,” highlighting the notion that flexible WFH, embedded within domestic complexity, could be better legitimized. She thought there was “great potential to plan, structure and support components or whole jobs that can be done from home, respecting their fixed and flexible elements” (Couch et al, 2021).

Another research paper, likewise written during the pandemic, observed that there are limits to what managers can do to make remote work tolerable and effective. According to this research team, persons involved in highly demanding “creative” work tend to do best when they practice “proactive vitality management,” using the methods that suit them best for “managing physical and mental energy to promote optimal functioning” (Op den Kamp et al, 2020).

2.2. General considerations and caveats

The planning and management of remote work does not occur in a vacuum. It relates to a company's use of information technologies, as well as to overall business strategy. Contreras Hernández et al (2019) emphasize the importance of integrating IT planning with strategic planning. The authors also describe how this could be done with application of the IT4+ model, which the government of Colombia has used for planning public services. Guderian et al (2020) observe that in crisis times like the pandemic, many firms make short-term survival decisions that can interfere with longer-term innovative activity. The authors suggest "proactive" approaches for reviving or maintaining innovation, which can range from new uses of patenting and licensing, to the formation of strategies that combine near-term survival tactics with plans for post-crisis recovery and growth. Airbnb is cited as an example of a company that appears to have developed such a strategy (Guderian et al, 2020). Innovation often begins with recognizing business opportunities, and as Shepherd et al (2016) have noted, opportunity recognition can come "from the bottom up"—i.e., from employees detecting potential opportunities, which they pass on to management. Therefore, in managing both WFH and in-person work arrangements, managers should consider how to devote attention to recognizing and encouraging bottom-up opportunity communication (Shepherd et al, 2016).

Although many companies may decide to use WFH on a selective or part-time basis, a 2020 article in *MIT Sloan Management Review* warned that "cultural" negatives threaten to occur when entire staffs of employees work full-time from home: "The coronavirus pandemic's office exodus risks diminishing company culture unless leaders take action to support it." As the author described it, culture is a set of shared values, habits, and practices "that guide action and interaction" in the company, and working separately and remotely can erode the social cues and bonds sustaining the culture. (Howard-Grenville, 2020) Looking beyond the borders of a single company, Besley and Stern (2020) noted that the pandemic has obviously had far-reaching effects on the economies and societies of nations. They recommend that public officials and business leaders work toward recovery policies that are both viable and humane, starting from the latter consideration: "It is important to recall that the economy does not exist as an end in itself, but because it allows people to work and make a living and to acquire goods and services" (Besley & Stern, 2020).

In terms of managing remote employees, several authors caution against projecting pandemic experiences into the future. "It is also important to note

that pandemic WFH is not the same thing as WFH during normal times,” write Miller et al (2021). In the aftermath of any crisis, pre-crisis behaviors can either return nearly unchanged, or vanish, or be transformed. This is true for customers and also for suppliers and other stakeholders, including employees (Patnaik et al, 2021). During the forced isolation of the pandemic, for example, many people found pleasure in stay-at-home activities such as “home cooking,” but “It is not clear whether this is the beginning of a solid trend or a short-lived pandemic fad” (Larue 2020). Similarly, working online from home during the pandemic was a means of having regular contact with people other than housemates, but this form of virtual contact is not guaranteed to remain so attractive after lockdowns are lifted. Couch et al (2021) raised an additional cautionary note, pointing out that managers should not rely too much on employees’ self-reports of commitment and satisfaction with WFH during lockdown times. The pandemic caused widespread job loss, creating pressure for remote employees “to present [themselves] as ‘ideal workers,’ free from other responsibilities”—even if they were struggling to balance WFH with the demands of home life (Couch et al, 2021).

Finally, business planning on all levels should address the possibility that pandemic conditions may return (Szymkowiak et al, 2020), and companies that continue using WFH may to some extent be better prepared for that possibility.

3. An Original Survey

During August 2020, about five months into the global spread of the pandemic, the author of this paper conducted an international survey exploring impacts and management responses, with a focus on the adoption of remote work. The survey was emailed to a non-random but diverse list of people, drawn mostly from two sources: former graduate business students of the U.S.-based author and a Poland-based colleague, all of whom had finished their studies and entered the workforce; and contact information provided by private- and public-sector associates of the author and her colleague. About 400 persons received the survey and 158 responded. Of these, about 10% identified themselves as C-level executives or founder/owners, 27% as managers, another 27% as professionals with leadership responsibilities, and the rest as either practice-oriented professionals, educators, or “other.” (Note: all percentages here are rounded to whole numbers, e.g., 10% and not 9.8% or 10.25%.) They came from countries throughout North America and Europe, as well as some in South America and the nation of South Africa.

The attached survey contained 26 structured questions, each asking respondents to check an answer from a list of possible replies, along with blank spaces for comments. The answers were then compiled and analyzed. (Providing comments was optional, not required.) Questions included:

- 5 identifying questions on topics such as the type of business the person’s organization engaged in (a choice of 12 categories, such as manufacturing, retail, education, etc.), and the extent to which operations were either in-person or online before the pandemic,
- 21 questions about impacts of the pandemic and lockdowns, and management responses and results. Topics included the challenges and effects of various kinds of remote work.

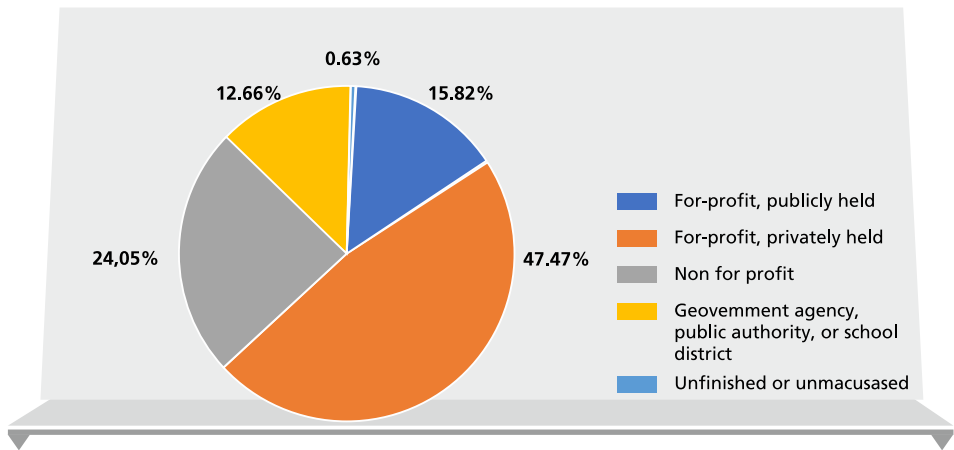


Figure 1. Respondents by Organization Type

Source: own study

Table 1. Respondents by Organization Type*

For-profit, publicly held	15,82%
For-profit, privately held	47,47%
Not for profit	24,05%

Government agency, public authority, or school district	12,66%
Unfinished or unmacucased	0,63%

*Subjects could choose more than one response, hence the responses indicated in the percentage will show more than 100%.

Source: own study

Table 2. Respondents by Size of the Organization's Staff*

Over 1,000	20,89%
100-1	23,42%
20-100	32,91%
Under 20	22,78%
Unfinished or unmacucased	0,63%

*Subjects could choose more than one response, hence the responses indicated in the percentage will show more than 100%.

Source: own study

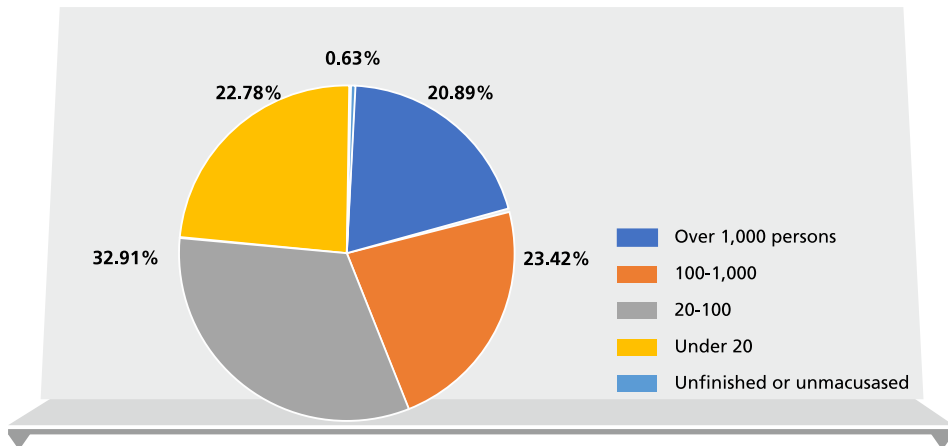


Figure 2. Respondents by Size of the Organization's Staff

Source: own study

Table 3. Types of Businesses Represented*

Manufacturing, supply chain, or B2B mechanical	10
Software/online platform/IT services	16
Transportation or logistics	17
Construction	10
B2B professional services (e.g. consulting, advertising)	9
Investment/finance	5
Consumer services	45
Retail sales (including restaurants or taverns)	58
Electric or fossil-fuel power/utilities	2
Education or philanthropy	25
Health care	11
Arts/media/entertainment	3
Unfinished or unmacucased	3

*Subjects could choose more than one response, hence the responses indicated in the percentage will show more than 100%.

Source: own study

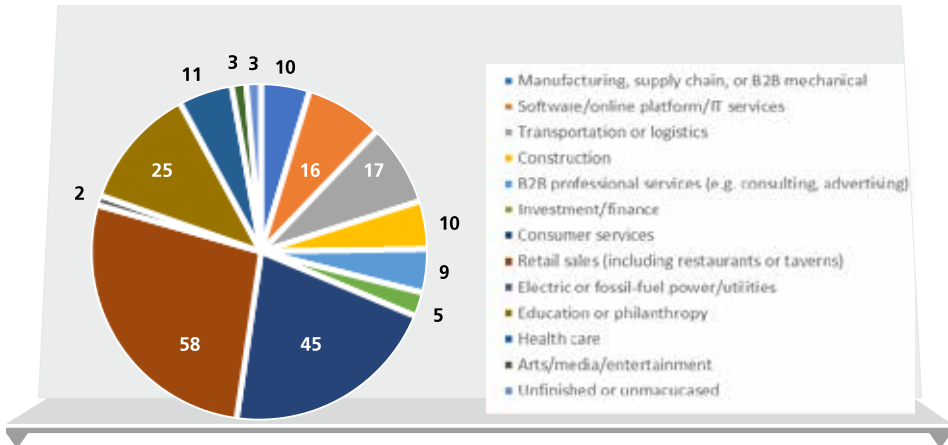


Figure 3. Types of Businesses Represented

Source: own study

Table 4. Positions of Survey Respondents

C-level, VP, or founder/owner	9,49%
Manager	26,58%
Professional, with team- or project-leading responsibilities	26,58%
Professional, practice-oriented	13,29%
Professor	4,43%
Other	17,72%
Unfinished or unmacucased	1,90%

*Subjects could choose more than one response, hence the responses indicated in the percentage will show more than 100%.

Source: own study

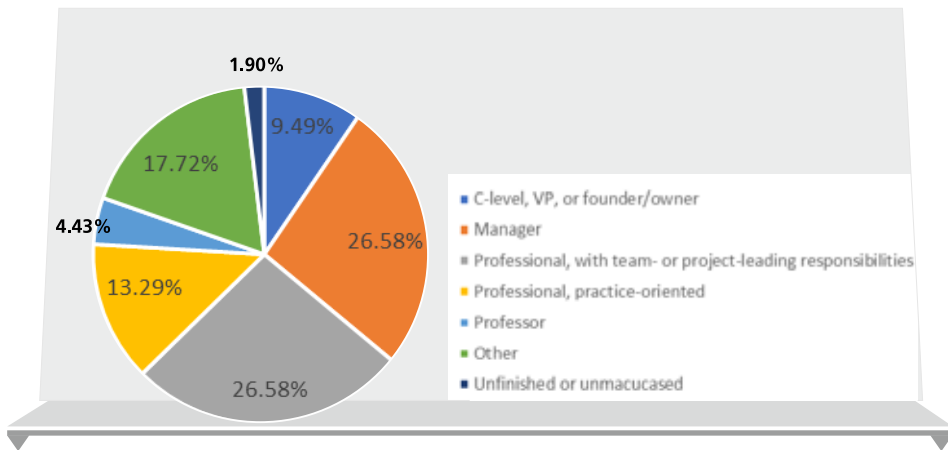


Figure 4. Positions of Survey Respondents

Source: own study

4. Survey questions

Survey questions were broken into three categories: statistics about the business; questions about preparedness for a Covid-19 shutdown the affects on the business; and the effectiveness of working from home, both in terms of logistics in accomplishing the same level of service and results with customers. There were also open-ended questions such as places for comments on each question, “what more could your organization do to help things run smoothly,” and “please note anything at all you’d like to mention about your work experience,” which allowed the researchers to get a better grasp of the things that were important to the respondents.

Questions about the Covid-19 shutdown were designed to get an overall picture of the health of the organization when facing a high-stress challenge. Topics included effects of the shutdown (possible answers included large or total drop in business volume; increase in demand and revenues; conducting business pretty much as before; customer-facing aspects have moved from physical to online; and internal operations moved from physical to online). The amount of time spent planning for shutdown and the change in staffing levels was also analyzed, asking participants to rate on a scale of 0-5 how the organization handled the transition with specific questions asked to address if they understood the policies during this time and felt supported.

Analyzing the technological capacity for WFH activities included questions that addressed if everyone had the tools, technologies, information and reference materials needed; how well they felt work went with the change and if productivity levels dropped; and how they felt staff morale was affected. Specific questions were asked about challenges, whether time-tracking software was implemented, and how workload changed. Finally, there were questions to address the emotional burden of the pandemic changes, such as categorizing how home duties interfered with work, rating mental and emotional health, and if any lessons have been learned.

While this selection of questions cannot address the comprehensive experience of a business dealing with restrictions, changing their entire work system, and pivoting to incorporate changes due to government regulations, it does paint an overall picture of the health of an organization and if their strategies during this time were effective or could have benefited from more foresight and planning. Researchers felt that the compilation of questions gave them insight into newly implemented WFH protocols and the extent to which companies were able to find success.

5. Survey results

Most survey subjects said their organizations had moved some or all work activities online as a result of lockdowns. Of the 11% who reported doing business “pretty much as before, with physical protective measures,” several commented that their work units performed so-called essential work, such as operating an electric power plant. As for the general business impact of the pandemic, responses ranged between two extremes:

- 30% reported a “Large or total drop in volume of business”,
- 42% reported “Major cuts to staff”.

And conversely:

- 17% reported an “Increase in demand and revenues”,
- 22% reported “Adding staff”.

This was not surprising, as it is well known that some industries (such as travel and hospitality) were hurt by lockdowns while others prospered. All other survey subjects either reported minor changes in business volume and staffing, or said that these levels were “about the same” as pre-pandemic.

As for the management of work-from-home, one distinction stood out to us:

- the great majority of survey subjects (80%) said their organizations provided the *technologies* needed for remote work. Only 11.6% called technology access “a problem with no good solution in sight”,
- but access to *information and reference materials* needed for remote work was a different matter, with nearly half (49%) identifying these as problem areas, and 28% seeing “no good solution” ahead.

These responses paint a picture of IT for remote work in which many people have the “T,” the technology, but lack the “I”—the information that the technology is meant to help them acquire and process. One can see how this might occur. Online technologies are fairly standardized and widely applicable, whereas the information needed for particular jobs can vary and may change as new needs arise. Indeed, we received comments that appear to support this explanation. In regard to technology, one respondent wrote: “Video conferencing and file sharing have become so convenient that we are satisfied with the telecommunication technologies.” On information and communication, however, there were complaints, such as “More internal communications for planning [are needed]” and “Email response from some employees is very slow.” Whatever the case, the implication seems clear: *Communication and access to information are critical areas for management to address when employees work from home.*

In another set of findings that seem noteworthy but not surprising, most subjects judged the results of remote work and interaction to be inferior to in-person interaction, even after several months of adjustment to WF:

- 44% said *meetings and group sessions* went “not nearly as well” remotely, while 19% answered “not quite as well”,
- 38% said *productivity* was “not nearly as high,” while 28% answered “not quite as high”,
- by almost identical 38% and 28% numbers, *customer interaction* was reported to be not nearly or not quite as good.

Conversely, smaller but far-from-trivial numbers of subjects said that working remotely had *improved* group sessions (15%), productivity (18%), and customer interaction (20.8%). Our survey was not finely detailed enough to trace out possible reasons for this divergence. One correlation we found, however, was this: Nearly all responses from the education sector—whether in primary, secondary or tertiary institutions—reported negative rather than positive effects from moving to an all-online mode. Also, across industry sectors, we did receive some comments from people who felt that group meetings were improved. They said online meetings usually went quicker than in-person meetings and tended to stay more on purpose, with less wasted time. One possible implication here: if online meetings can in fact be conducted in this manner, that is helpful, and it can be seen as an instance of leveraging the potential advantages of virtual remote work.

Distractions from working at home were a significant or at least occasional issue for 46% of survey subjects. And, in a question that asked “What has been most challenging about working separately and remotely?”, three areas of challenge dominated the responses by a wide margin:

- “Keeping people on task” – 31% of all survey subjects,
- “Dealing with crises or urgencies” – 28%,
- “Making and implementing new plans” – 26%.

“Small-team collaboration” and “inter-unit collaboration” drew only a few scattered responses as the most challenging aspects of WFH. One possible implication on this point: It appears that managers should devote extra attention to remote workers when work departs from the customary course of business, as in “crises,” “urgencies,” or the making of “new plans.”

A question about morale and motivation drew interesting response patterns. A large plurality of survey subjects, about 41% (65 of 158), said that employee morale and motivation had become “more of an issue” since moving to remote work. Over 75% of those persons (49 of 65) were in organizations that had little

or no experience with online operations before the lockdowns. Therefore one factor might be that in the transition to WFH, managers and employees had been forced to adopt tools and procedures that were (a) unfamiliar to them, and (b) not normally an integral or natural part of their business. Also, 32% of the “more of an issue” group (21 of 65) were in organizations that experienced substantial loss of revenue. This could be another contributing factor, as it may be hard to maintain morale and motivation in companies where the chances of survival do not look good. (Typical comments: “I’m worried about my job.” “We service only 25% [as many] customers now.”)

Conversely, about 15% of survey subjects reported improved morale and motivation. Of these, nearly half worked in organizations that enjoyed increasing demand and revenue. Comments from this group included “We are very busy” and “Happy to work from home.” Furthermore, although it is only a sample size of one, there was a comment from the improved-morale group which struck us as potentially meaningful. The person wrote: “In the office, morale is an issue. From home, I can make my happy place.”

One could draw an ironic hypothesis from this statement. In a toxic workplace, or even one where the culture is less than optimal, can remote work be used to reduce interpersonal tensions and perhaps help people become generally happier and more effective? A September 2020 news report found evidence to contrary. If the workplace culture has been severely toxic, moving the entire staff to WFH may be no solution at all: Negative behaviors tend to travel with the people and may in fact worsen, since remote work can allow employees to do things they would not attempt in person (Liu, 2020). Still, it seems possible that selective use of WFH could be a tool for managing interactions and thus improving the overall work environment.

For the survey question “What will be priorities for your organization when things re-open?”, the most common response (51%) was “Building on new opportunities,” which appears to indicate optimism. Almost all other respondents answered in terms of “recovering” from lost revenue, time, or staffing cuts. Other interesting responses came when we asked what had been learned, during lockdown, that could be useful going forward. The most common answers from a list of choices were:

- “Seeing who among the staff responded well and who didn’t” (33%),
- “Seeing weaknesses or failure points in the organization” (30%).

These answers indicate that the economic and social stresses of the pandemic, combined with a sudden move to remote work, served in a sense as diagnostic tests. Companies that are able to respond to what they learned, by addressing

weaknesses and making adjustments to staffing, may be better prepared to move forward with their plans for a post-pandemic future.

6. Uses and limitations of the survey

Our August 2020 survey had two major limitations, the first of which was inherent in survey design. The survey was kept relatively brief, in order to encourage responses, and it was sent to people in a very wide cross-section of organizations and locations, with the hope of revealing general tendencies in the use of WFH that might transcend particular industries or geographies. We believe this goal was accomplished. For example, of the 12 industry categories listed in the identifying questions, we received responses from multiple persons working in each of the 12. We also found that the answers to most questions had no observable correlation to any particular industry. (The lone exception, as noted, being a preponderance of negative reactions to remote work in the education sector.) However, this survey design had a downside. Given the brevity of the survey instrument, it was not possible to examine many nuances in the management and use of remote work, nor could the survey deliver targeted information that might be especially helpful to managers in specific industries or kinds of organizations. Other research will have to fill in these gaps, and certainly a great amount of research on WFH is being done.

The second major limitation of the survey has to do with its timing. Although the August date allowed us to capture responses from sustained use of WFH over several months—and not just initial reactions to the sudden changeover to remote work, as was the case with many studies done earlier—the survey was nonetheless done in the midst of the pandemic, with most places around the world still in moderate-to-major lockdown conditions. Therefore we would repeat the caveat quoted earlier in the literature review: “pandemic WFH is not the same thing as WFH during normal times” (Miller et al, 2021). For example, the survey’s findings on morale and motivation may have been influenced by the general mood of people as the pandemic dragged on. In response to a question on the topic, 39% of survey subjects reported increased overall levels of anxiety or depression, while 29% chose the response saying they felt “Fine now, but concerned about the future.”

7. Concluding Remarks

Considering the literature review and the survey results together, the following general conclusions can be drawn:

1. In any use of work-from-home, communication and access to information are crucial. Communications from management should be frequent, clear, and multimodal. Assuring that all remote workers have access to the job-related information they need, it is difficult but essential.
2. Small-group collaboration on well-specified tasks appears to be quite doable on a remote basis. Increased management attention may be needed for complex or ill-defined tasks, coordination of large groups, and any task that deals with changing conditions or new ventures.
3. People vary greatly in how well they adapt to WFH. In all survey questions that allowed the response “Depends on the individual”—such as in questions about morale and motivation, and whether distractions from home are an issue—30% to nearly half of survey subjects chose “Depends on the individual.” Further, the literature review indicates that personality testing may not be very helpful in assessing who will adapt well, and it also indicates that management attention to individual needs is desirable.
4. Work-from-home can save time and money for both employers and employees in some respects, such as reducing physical facility costs and commuting time. But WFH may require more time or money in other respects: for instance, managers may have new needs to address, and many remote workers report working for longer times at odd hours. The tradeoffs should be considered, and they may differ from one organization to another.
5. To repeat once more this caveat: Experiences with remote work during the pandemic should not be simply projected into the future. Economic and social conditions may be different and results may differ as well.

The survey results seem to agree with the literature review in that WFH is not a one-size-fits-all solutions across businesses or industries and naturally fits better with some models as Bloom noted. As noted, some of the respondents in the field of education felt they had more challenges connecting with their “customers”—the students—and that an integral part of their job—building relationships—is hindered through an online platform. WFH is a viable option in many companies and a very useful solution in times when meeting face to face is impossible, but it appears that for many, a hybrid model may be more efficient, especially in certain sectors, such as programming as mentioned. For companies wanting to offer the best work/life balance, as Kwon and Jeon discussed in their research, this flexibility can be a huge perk for job seekers. As discussed previously by Larue, only time will tell what the trend in WFH ends up being.

The above points lead the author to close with a personal observation. There has been a tremendous amount of popular literature on how to manage WFH, with numerous lists of principles or tips to follow, and no doubt a good bit of received wisdom on the subject is circulating through people's personal networks and contacts. While much of this information may be useful, we must also be aware that many findings by many researchers have a common theme—which is that situations, individuals, and results may vary. Good managerial judgment, grounded in knowledge of one's organization and people, will always be needed.

Summary

Considerations in the use of work-from-home (wfh) for post-pandemic planning and management

after widespread use of work-from-home (a.k.a. 'remote work') during the COVID-19 pandemic, many organizations intend to continue or expand its use into the future. This paper presents a literature review and results from an original survey, both of which point to key considerations for planners and managers. Subjects that are highlighted include: giving remote workers access to job-related information they need; recognizing that certain types of tasks may be more challenging to manage in WFH, such as loosely specified tasks and those involving substantial change or newness; and issues that arise in regard to morale and motivation.

Keywords

and phrases: work-from-home, WFH, remote work, post-pandemic management, post-lockdown management.

JEL

Classification: M1, M14, M15

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References

- Bark, A. S.H., Escartín, J., Schuh, S. C., & Dick, R. V. (2016). Who leads more and why? A mediation model from gender to leadership role occupancy. *Journal of Business Ethics*, 139(3), 473-483. doi:10.1007/s10551-015-2642-0
- Besley, T. & Stern, N. (2020) The economics of lockdown. *Fiscal Studies*, 41(3): 493-513.
- Birkinshaw, J., Cohen, J. & Stach, P. (2020) Research: Knowledge workers are more productive from home. *Harvard Business Review*, 31 August 2020, https://hbr.org/2020/08/research-knowledge-workers-are-more-productive-from-home?ab=at_art_art_1x1
- Bloom, N. (2014) To raise productivity, let more employees work from home. *Harvard Business Review*, January-February 2014, <https://hbr.org/2014/01/to-raise-productivity-let-more-employees-work-from-home>
- Chen, A. (2018). How accurate are personality tests? *Scientific American*, 10 October 2018, <https://www.scientificamerican.com/article/how-accurate-are-personality-tests/>
- Clark, L.A., Karau, S.J., & Michalsin, M.D. (2012). Telecommuting attitudes and the 'big five' personality dimensions. *Journal of Management Policy and Practice*, 13(3): 31-46, http://www.na-businesspress.com/JMPP/ClarkLA_Web13_3_.pdf
- Condeco (2019). The modern workplace: people, places & technology. White-paper report. https://www.condecosoftware.com/resources-hub/wp-content/uploads/sites/8/2019/05/Condeco-workplace-report-2019-Digital-Copy.pdf?utm_campaign=Global%20-%202019%20-%20The%20Modern%20Workplace%202019&utm_source=MWR-2019&utm_medium=download-the-report&submissionGuid=f870ff46-6342-4f67-9b92-e324043f8454 (accessed 9 March 2021)
- Contreras Hernández, L., Velásquez Pérez, T., & Castro Silva, H. (2019). Strategic planning model of information technology that allows alignment with the IT4+ model. *Journal of Physics. Conference Series*, 1257(1), 12015. doi:12015. doi:10.1088/1742-6596/1257/1/01201
- Couch, D.L, O'Sullivan, B. & Malatzky, C. (2021). What COVID-19 could mean for the future of 'work from home': the provocations of three women in the academy. *Gender, Work & Organization*, 28(S1): 266-275, doi: 10/1111/gwao.12548
- Craig, L. and Churchill, B. (2020). Dual-earner parent couples' work and care during COVID-19. *Gender, Work, and Organization*, 28(S1): 66-79, doi:10.1111/gwao.12497.

- De Prazer, V. (2020). Australian Psychological Society / Coaching Psychology Interest Group Chair's Report. *International Coaching Psychology Review*, 15(2), 126.
- Ebner, N., & Greenberg, E. E. (2020). Designing binge-worthy courses: pandemic pleasures and COVID-19 consequences. *Negotiation Journal*, 36(4), 535-560. doi:10.1111/nej.12339
- Felstead, A., & Henseke, G. (2017). Assessing the growth of remote working and its consequences for effort, well-being and work-life balance. *New Technology, Work and Employment*, 32(3), 195-212. doi:10.1111/ntwe.12097
- Finnegan, M. (2021). What's next for remote workers? A virtual 'watercooler.' *Computerworld*, 18 February 2021, <https://www.computerworld.com/article/3607976/whats-next-for-remote-workers-a-virtual-watercooler.html>
- Guderian, C.C., Bican, P.M., Riar, F.J., & Chattopadhyay, S. (2020). Innovation management in crisis: patent analytics as a response to the COVID-19 pandemic. *R&D Management*, 51(2) 223-239.
- Haag, M. & Rubenstein, D. (2020). Midtown is reeling. Should its offices become apartments? *New York Times*, 11 December 2020, <https://www.nytimes.com/2020/12/11/nyregion/nyc-commercial-real-estate.html>
- Howard-Grenville, J. (2020). How to sustain your organization's culture when everyone is remote. *MIT Sloan Management Review*, 24 June 2020. <https://sloanreview.mit.edu/article/how-to-sustain-your-organizations-culture-when-everyone-is-remote/> (accessed 20 October 2020).
- Kelly, J. (2020) Google CEO Sundar Pichai calls for a 'hybrid' work-from-home model. *Forbes*, 28 September 2020, <https://www.forbes.com/sites/jackkelly/2020/09/28/google-ceo-sundar-pichai-calls-for-a-hybrid-work-from-home-model/?sh=4a6ffcf9cf>
- Kessler, S. (2017). IBM, remote-work pioneer, is calling thousands of employees back to the office. *Quartz*, 21 March 2017. <https://qz.com/924167/ibm-remote-work-pioneer-is-calling-thousands-of-employees-back-to-the-office/> (accessed 23 October 2020)
- Kwon, M., and Jeon, S. H. (2020). Do leadership commitment and performance-oriented culture matter for federal teleworkers satisfaction with telework programs? *Review of Public Personnel Administration*, 40(1), 36-55. <https://doi-org.ezaccess.libraries.psu.edu/10.1177/0734371X18776049>
- Larue, B. (2020) Labor issues and Covid-19. *Canadian Journal of Agricultural Economics*, 68(2), 231-237. <https://onlinelibrary.wiley.com/doi/full/10.1111/cjag.12233>
- Lavelle, J. (2020). Gartner CFO survey reveals 74% intend to shift some employees to remote work permanently. Gartner, Inc., 3 April 2020. <https://www.gartner.com/en/newsroom/press-releases/2020-04-03->

- gartner-cfo-surey-reveals-74-percent-of-organizations-to-shift-some-employees-to-remote-work-permanently2
- Liu, J. (2020). What happens when toxic office behavior moves online while working from home. CNBC.com, 24 September 2020, <https://www.cnbc.com/2020/09/24/how-toxic-office-behavior-moves-online-while-working-from-home.html>
- Manes, N. (2020). Report: VC sector coming off 'record-breaking' 2019. *Crain's Detroit Business*, 36(15), 3.
- Miller, C., Rodeghero, P., Storey, M., Ford, D. & Zimmermann, T. (2021). How was your weekend? Software development teams working from home during Covid-19. Conference paper, 43rd International Conference on Software Engineering (ICSE 2021), preprint at <https://arxiv.org/pdf/2101.05877.pdf>
- Murray, C.J.L. & Piot, P. (2021). The potential future of the COVID-19 pandemic: will SARS-CoV-2 become a recurrent seasonal infection? *Journal of the American Medical Association*, online 3 March 2021, doi: 0.1001/jama.2021.2828
- Op den Kamp, E. M., Bakker, A. B., Tims, M., & Demerouti, E. (2020). Proactive vitality management and creative work performance: the role of self-insight and social support. *The Journal of Creative Behavior*, 54(2), 323-336. doi:10.1002/jocb.368 <https://onlinelibrary.wiley.com/doi/full/10.1002/jocb.368>
- Patnaik, D., Loret de Mola, M., & Bates, B. (2021) Creating a post-Covid business plan. *Harvard Business Review*, 8 January 2021, <https://hbr.org/2021/01/creating-a-post-covid-business-plan>
- Prakapchuk, R. (2020). Remote pair programming? Oh yes, you can. *Atlassian*, 2 July 2020, <https://www.atlassian.com/blog/technology/remote-pair-programming-tools-process> (accessed 9 March 2021).
- Saad-Roy, C.M., Wagner, C.E., Baker, R.E., Morris, S.E., Farrar, J., Graham, A.L., Levin, S.A., Mina, M.J., Metcalf, C.J.E., & Grenfell, B.T. (2020). Immune life history, vaccination, and the dynamics of SARS-CoV-2 over the next 5 years. *Science*, 370(6518): 811-818. doi: 10.1126/science.abd7343
- Shepherd, D. A., McMullen, J. S., & Ocasio, W. (2016). Is that an opportunity? An attention model of top managers' opportunity beliefs for strategic action. *Strategic Management Journal*, 38(3), 626-644. doi:10.1002/smj.2499
- Staples, D. S., Hulland, J. S., & Higgins, C. A. (1998). A self-efficacy theory explanation for the management of remote workers in virtual organizations. *Journal of Computer-Mediated Communication*, 3(4), 0-0. doi:10.1111/j.1083-6101.1998.tb00085.x
- Sull, D., Sull, C., and Bersin, J. (2020). Five ways leaders can support remote work. *MIT Sloan Management Review*, 61(4), 1-10.

- Szymkowiak, A., Gaczek, P., Kishokanth, J., & Kulawik, P. (2020). The impact of emotions on shopping behavior during epidemic. What a business can do to protect customers. *Journal of Consumer Behavior* 2021:20:48-60. doi: 10.1002/cb.1853
- Thistlethwaite, J., Locke, R., Buckley, S., Chandratilake, M., Jensen, G., Schalkwyk, S. V., & Weller-Newton, J. (2020). Global perspectives on Covid-19 from the editorial board. *The Clinical Teacher*,17(3), 234-237. doi:10.1111/tct.13167
- Thompson, R.C., Haynie, S.R., & Schaubhut, N.A. (2018). Myers-Briggs type and working virtually: impacts on work setting arrangement and training and development preferences. CPP, Inc. white paper. <https://www.themyersbriggs.com/download/item/b0bbc140634b47a29d0551a0c2d37c33>
- Travers, J. L., Schroeder, K., Norful, A. A., & Aliyu, S. (2020). The influence of empowered work environments on the psychological experiences of nursing assistants during COVID-19: A qualitative study. *BMC Nursing*,19(1). doi:10.1186/s12912-020-00489-9
- Useem, J. (2017). When working from home doesn't work. *The Atlantic*, November 2017. <https://www.theatlantic.com/magazine/archive/2017/11/when-working-from-home-doesnt-work/540660/> (accessed 22 October 2020).
- Wakabayashi, D. (2020) Google delays return to office and eyes 'flexible work week.' *The New York Times*, 14 December 2020, <https://www.nytimes.com/2020/12/14/technology/google-delays-return-to-office-and-eyes-flexible-work-week.html>