Microsoft's COVID-19 Workplace Flexibility

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ABSTRACT

As the COVID-19 pandemic wreaked havoc on humanity-instituted systems worldwide, organizations of all sizes and across all industries made significant work-life changes to survive. The entire global work structure was quickly revised and adjusted to keep the deteriorating economy operational through work from home (WFH) arrangements. However, these arrangements' long-term viability is uncertain because of problems and challenges revealed by emerging research. A large-sample study with global representation conducted by Kamouri and Lister (2020) shows 88% of respondents regularly report on a WFH basis during the pandemic compared with 31% before COVID-19. Three-fourths of large-size organizations find their remote working experience successful; one-fourth do not (Kamouri & Lister, 2020). The study of Rofcanin and Anand (2020) disclosed several challenges encountered by employees working from home. Butler and Jaffe (2020) corroborated this, finding that family distraction, physical/mental health, meetings, and overwork were persistently high at the end of a ten-week study. Analysis of the literature suggests that examining the future viability of working from home, relative to the anticipated future normal, cannot be a one-size-fits-all approach. Instead, solutions to address employee challenges should consider the demographic and distributional difference, and organizational policies, procedures, and systems need to be significantly redesigned, given the new normal. The physical workspace may still be an element of the future work structure. Nevertheless, employers and employees will need to adopt significant changes after considering the telework-feasibility indices of the 20 NAICS-classified industry categories. Recommendations were put forward with the index to guide the prospects for workplace flexibility moving forward.

Keywords: COVID-19, WFH, telecommute, telework, remote work, workplace flexibility

INTRODUCTION TO WORKPLACE FLEXIBILITY

One of the pillars of the virtual workplace (telecommuting, teleworking, or WFH) showed much promise towards improved workplace flexibility. However, this year, a global experiment to launch the virtual workplace gained ground, prompted by the invasion of an invisible aggressor, the COVID-19 virus. Fatal and severe illness caused by COVID-19 compelled businesses worldwide to expeditiously navigate their way through the economy to buoy up their operations (Verma & Gustafsson, 2020). At the core of the upheavals in workplace dynamics is telework. In this case, the critical issue is the long-term viability of working from home, considering the problems and challenges revealed from emerging and very recent research.

The opportunity attractiveness for increased workplace flexibility has continued to grow over the last few decades. However, it appears that in the pre-COVID-19 timeline, relatively few companies successfully responded comprehensively to the challenge (Perry, David, & Johnson, 2020). Work flexibility is a complex concept as it tends to take a variety of forms and applications. It may refer to the physical location where work is performed or a career design an employee adopts. Perry et al. (2020) described three work flexibility forms: location, schedule, and work design. They also introduced a newer conceptualization of work, which they claimed as a combination and balancing act among the three forms of co-working. Meanwhile, Hutchinson (2016) looks at work flexibility from the angle of labor utilization while addressing the question of interpreting work flexibility from two viewpoints – employers and employees. To guide the discussion in this paper, flexible working is defined as "a type of working arrangement which gives some degree of flexibility on how long, where, when, and at what time employees work" (Hutchinson, 2016). However, there are a host of practices associated with flexible work, including annual hours, career breaks, compressed hours, flextime, job sharing, mobile or teleworking, part-time work, term-time working, telecommuting, and WFH (Hutchinson, 2016).

WORK FLEXIBILITY DURING COVID-19: COMPLEMENTARY SURPRISES

Pickrell (2006) suggests that the COVID-19 pandemic has seemingly impacted every single human-instituted system. Although the death toll from the H1N1 pandemic, documented by the Centers for Disease and Prevention Control as 50 million globally and 675,000 in the United States ([CDC], 2020), is much worse than current COVID-19 mortality statistics, there is bleak uncertainty about what the future holds. Nevertheless, life goes on in a global economy ravaged by the onslaught of an invisible killer.

With very little notice, organizations from all sectors and of all sizes were compelled to quickly transform their organizational structure around increased flexible working arrangements. With the hastily instituted WFH policy, both employees and employers realized the reality of work flexibility. However, the much-desired work flexibility, particularly telecommuting or working from home, often comes with an unanticipated consequence - the collapse of work-family boundaries. Working from home has resulted in widespread employee complaints of exploitation. Specifically, of increased emotional and mental stress from the combination of pandemic scare and challenges to work/family balance (Rofcanin & Anand, 2020).

Kamouri and Lister's 2020 global survey of the telework impact identified several benefits to employees. Examples include savings related to auto maintenance, dry cleaning, transportation costs, health benefits, and, higher employee productivity among three-quarters of the 2,865 study respondents.

HISTORY OF TELECOMMUTING AND EVOLUTION OF TERMINOLOGY

Frank Schiff of the Washington Post coined the term telecommuting in a 1979 newspaper article. However, Jack Nilles, a NASA engineer, physicist, and an acknowledged authority on telecommuting, published the first-ever scholarly research on the topic when he wrote his 1973 book titled, 'The Telecommunications-Transportation Tradeoff' (Pyöriä et al., 2005; Gan, 2015). Although the exact details in telecommuting's timeline are not completely clear, Coleman and Ganong (2014) associate the practice of telecommuting with the advent of personal computers. However, as observed from the literature, the evolution of terminology associated with telecommuting is marked by the addition of other terms within the umbrella of flexible work arrangements. Ellison (2004) also clarified that the 'telecommuting' term is used more in the United States, whereas telework is frequently used in Europe.

Thus, the three most popular terms with vague distinction are telecommuting, teleworking, and WFH. Based on the original work of Nilles (1973), telecommuting was the most-renowned flexible working arrangement in the 1970s. Telecommuting is defined as a work practice that involves members of an organization substituting a portion of their typical work hours to work away from a central workplace - typically from home - using technology to interact with others as needed to conduct work tasks (Allen et al., 2015). However, there are diverse definitions of telecommuting (Ellison, 2004), and many researchers disagree on what constitutes telecommuting (Raymers, 1996). Based on Nilles' pioneering article on the use of telecommunications technology instead of commuting to perform job responsibilities, we typically associate the term telecommuting as prevalent from the 1970s to 1989.

In the 1990s, teleworking was frequently used interchangeably with telecommuting, and the definition of teleworking appears to be broader in scope than telecommuting. Telework refers to "all types of work conducted outside a centrally located workspace, including work done in the home" (Ellison, 2004). In the 2000s and up to the present time, WFH or home-based work began to be used interchangeably with telecommuting and teleworking (Felstead & Jewson, 2000; Lindorff, 2000; Pratt, 2000). Thus, the literature treats these terms differently and interchangeably, but as Ellison (2004) noted, there is no consensus. As far as government reporting in the United States is concerned, teleworking is the official terminology to use since 2010 under the Telework Enhancement Act of 2010 (United States Office of Personnel Management, n.d.; Public Law 111-292, 2010). The phrases "WFH" or "working from home" became bywords for telecommuting/teleworking during the COVID 19-pandemic.

The first conference specifically on telecommuting occurred in 1980 (Herman & Windle, 2000). The rise in popularity of the concept of telecommuting, teleworking, WFH, or other terms used to refer to the concept was documented in an article by Allied Telecom (2018) and supported by several different resources. The telework boom was fueled by several events from 1992 to 2008, including the establishment of the Interagency Telecommuting Pilot Project in 1992 in Washington, DC, the celebration of "Employee Telecommuting Day" in 1994, the development of the National Telecommuting Initiative in 1996, and an appropriations bill by the United States Congress, which includes among others, an impetus to encourage the use of remote working arrangements in 2004 (Apgar, 1998, Joice, 2000, & Pasini, 2018). In 2008, Microsoft launched its Smooth Streaming technology, which was used not only for entertainment media but also for work. With the inception of this technology, web-based meetings became a staple among many companies, and the era of the remote workplace was ushered in with technology's collaboration zones. In the following years, telecommuting experienced a boom (Allied Telecom, 2018).

MICROSOFT'S RESPONSE COVID-19 THREAT IN THE WORKPLACE

At the outset of the current pandemic that laid siege on all fronts, Microsoft stood out among the first organizations to establish a WFH policy. As articulated in the research of Microsoft experts Butler and Jaffe (2020), the pandemic drastically imposed a change in organizational functioning. The company's think-tank conducted a study with 435 participants over the first ten weeks of the remote work directive. The results enabled Microsoft to identify the challenges, benefits, and overall satisfaction its software engineers (SEs) experienced during the WFH period (Butler & Jaffe, 2020).

The 435 volunteer-participants represented nearly 22% of Microsoft's 2,000 employee SEs workforce from various global locations, including India, Ireland, Israel, China, and the United States. The 10-week study revealed that Microsoft SEs most significant challenges were feeling overworked, diminished physical and mental health, and an excessive number of meetings. Meanwhile, SEs identified a number of beneficial aspects of working from home during the pandemic and, overall, reported high levels of gratitude. Additional time with family and increased work flexibility consistently rated highest among the respondents (Butler & Jaffe, 2020).

Based on the findings from the 10-week study, Microsoft identified and quickly implemented specific changes and improvements to address the most common challenges reported by the participants. One such policy was a "no meeting Friday." The research was used to inform several significant longer-term organizational decisions (Butler & Jaffe, 2020). This case study will discuss several of the changes and improvements identified by Microsoft. It will highlight the crucial role of work flexibility, not only for Microsoft, but for a broad range of organizations across many sectors. The post-COVID-19 workplace will continue to adjust to the new challenges of working from home. This case study will seek to address the previous quandary through a narrative review of pertinent and emerging literature, with Microsoft as a case-in-point.

WFH PROBLEMS GLOBALLY AND WITHIN MICROSOFT

A large-sample study with global representation conducted by Kamouri and Lister (2020) assessed the impact of COVID-19 on workplace dynamics, work performance, productivity, and related workforce outcomes, revealed that 88% of the respondents regularly report on a WFH basis during the pandemic compared with 31% before the pandemic. Additionally, nearly seven out of every ten respondents reported success in working from home, where 73%, 51%, and 63% of respondents from the Americas, Asia-Pacific, and Europe/Middle East/Africa respectively indicated that they are very successful working from home. Statistics from the Kamouri and Lister (2020) study also showed that about three-fourths of companies with a workforce of 2,500 to over 25,000 described their remote working experience as very successful. Two-thirds of the employees of smaller-sized organizations found the experience to be very successful. Accordingly, close to three-fourths of respondents from the Boomer Generation and Generation-X were very successful working from home. In contrast, only 44% and 59% of Generation Z and Generation Y respondents, respectively, reported success in working from home (Kamouri & Lister, 2020).

Even if three-fourths of the employees in large organizations find their remote working experience successful, the remaining one-fourth do not. The study of Rofcanin and Anand (2020) disclosed several challenges encountered by employees performing their job roles and responsibilities via WFH arrangements. These challenges include indistinct work-family boundaries, conflicting work and home domain roles, stress, and lower motivation to work. In another large-sample study, 35.5% of employees surveyed confided either

indifference to or even relative or certain negativity impact of working from home related to their work-life balance (Baert et al., 2020). In the same study, close to 50% of the participants felt their work-related stress and the level of their work concentration had been negatively impacted since their work from the office transition home. Furthermore, close to one-fifth of the employees disclosed that they experienced more family conflicts working from home during the pandemic. Similarly, over one-third of the employees acknowledged that family members disturb them as they WFH (Baert et al., 2020). Thus, the generalization made by Rofcanin and Anand (2020) about WFH challenges is sustained in Baert et al. (2020).

The global study among Microsoft SEs conducted by Butler and Jaffe (2020) summarized results relative to the challenges encountered in two-week periods. In the first two weeks, the most reported WFH issues were connectivity (Internet/remote connection), meetings too frequently, the work itself, physical and mental health, focus, and workspace. In the third and fourth weeks of the study, issues with meetings, physical and psychological health, the work itself, and stress lingered. In contrast, new problems, such as distraction and motivation, surfaced. In the fifth to sixth weeks, the top issues were still meetings, physical and mental health, and focus.

Nonetheless, collaboration and communication problems were consistently increasing in the first two weeks. In the seventh and eighth weeks, meetings and physical/mental health were still the key challenges, followed by focus and the work itself. However, overwork sharply increased from less than one percent in the first four weeks to about five percent in the following week to over 12% in the ninth and tenth weeks. In the final two weeks, work itself was the main issue, but physical/mental health, meetings, and overwork were persistently high (Butler & Jaffe, 2020).

Prior work by Golden (2012) appears to have a bearing on the findings from the Butler and Jaffe (2020) and Baert et al. (2020) research. Golden (2012) suggested that work-to-family conflicts and family-to-work conflicts are time and strain-based and are associated with exhaustion. The mental and physical health problems among Microsoft SEs described in Butler and Jaffe (2020) were potentially triggered by focus and distraction issues. Additionally, focus and distraction issues from their teleworking experience may have brought about mental/physical health problems, which led to exhaustion. In which case, the employees believed that their fatigue was from overwork. Meanwhile, in Baert et al. (2020), issues with employee work-life balance, stress levels, and problems with concentration on their work are direct indicators of work-to-family conflicts and family-to-work conflicts, as corroborated by the study result that more than four-fifths of the employees indicated more family conflicts associated with working from home.

As discussed in Kamouri and Lister (2020), about six of every ten employee-respondents are satisfied with specific factors that affect remote work success in terms of collaboration and the home environment. Close to two-thirds of employees enjoyed a high-quality collaboration with their remote colleagues. In contrast, about four of every seven employees felt closely connected with their work team. Meanwhile, about three-fourths of the employees reported that they have a place at home conducive to work. Seven of every ten employees declared that they could isolate themselves from distractions and domestic activities. Close to four-fifths of the employees also indicated that they possess the requisite self-discipline for productive work at home. Almost six of every ten employees reported that they do not get lonely when working at home (Kamouri & Lister, 2020).

Ultimately, 72% of employees surveyed in the Kamouri and Lister (2020) study were satisfied with their work performance at home before the pandemic, whereas 71% were satisfied with their WFH performance during the pandemic. Management has a nearly exact perception of their respective employees' telework success at 70%. Based on predictive analytics, telework drivers for success include several that one might anticipate, such as being

self-disciplined, having access to high-quality and consistent connectivity, and being healthy and rested. However, several other drivers that Kamouri and Lister (2020) identify are more enlightening. The length of the employee's WFH experience, the perceived availability of career opportunities, and the possession of dual-screens or an ultra-wide monitor at home and an ergonomic chair also made the list of best-practices (Kamouri & Lister, 2020).

The impact of remote working on individual employees and work teams (as assessed by the team managers) are positively largest for quality of work at 13%, productivity/ performance, and timely delivery of meeting schedules and deadline, both at 12% and employee commitment and overall team accomplishment at 11%. However, the key management issues with the largest positive impact pertain to communication with the team at 13% and all at 10% - effectiveness and quality of customer service, effective management of employee work performance, employee engagement, team creativity, and innovation, as well as teamwork and cohesion among the work team members (Kamouri & Lister, 2020).

The research on Microsoft SEs showed a trend that reported challenges related to overwork, motivation, and focus tend to have significantly less likelihood of being satisfied with remote working (Butler & Jaffe, 2020). Moreover, in the same study, those who reported mental health concerns, motivation issues, and the feeling of being overworked tend to be satisfied with less than 60% of the WFH job satisfaction items. Although Bellman and Hubler (2020) did not suggest an exact effect of working remotely from the office on job satisfaction, the impact of work-life balance on employee job satisfaction is predominantly negative. However, a year earlier, Abrams (2019) cited literature describing telecommuting to increase job satisfaction, performance, employee commitment, and less work stress or exhaustion. Thus, literature from Abrams (2019) countered the more recent results of Kamouri and Lister (2020) and Butler and Jaffe (2020). This is likely due to the swift, practically ill-prepared transition to telework caused by COVID-19. As Lewis (2020) explained, millions suddenly turned into telecommuters overnight. From 16% of the American workforce functioning with various WFH arrangements as of October 2019, the figures have skyrocketed to 42% in June 2020, just a seven-month period (Abrams, 2019; Wong, 2020).

Challenges to Longer-Term Viability of Working from Home

According to an in-house study by Jared Spataro (2020), Microsoft's corporate vice president for *MS 365*, its Human Factors Labs brainwave monitoring experiment utilized an electroencephalogram device to confirm the existence of remote meeting fatigue. Another Microsoft study cited in Spataro (2020) showed that overwork and stress perceptions are significantly more pronounced in video meetings than work tasks not associated with meetings, such as writing an email. Furthermore, as meetings enter the 30-to-40-minute mark, employees suffer from fatigue caused mainly by sustained concentration and monitor screen strain. Other telework challenges include decreased connection with colleagues, difficulties in balancing domestic demands, and the fading of the nine-to-five workday. Employees increased evening and weekend working by 200%, supporting Rofcanin and Anand's (2020) work-family boundaries suppositions.

However, the Spataro (2020) study revealed that the physical workspace would remain an element of the future of work, although remote work will continue to thrive (Spataro, 2020). This was corroborated by Guyot and Sawhill (2020) in an article published by the non-profit public policy organization, Brookings Institution, claiming that working from home will most probably stay long after the pandemic. Guyot and Sawhill (2020) enumerated the issues they observed about extensive WFH, including:
- An increase in procrastination among telecommuters parallels the findings of Frakes and Wasserman (2016)

- Higher absenteeism, higher turnover, and lower performance in companies with high telework rates, which is sustained by a pre-COVID-19 study working paper by Linos (2016)
- Lower chances for promotion and lower salary growth among employees who do telework, which is similar to one finding in Golden and Eddlestone (2020)
- The tendency of managers, in general, to place more value on performance appraisal and physical presence rather than output and accomplishment of employees under telecommuting arrangements, based on the concept of passive "face time' and trait references discussed in an earlier work by Elsbach et al. (2010)
- A mismatch exists between manager and employee reports regarding employees' productivity on telework, which is also an offshoot of passive "face time" and trait references (Elsbach et al. 2010)

BEST PRACTICES FOR IMPLEMENTING WFH OPTIONS

The challenges articulated from the viewpoint of managers in Kamouri and Lister (2020), and Butler and Jaffe (2020), the practical guide published by the International Labour Organization [ILO] 2020) highlighted that:

This new era of teleworking will require much more expansive use of a new kind of management - one which is more trusting and more results-based, and also a new way of working, one which is more autonomous, more flexible, and better adapted to the individual circumstances and preferences of employees than before (ILO, 2020).

Additional recommendations from the International Labour Organization (2020) practical guide encourage management to concentrate efforts on improving communication, digitalization, legal and contractual implications, occupational safety and health, performance management, training, work-life balance, work organization, and working time.

A viable springboard from which to shape long-term company policy on teleworking was presented in Howe and Menges (2020). Their study revealed that employees who endorsed a rigid mindset about remote working tend to experience more negative than positive emotion and perceive lower productivity. Thus, the imperative for fostering a positive attitude about remote working is an excellent starting point for companies who envision the adoption of teleworking in the longer-term post-COVID-19. By teaching a positive mindset about telework on the organizational level, the tactics and strategies to maintain productivity and connectedness published by Transitions to Adulthood Center for Research (2020) highlights many of the negativities associated with WFH on the individual (employee). Among others, employee best practices include open and frequent communication with the project supervisor/project leader allowing for flexibility, demarcation of work hours from personal time by setting healthy boundaries, allotment of a home workspace separate from living space, coordination of a healthy, balanced schedule with clients and colleagues for meeting and other tasks and with other family members for domestic concerns (Transitions to Adulthood Center for Research, 2020).

Microsoft Corporation's Best WFH Practices

Microsoft's solution to boost employee well-being worldwide and relieve the unexpected stress imposed by an overnight shift to WFH arrangements is technology-based (Ho 2020). Microsoft's technology solution is a new feature in their application, *Microsoft*

Teams and Outlook, developed in partnership with a leading global company in mindfulness and meditation. It features a virtual commute experience to facilitate better transition and integration of work- and home-life. The technology solution includes tools to help teleworking employees connect easily with colleagues on work-related matters, manage the schedule for focused work and breaks, and visualize personalized insights about work for individual employees, team leaders, and managers. The tool fosters well-being and mindfulness for employees so that the latter two can be interlaced with the employee's routine, rather than something to be considered at the end of the day.

Furthermore, the tool seeks to create boundaries and structure to employees' WFH experience, affording time for work preparation, focused work, and after-work activities such as meditation. The tool also has a provision to add a to-do-list for tasks that the employee intends to do later, which aids in prioritization (Ho, 2020). Additionally, Spataro (2020) indicated that with *Microsoft Teams and Outlook*, the *Together mode* helps mitigate fatigue/overwork among employees who participate in remote meetings because the brain exerts lesser effort when on *Together mode*. The Butler and Jaffe (2020) research noted that Microsoft implemented a non-technology solution for the top employee-reported concern about too many meetings through the policy-directive, "No Meeting Friday."

DIAGNOSIS OF WFH CHALLENGES

There are several common advantages and disadvantages observed in the WFH literature. Advantages include keeping the economy buoyed up even while the pandemic rages, cost savings, health benefits, commute avoidance, higher productivity, increased work flexibility, extended time with family, and almost a 70% success rate as reported by employees and managers. Disadvantages include the collapse of work-family boundaries, conflicting home and work domain roles, work-family balance, exploitation of employees, health issues (physical, emotional, and mental), overwork, meetings (Zoom fatigue), stress, lower motivation, connection problems, inconvenient workspace, workspace not conducive to uninterrupted work, work focus, issues with task performance, lack of information, and the need for effective collaboration (for a table summary of WFH Advantages and Disadvantages, See Table 1).

Table 1
WFH Advantages and Disadvantages

Advantages	Disadvantages
Supporting the economy during the pandemic	The collapse of work-family boundaries; conflicting home and work domain roles; and work-family balance
Cost savings	Inconvenient workspace or workspace not conducive to uninterrupted work, work focus
Health benefits	Physical, emotional, and mental health
Commute avoidance	Overwork
Higher productivity	Excessive Meetings (Zoom fatigue)
Increased work flexibility	Increased stress and decreased motivation
Being with the family longer	Connectivity issues
Almost 70% success among employees and managers	Issues with task performance, lack of information, need for effective collaboration

The literature is comprehensive, but given that working from home, pandemic-style, is a very recent and abrupt change in the global work structure, available literature might not

have wholly captured all the advantages and disadvantages. It is also possible that the other benefits and drawbacks of working from home have not yet manifested themselves to researchers. However, based on the literature, it is apparent that apart from jobs in the sectors which suffered the hardest hit from the pandemic, particularly the services industry – accommodation and food services, transportation, as well as retail and wholesale, not all employees can easily or readily adapt to working from home (Brussevich, et al. 2020).

**Diagnosing Future Telework Viability using Teleworkability Indices**

Based on a teleworkability study of 35 advanced and emerging market economies by Brussevich et al. (2020) and published by the International Monetary Fund, the teleworkability feasibility index was adopted from Dingel and Neiman (2020) differs by country and individual characteristics. Brussevich et al. (2020) regressed the teleworkability to one (1) and zero (0) categories, where one (1) represents employees from over a hundred thousand observations who can successfully WFH, and zero (0) for those who do are not able to successfully WFH. It appears that those who can successfully WFH are those who are born abroad, older than 30 years old, older than 60 years old, and whose earnings are from the top two income brackets (i.e., currently about at least $85,000 annually). However, those who are not able to work successfully are those who are in the bottom two income brackets (i.e., currently about $19,000 or less annually), employed in firms with less than 250 workers, have no college degree, and are working part-time (Brussevich et al. 2020).

Furthermore, the measure of teleworking feasibility devised by Dingel and Neiman (2020) using the Occupational Information Network (O*NET) survey data listed the top occupations with the fraction of tasks which can be accomplished from home: computer and mathematical, 100%; business and financial operations, 92%; education, architecture and engineering, 88%; training and library, 85%; legal, 84%; management operations, 84%; arts, design, entertainment, sports, and media, 57%; office and administrative support, 51%; community and social service, 50%; life, physical, and social sciences, 36%; and sales and related operations, 21%. However, the following occupations cannot be performed at home: building and grounds cleaning and maintenance; construction and extraction operations; farming, fishing, and forestry; food preparation; healthcare practitioners, health-related technical tasks, and healthcare support; installation, maintenance, and repair; personal care and services; protective services; production; transportation and materials moving (Dingel & Neiman, 2020). The preceding data suggest that, except for the computer and mathematical occupations, only a fraction of particular occupations and job task responsibilities can be performed entirely at home.

It is essential to consider the teleworking feasibility data presented in Dingel and Neiman (2020) based on the two-digit hierarchical North American Industry Classification System ([NAICS] 2017) structure of the 20 general categories of economic activities. Instead of reporting this teleworking feasibility index as a table, the information will be presented graphically in terms of the index, both as unweighted and wage-weighted, in sub-categories in which two-thirds or more, more than one-third, and less than one-third of the tasks can be accomplished at home.

As depicted in Figure 1, based on the wage-weighted teleworking feasibility index, at least two-thirds of the tasks in 6 of the 20 (30%) NAICS-classified industry categories may be accomplished at home. In this paper, these industries are called the high teleworking-feasibility industries: professional, scientific, and technical services; management of companies and enterprises; finance and insurance; information; educational services; and wholesale trade.
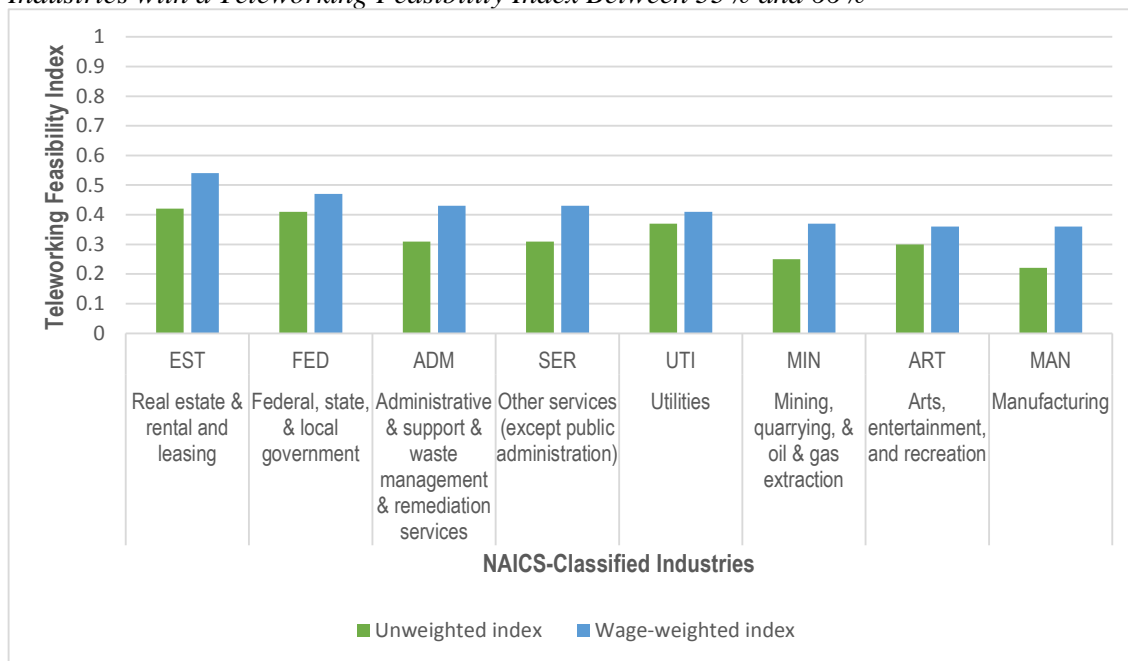
Figure 1
Industries with a Teleworking Feasibility Index of 67% or Higher
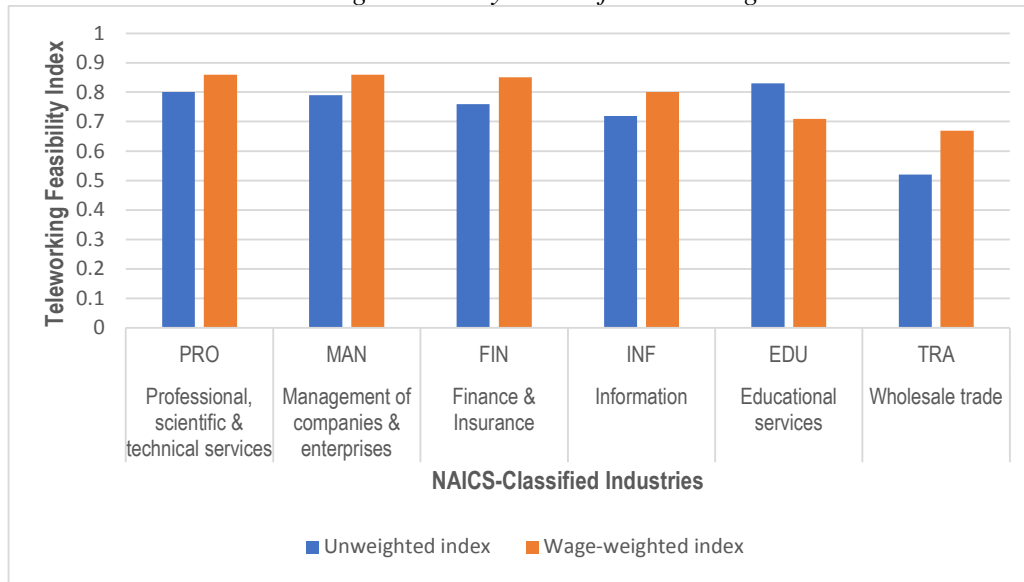
(Source: Dingel & Neiman, 2020; United States Office of Management and Budget, 2017)

Figure 2 highlights industries with more than one-third but less than two-thirds of the tasks in 8 of the 20 (40%) NAICS-classified industry categories may be accomplished at home. These industries are referred to as the medium teleworking- feasibility industries: real estate and rental and leasing; federal, state, and local government; administrative support, and waste and management, and remediation; other services (except public administration); utilities; mining, quarrying, and oil and gas, and extraction; arts, entertainment, and recreation; and manufacturing trade.

Figure 2
Industries with a Teleworking Feasibility Index Between 33% and 66%

(Source: Dingel & Neiman, 2020; United States Office of Management and Budget, 2017)

Figure 3 displays industries with less than one-third of the tasks in the remaining 6 (30%) NAICS-classified industry categories may be accomplished at home. These industries are designated as the low teleworking- feasibility industries. With at least three teleworking-feasibility levels among the 20 NAICS-classified industries, telework's future viability cannot be a one-size-fits-all approach to trade.

Figure 3
Industries with Teleworking Feasibility Less than 33%
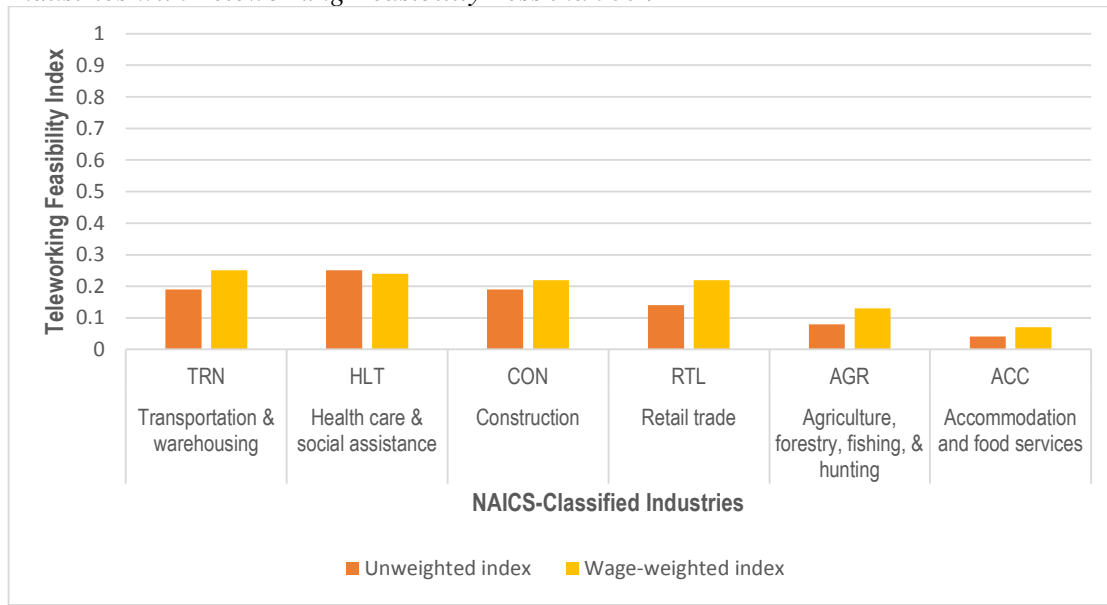
(Source: Dingel & Neiman, 2020; United States Office of Management and Budget, 2017)

Additionally, even if the extensive sample studies of Brussevich et al. (2020) and Dingel and Neiman (2020) involved hundreds of thousands of observations and thousands of jobs, respectively across 35 countries (in Brussevich et al., 2020), and the United States and 85 other countries (in Dingel & Neiman, 2020), the findings may be different with specific organizations due to a host of factors. Among these factors may be gender, age, education, work attitudes and behavior, familiarity with job roles. Gender and age have been addressed in Brussevich et al. (2020), while work attitudes have been considered by Butler and Jaffe (2020). Additionally, the earlier work of Raghuram, Wiesenfeld, and Garud (2003) indicated that behavioral strategies, which exert an influence on work attitudes, also affect work outcomes. Furthermore, self-efficacy also plays a crucial role in remote working because self-efficacy is a person's perception of his/her capability to perform something well (Williams & Rhodes, 2017). As explained in Raghuram (2020), self-efficacy has a bearing on work outcomes. As employee characteristics have varied across countries and industries, characteristics may also vary across organizations.

PROGNOSES AND IMPLICATIONS FOR FUTURE REMOTE WORK VIABILITY

In addition to discussing relevant literature and diagnosing WFH challenges, it is also essential to consider the various prognoses and corresponding implications for future remote work viability. After reviewing the literature, concern still exists that it may not comprehensively capture the totality of advantages and disadvantages associated with working from home. However, it is apparent that not all employees can easily or readily adapt to WFH. The implication is that there is a potential need to address any unidentified

challenges experienced by employees in WFH arrangements because employee productivity affects organizational productivity and outcomes. Another prognosis is that there are high teleworking-feasibility index industries, but there are medium teleworking-feasibility index and low teleworking-feasibility index industries, as well. The corresponding implication is that an examination of the future viability of WFH cannot be a one-size-fits-all approach.

Yet another prognosis is that only computer and mathematical operations can be performed entirely on a remote basis (WFH), and even then, new or undiscovered problems and challenges still arise. The implication is that the physical workspace may always be an element of the future work structure, and radical changes may need to be considered. Also, employees' demographics and distribution may be different across organizations, and the corresponding implication is that solutions to address the challenges encountered by employees should consider demographic and distributional differences. This involves in-depth research. Finally, the world was ill-prepared to abruptly shift towards remote working arrangements because no transition period occurred. Management and employees were immediately hurled into unchartered territory, requiring short-term action. Longer-term, organizational policies, procedures, and systems need to be significantly revised and redesigned to address the issues which have caused demotivation and insecurity among employees (for a table summary of Prognosis and Implications for Future Remote Work Viability, Table 2).

Table 2
Prognoses and Implications for the Future Remote Work Viability

Prognosis	Implication
The literature retrieved may not have captured all advantages and disadvantages of WFH, but it is apparent that not all employees can easily or readily adapt to WFH.	There is a need to address employees' challenges in WFH arrangements because employee productivity affects organizational productivity and outcomes.
There are high teleworking-feasibility index industries, but there are also medium teleworking-feasibility index and low teleworking-feasibility index industries.	Examination of the future viability of WFH cannot be a one-size-fits-all approach.
Only computer and mathematical operations can be performed entirely on a remote basis (WFH), and even then, issues still occur.	The physical workspace may still be an element of the future work structure, but radical changes will have to be adopted.
The demographic and distribution of employees will likely be different across organizations.	Solutions to address the challenges encountered by employees should consider demographic and distributional differences. This involves in-depth research.
The world was ill-prepared to abruptly shift towards WFH arrangements because no transition period occurred. Both management and employees found themselves in unchartered territory.	Organizational policies, procedures, and systems need to be significantly revised and redesigned to address the issues which have caused demotivation and insecurity among employees.

LESSONS LEARNED

The sudden worldwide operationalization of WFH arrangements taught us, as a global society, that devastation does not wait for preparation. Collaboration and technical problems in internet connectivity were universal issues among organizations because there was no

preparation. No formal procedures and systems (performance assessment, infrastructure, support, and training, communication) were available to frame remote work operations. Preparation and training, success factors of teleworking, eligibility evaluation, support for technological infrastructure, telecommuting training and help desk support, telecommuting management, performance evaluation system, and relevant legal agreements and contracts take time to implement correctly (Ye, 2012). However, calamity gives no consideration to time before wreaking havoc. The crucial role of research to gauge the success of working from home in a single organization from a baseline point pre-COVID-19, baseline-point during COVID-19, and subsequent periods, to include an assessment of relevant input, process, and outcome variables is necessary. Research is also needed to assess which solutions to address WFH concerns of both employees and managers are effective and what employees need to successfully navigate the work from the home path (Butler & Jaffe, 2020; Spataro, 2020).

RECOMMENDED ACTIONS FOR INCREASED TELEWORK VIABILITY POST-COVID-19

Several recommended actions to ensure the viability of working from home post-COVID-19 are consistently recognized in the literature. Perhaps most apparent is that the evaluation of future remote work cannot follow a one-size-fits-all approach. For both high and medium teleworking feasibility index industries, organizational policies, procedures, and systems need to be revised based on the changes that need to be instituted to migrate their operations remotely. Particularly, these industries should consider offering help-desk support for the typical operating time of the industries daily, revising remote work management and performance evaluation procedures, recontracting employees based on the revised job roles and description during the pandemic, and providing allowances to cover for good quality computer screens and ergonomic chair, Internet, and electricity. Among employees who struggle to generate their typical productivity level working in the office, the following measures are recommended:

      a. Telework training
      b. Professional and skills upgrading
      c. Distribution of comprehensive remote work policies and procedures
      d. Well-defined communication support protocol
      e. Real-time collaboration procedures, like shared Google Docs or Google Sheets for timely questions and clarification with team leaders/supervisors or teammates
      f. Consider the technology solutions discussed in Ho (2020) and Spataro (2020)
      g. Work-family balance seminar

When an effective vaccine becomes widely available, individual companies can survey their employees to determine who might prefer a full or part-time return to the office and who would prefer to continue to WFH. Procedures will need to be redesigned to accommodate the "new normal."

For medium teleworking feasibility index industries, additional recommended actions should be considered. Particularly, these industries need to ascertain the pulse of the employees about what support they need to improve their productivity and level of comfort with working remotely. They also need to conduct eligibility evaluation to determine who is most comfortable working from home and then provide help-desk support, revise management and performance evaluation procedures, recontract their employees based on

revised job roles and description during the pandemic and provide allowances to cover for good quality computer screens and ergonomic chair, Internet, and electricity. Among employees who struggle to generate their typical productivity level working in the office, it is recommended that telework training with at least one "dry-run" occur, mindset and leveling of expectations workshops be offered, and voluntary psychological assessment to a practitioner of choice with a healthcare assistance package be offered.

CONCLUSION

The concept of telecommuting has existed, in a variety of forms, for nearly half a century. However, very few companies could address the clarion call for a change in work arrangements, particularly flexibility, during the pre-COVID-19 timeline (Perry et al., 2020). According to the Executive Director of the Society for Human Resource Management (SHRM) Foundation, workplace flexibility is mutually beneficial among employees and employers (Schmit, 2014). However, at that time of the SHRM report in 2014, and even when the COVID-19 pandemic blind-sided all sectors of society into a panic, there is a dearth of effective policies on flexible work arrangements. The most sensible rationale for the sedate progress in the adoption of work flexibility despite almost a semicentennial after its introduction may well be the challenges associated with the realignment of the work functions, roles, and structures with the new organizational strategy and objectives for strategic fit (Patel et al., 2020).

Nevertheless, the devastation inflicted by the COVID-19 pandemic on businesses and the global economy required swift and extreme measures to implement flexible work arrangements without the necessary realignment for strategic fit. Undoubtedly, such arrangements, like telecommuting or WFH, has kept the economy buoyed up while the pandemic rages. However, without appropriate preparedness, several complex problems, including the collapse of work-family boundaries, mental health issues, and performance problems, exist. Gradually, with insightful guidance from research, policies and measures can be designed to structure work around flexible assignments on two primary considerations: (1) the typical employee profile – particularly age and ability to adapt; and (2) the teleworking feasibility indices of the 20 NAICS classified industries.

Policies cannot be formulated on a one-size-fits-all approach. It is imperative that the future viability of WFH, which is the anticipated future normal for a large percentage of employees, be grounded on demographic and distributional differences and a strategic fit based on newly realigned organizational strategy and objectives *vis a vis* work functions, roles, and structures customized based on employee profile and NAICs-classified industry indices. The physical workspace will still be an element of the future work structure cognizant of the low-teleworking feasibility index (below 0.33) industries.

It took the world almost five decades to seriously consider the virtual workspace as a feasible and practicable long-term alternative, but not necessarily a replacement, for the physical workspace. While necessity is undoubtedly the mother of invention, in the case of flexible work arrangements, necessity is the mother of adoption, and adaptability is the essential element that defines a flourishing future normal.

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