STRENGTHS AND WEAKNESSES OF REMOTE WORK: A REVIEW OF THE

LITERATURE

by

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Strengths and weaknesses of remote work: A review of the literature

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Abstract

At the onset. of Covid-19 lockdowns in March 2020, companies sent many workers home for what was expected to be a two-week effort to "flatten the curve." The purpose of this study is to explore the strengths and weaknesses of remote work that was mandated because of Covid-19 and provide a synthesis of the findings to further the discussion of the organizational policies for the post-Covid-19 workforce. This research seeks to identify and highlight the impact of remote work implemented during Covid-19 through a literature review to further the discussion of remote work policies in a post-Covid-19 workforce. Key themes for employee strengths are productivity, flexibility, commutes, skills, work-life balance, collaboration, and autonomy. Key themes for employee weaknesses are work-life balance, stress, workload, isolation, workspace, technology, flexibility, communication, collaboration, change, burnout, and anxiety. Key themes for employer strengths are productivity, technology, costs, recruiting and retention, and collaboration. Key themes for employer weaknesses are technology, management, productivity, flexibility, and collaboration.

Keywords: Remote work, strengths, weakness, Covid-19, productivity, technology, work-life balance

Introduction

Going to work for most always meant physically going to an office or common workspace. Workers accepted that being part of the workforce often included a daily commute to an office or workspace. According to DeSilver (2020), prior to Covid-19, workers who wanted to work remotely had to demonstrate a need, have a special position within an organization, or have negotiated the option as a benefit. Remote work could even be considered a luxury pre-Covid-19 (DeSilver, 2020). If remote work was an option, technology had to be in place to enable that work. Remote work could be a challenge based on internet access and speeds, organizational systems enabled for remote access, security protocols, VPN clients, communications tools, and the like. As recent as 2019 and prior to the lockdowns of Covid-19, not all organizations had technologies in place or in use to facilitate remote work.

Covid-19 changed the modern organization and the workforce. As a result, some organizations had to quickly re-evaluate existing technologies, add where necessary, and learn new ways to continue to operate (Shao, 2021). Workers became skilled with tools such as Zoom or Microsoft Teams. Those organizations that had migrated systems to the cloud were much better positioned for remote work. Those that had not had to scramble to find remote work-enabled solutions.

In late 2022, many organizations examined how and when to ask workers to return to the office, if at all. Goldman Sachs, Apple, Comcast, Tesla, Twitter, Google, and Microsoft are just some of the organizations that required workers back in the office at some point during 2022 (Smart, 2022; King, 2022). Some like Airbnb, Atlassian, Meta, and Dropbox decided to offer permanent remote work to employees that request

it and have jobs that support it (Howington, 2022). Many organizations are offering some form of hybrid remote work option to their workforce.

Opportunity/Problem

At the onset of Covid-19 lockdowns in March 2020, companies sent many workers home for what was expected to be a two-week effort to "flatten the curve" (Mitchell et. al., 2022, p. 3). Near the end of 2022, many organizations were still struggling with return-to-work policies and trying to balance concerns regarding efficiency and workers' desire to maintain remote work arrangements. Concerns regarding remote work and productivity were not clear. One study estimated that worker productivity fell between 8-19% during lockdowns (Gibbs et. al., 2021) while another study found that productivity fell, "though relatively small in magnitude" (Monteiro et. al., 2019, p. 1) and other authors state that productivity may have gone up (Alexander et. al., 2021); however, there is an expectation that remote work will continue to be an option post-Covid.

Purpose

The purpose of this study is to explore the strengths and weaknesses of remote work that was mandated because of COVID-19 and provide a synthesis of the findings to further the discussion of the organizational policies for the post-Covid-19 workforce.

Research question

RQ1: What themes can be identified in key articles reviewed in the area of remote work?

Research Objectives

This research seeks to identify and highlight the impact of remote work implemented during Covid-19 through a literature review to further the discussion of remote work policies in a post-Covid-19 workforce.

Review of Literature

The literature review examined a selection of articles across early Covid, mid-Covid, and later Covid periods. Common themes related to remote work and how they apply to employees and employers were identified. These distinctions and themes are important because of the way remote work was implemented at the onset of Covid-19 lockdowns which forced remote work and how remote work has evolved to the present. Prior to Covid-19, remote work was not considered an option for most workers and those that could work remotely had special needs and/or technologies to allow for it. During Covid-19, it was estimated that more than a third of US households reported working from home (Marshall et. al., 2021). Statista reported that 17 percent of US employees worked from home five days or more per week which was estimated to be 44 percent of workers (Sava, 2022). Considerations for Covid-19 remote work conditions include the sudden nature of the shift to remote work, the fear of the disease itself, and distractions and interruptions (Samuel & Khan, 2020; Shao et. al., 2021). Post Covid-19, workers want more flexibility in work schedules and locations (de Klerk, et. al., 2021; Shao et. al, 2021).

Many researchers took advantage of the opportunity to study how remote work impacts the employee, the employer, the community, individual organizations, and the industry. From these studies and articles, these researchers present conflicting findings. Those that discuss the future of remote all agree that some form of remote work is desired by workers and will continue in some amount post-pandemic (Ferreira et. al, 2021; de Klerk et. al., 2021; Shao et. al, 2021; Pandemic Positives, 2021; Alexander et. al, 2021; Franken et. al, 2021; Grzegorczky et. al, 2021; Brooks et. al, 2022; Babapour Chafi et. al., 2021; Suresh & Gopakumar, 2021).

International Research

A study in India examined the relationship between work from home (WFH) and employee productivity during Covid. It also examined if gender would be a moderating role. They found that female productivity was negatively impacted by WFH due to "domestic duties" combined with "regular working hours," where males enjoyed WFH and were "more likely to prioritize work" however, male productivity was reduced in WFH as well (Farooq & Sultana, 2022, p. 391). A similar study (Ingusci et. al., 2021) in Italy looked at remote work at the beginning of Covid lockdowns and found that the use of technology or "techno overload" (p. 2) and workload increased behavioral stress for workers. A study in Hong Kong (Byas & Butakhieo, 2021) wanted to determine how in a technologically advanced culture workers would perform under remote work conditions with small living quarters. They found many advantages of WFH including but not limited to reduced commute, avoiding office politics, using less office space, increased motivation, improved gender diversity, a healthier workforce with less absenteeism and turnover, higher talent retention, job satisfaction, better productivity, and overall improved work-life balance. Some identified disadvantages include a blurring of the lines between work and family, distractions, social isolation, and shifted costs to employees related to WFH (Vyas & Butakhieo, 2021).

A study in China at the onset of lockdowns, examined if the choice of work location impacted stress and found that when workers were permitted to select the work location, it was a coping mechanism (Shao et. al, 2021). An additional study (Monterio et. al., 2019), examined data collected from the pre-Covid period (2011-2016) and during Covid. This survey was a compulsory census for large firms (over 250 workers or total revenues of over 25 million euros). The results were mixed depending on the size and skill level of the workers. Small firms and those with low-skilled workers had a negative impact on productivity, but otherwise, the results were neutral to positive, especially in firms with R&D, which the researchers refer to as creative work (Monterio et. al., 2019). A study (Salon et. al., 2022), in the United States, examined telecommuting during Covid lockdowns from workers' perspective. Positives include higher job satisfaction, lower job turnover, and higher life satisfaction while some issues are poor work-life balance, social isolation, and technology-related stress. Employers also learned how to manage remote workers and found benefits include reduced overhead costs, higher productivity, lower job turnover, and technological advances and investments (Salon et. al., 2022).

Industry Specific Research

Researchers conducted a study of Microsoft for the first six months of 2020 to "estimate the causal effects of firm-wide remote work on collaboration and communication" (Yang et. al., 2022, p. 43). The study found workers becoming more "static and siloed" which "made it harder for employees to acquire and share current information across the organization (Yang et. al, 2022, p. 43). Other studies have found that work-life balance and family issues are reported (Galanti et. al, 2021, Kniffin et. al, 2021). While another study investigates the physical and psychological distance of remote work as well as the technology necessary to "bridge the gap" (Voytsekhivska & Voytsekhivskyy, 2021, p. 14). Two studies (Grzegorczyk et. al, 2021, p. 13; Manko, 2021, p. 123) found a phenomenon called "Zoom fatigue" to be the result of increased video conferencing. This fatigue also includes "mirror anxiety (or self-consciousness), being physically trapped, hyper gaze from a grid of staring faces, and the cognitive load from producing and interpreting non-verbal cues" Gyzegorczyk et. al., 2021, p. 13). Gyzegorczyk et. al., (2021) identify what they term the "prisoner's dilemma" (p. 9) which is the outcome of workers not able to coordinate optimal remote work schedules and therefore remote work less than they would like. Multiple studies point to adequate bandwidth for internet access as a major consideration for remote work (de Klerk et. al., 2021, Samuel & Khan, 2020). Braesemann et. al., (2022) state that "remote work will be determined by access to education, training, and specialized IT know-how (p. 14)."

Methodology

The research methodology for this investigation is based on the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) principles (Ouyang et. al., 2022; Moher et. al, 2009). A literature review of scholarly works on topics related to remote work to synthesize the strengths and weaknesses was conducted. Sources for the literature include GALILEO, Google Scholar, IEEE, and government publications. This review is primarily focused on how remote work may impact the post-Covid-19 workforce and examined literature from 2020 to the present date. Older literature cited was for context or to demonstrate the depth of research or changing positions. The literature was reviewed, and themes were identified and cataloged to identify commonalities. These themes were then generalized (when appropriate) into supercategories. The articles are then identified by themes to answer the research question.

One definition of strength is the degree of potency of effect or of concentration and one definition of weakness is fault or defect (Merriam-Webster, 2022). With these definitions as a guide, a chart was constructed of strengths and weaknesses categorized by employee and employer. Findings may be a strength or weakness for the employee, the employer, or both.

Analysis and Results

Over 120 articles related to remote work were collected using a variety of search criteria including remote work, work from home, and strengths and weaknesses of remote work. Of these articles, 28 were selected (See Appendix A) for in-depth review based on relevance to the research topic, content including discussion of remote work, and date of research.

Statements related to the benefits or weaknesses of remote work were charted and categorized by general theme as strengths or weaknesses related to the employee or the employer. It is possible a strength is identified for the employee but also a weakness for the employer or vice versa. For example, one article reports an increase in "presenteeism" or employees working remotely while sick as a weakness for employees (Kniffin et. al, 2021) yet employers report less absenteeism which is a strength for employers (Babapour Chafi et. al., 2021; Vyas & Butakhieo, 2021; Suresh & Gopakumar, 2021).

Several themes appeared in all categories as both strengths and weaknesses for both employees and employers (Table 1). Employees reported collaboration (inclusivity of remote meetings (Brooks et. al, 2022), information sharing (Resiere et. al, 2020), and coworkers more willing to help (Kniffin et. al., 2021)) as strengths, yet. also reported collaboration (ability to brainstorm with team members (Kniffin et. al, 2021), ability to make decisions as a team (Manko, 2021), and awareness of what colleagues are working on (Manko, 2021)) as weaknesses. Employers reported collaboration strengths (improved group sessions (Manko, 2021) and more collaborations and knowledge exchange with other managers (Babapour Chafi et. al., 2021)) yet. also reported weaknesses (group creativity perceived as difficult, harder to exchange complex information, or less collaboration between groups (Babapour Chafi et. al., 2021)). Similar other themes present in all categories include costs, communication, flexibility, technology, and productivity. Other themes significantly present in multiple groups were work-life balance, skills, and training.

Table 1: Strengths - Employee and Employer – See Appendix A for References

Strength			
Employee	**References**	**Employer**	**References**
absenteeism	8,	absenteeism	2, 25, 27
autonomy	2, 7, 12, 23, 25	collaboration	2, 10, 17, 28
collaboration	5, 6, 15, 21, 28	communication	4, 17
communication	17, 21	convenience	8
commute	2, 3, 8, 11, 13, 17, 22, 25, 27	costs	1, 5, 8, 10, 13, 14, 17, 22, 25, 27
compensation	1, 5	creativity	2, 7
costs	17	customer interaction	17
creativity	11, 21	diversity	27
efficiency	25	effectiveness	8
embrace uncertainty	7	employee's well being	25
engagement	8, 12	engagement	12, 27
flexibility	1, 2, 3, 6, 7, 8, 14, 22, 25, 26, 27	enhanced financials	8
health	6, 12, 13	excelerated acquisition	5, 12
innovation	11	flexibility	10, 11, 17
job options	5, 22	healthier workforce	21, 27
job satisfaction	22, 27	innovation	3, 7
life satisfaction	22	investments	3
morale	25	local impact	3
motivation	10, 25, 27	morale	17
office politics	6, 27	motivation	10, 17
performance	2, 4	outcomes	3
perseverance	11	patent applications	3
portability	25	performance	1, 12, 27
productivity	2, 6, 10, 11, 12, 13, 15, 17, 18, 22, 27	privacy	21
quality of life	7	processes	4
relationships	6	productivity	1, 8, 10, 11, 12, 15, 17, 18, 22, 25, 27
remote access	11	profit	8
save time	11, 17	recruiting and retention	13, 22, 25, 27
self leadership	12	retention	27
skills	2, 3, 5, 6, 12, 13, 16, 19, 26	skills	22
supportive teams	11, 15	talent	1, 5
technology	16, 23	technology	4, 5, 11, 12, 16, 17, 21, 22
well being	1, 8, 13	time savings	14
WFH arrangement	22, 23	work hours	11
work attire	8		
work life balance	2, 9, 11, 13, 17, 22, 27		
working conditions	11, 13		

Significant themes in strengths for employees were commute (less commuting (Franken et. al, 2021; Manko, 2021; Babapour Chafi et. al., 2021; de Klerk et. al., 2021; Suresh & Gopakumar, 2021)), cost savings (Franken et. al., 2021), and time savings (Franken et. al., 2021; Grzegorczyk et. al., 2021; Manko, 2021; Vyas & Butakhieo, 2021)), flexibility (attitudes towards WFH (Barrero et. al., 2021), freedom (Brooks et. al., 2022), and job crafting (Ingusci et. al., 2021)), productivity (improved performance) (Galanti et. al., 2021; Monteiro et. al., 2019; Franken, et. al., 2021; Babapour Chafi et. al., 2021; Manko, 2021; Vyas & Butakhieo, 2021; Brooks et. al., 2022; Salon et. al., 2022), skills (new skills (Galanti et. al., 2021; Grzegorczyk et. al., 2021; Barrero, et. al., 2021; Babapour Chafi et. al., 2021; Brooks et. al., 2022; Li, 2021; Voytsekhivska & Voytsekhivskyy, 2021), diversity of skills (Braesemann et. al., 2022)), and work life balance (improved WLB, more quality time with family (Babpour Chafi et. al., 2021; Franken et. al., 2021; Grzegorczyk et. al, 2021; Manko, 2021; Vyas & Butakhieo, 2021;)). Employers report less absenteeism (Babapour Chafi et. al., 2021; Vyas & Butakhieo, 2021; Suresh & Gopakumar, 2021), better collaboration (Babpour Chafi et. al., 2021; Yang, et. al., 2022), cost savings (reduced office costs (Grzegorczyk et. al., 2021, less office space use (Vyas & Butakhieo, 2021)), flexibility (Ferreira et. al, 2021), innovation (Barrero et. al., 2021; Cohen & Cromwell, 2021), productivity (Galanti et. al., 2021;

Monteiro et. al., 2019; Alexander et. al., 2021; Ferreira et. al., 2021; Franken et. al., 2021; Barrero et. al., 2021; de Klerk et. al., 2021; Manko, 2021; Salon et. al., 2022; Suresh & Gopakumar, 2021), access to talent (global talent pool (Braesemann et. al., 2022), higher retention (Vyas & Butakhieo, 2021), and more options (Brzegorczyk et. al., 2021; Alexnader et. al., 2021)), and technology (investments (Bowers, 2021), advancements (Resiere et. al., 2020), adoption (Braesemann et. al., 2022), and support (Franken et. al., 2021)).

Table 2: Weaknesses - Employee and Employer - See Appendix A for References

Weakness			
Employee	**References**	**Employer**	**References**
advancement	2	collaboration	2, 3, 8, 17, 28
anxiety	1, 7, 14, 27	communication	1, 10
burnout	1, 14, 15, 27	costs	7, 26
change	4, 9, 12, 24	creativity	2, 17
collaboration	6, 8, 17, 26, 28	customer interaction	17, 19
communication	9, 17, 23, 26	flexibility	14, 15, 19, 22
costs	27	innovation	11, 17, 28
creativity	7	local impact	3
disengagement and distrust	8, 26	management	8, 11, 13, 15, 17, 19, 27
distraction	23, 27	morale	17
distruptions	24	motivation	17
engagement	26	privacy	15, 16
exhaustion	2, 14	productivity	9, 17, 18, 27, 28
fear	12, 24, 27	skills	14, 19, 26
feedback	9	talent	1, 19
flexibility	5, 10, 13, 24	team cohesion	10
HIPPA	16	technology	2, 4, 5, 8, 10, 11, 18, 19, 26
innovation	7, 27	work life balance	2
isolation	2, 6, 8, 11, 12, 13, 15, 22, 26, 27	work space	6, 26
job security	27		
pay	5		
presenteeism	15		
privacy	16		
productivity	6, 9, 18		
recognition	7		
security	23		
skills	4		
stress	2, 4, 7, 8, 11, 12, 14, 19, 22, 24, 25, 28		
technology	4, 8, 11, 14, 19, 22, 23, 24, 25		
skills	19		
uncertainity	7		
unemployment	19		
work conditions	5, 11		
talent	5		
work life balance	2, 6, 8, 11, 12, 13, 14, 15, 16, 17, 22, 23, 24, 25, 26, 27		
work load	3, 8, 11, 13, 14, 23, 24, 25, 27, 28		
work space	2, 6, 8, 11, 12, 14, 15, 23		
zoom fatigue	13, 17		

Significant themes in weaknesses (Table 2) for employees were anxiety (Alexander et. al., 2021; Ingusci et. al., 2021; Cohen & Cromwell, 2021), burnout (Ingusci et. al., 2021; Kniffin et. al., 2021), collaboration (discussed above) (de Klerk et. al., 2021; Manko, 2021; Yang et. al., 2022), flexibility (miss going to the office (Vyas & Butakhieo, 2021), WFH not suitable for every employee (Ferreira et. al., 2021), "prisoner's dilemma" (Grzegorczyk et. al., 2021, p. 9) forced WFH during Covid (Shao et. al., 2021)), isolation (Galanti et. al., 2021; Babapour Chafi et. al., 2021; de Klerk et. al., 2021; Salon et. al., 2022) and loneliness (Kniffin et. al., 2021), productivity (Monteiro et. al., 2019; Farooq & Sultana, 2021; Brooks et. al., 2022), stress

(risk of Covid infection (Galanti et. al., 2021; Shao et. al., 2021), cognitive (Babapour Chafi et. al., 2021), job (Galanti et. al., 2021; Vyas & Butakhieo, 2021)), technology (Franken et. al., 2021; Ingusci et. al., 2021; Bowers, 2021; Samuel & Khan, 2020; Shao et. al., 2021; Suresh & Gopkumar, 2021), WLB (family (Galanti et. al., 2021; Ingusci et. al., 2021), childcare (Galanti et. al., 2021; Brooks et. al., 2022; Shao et. al., 2021), blurred lines and boundaries (Franken et. al., 2021; Vyas & Butakhieo, 2021; Li, 2021), extended workday (Suresh & Gopakumar, 2021)), workload (Grzegorczyk et. al., 2021), workspace (Franken et. al., 2021; Ingusci et. al., 2021) need for private space (de Klerk et. al., 2021), poor ergonomics of home office space (Babapour Chafi et. al., 2021; Brooks et. al., 2022), shared workspace (Galanti et. al., 2021; Franken et. al., 2021; Ingusci et. al., 2021)), and Zoom fatigue (Grzegorczyk et. al., 2021; Manko, 2021). Themes for Employers include collaboration (a decrease (de Klerk et. al., 2021), group creativity perceived as difficult (Babapour Chafi et. al., 2021), less between groups (Babapour Chafi et. al., 2021; Yang et. al., 2022)), costs (funding restrictions (Cohen & Cromwell, 2021), cost for workspace needs (Voytsekhivska & Voytsekhivskyy, 2021), costs for home technology (Voytsekhivska & Voytsekhivskyy, 2021), productivity (negative for small firms and those without R&D (Monteiro et. al., 2019)), and technology (challenges from old technology (Babapour Chafi et. al., 2021; Bowers, 2021), control (Ferreira et. al., 2021; Grzegorczyk et. al., 2021; Kniffin et. al., 2021), speed to deploy need technology (Bowers, 2021), requires investment and training (Voytsekhivska & Voytsekhivskyy, 2021), unavailable or incompatible (Suresh & Gopakumar, 2021)).

Discussion

The Covid-19 pandemic created a forced work-from-home condition that created a great deal of stress for employees and employers (Shao et. al., 2021). Very few organizations or employees were prepared to shift to remote work, in many cases, overnight. The systems and technology necessary to enable remote work for an entire workforce are not always the same as that to allow for a selection of remote workers. Scaling systems to allow for remote work happened at incredible speed as workers had to adapt to remote work, often at home, by finding space and dealing with the effects on others within the home (Samuel & Khan, 2020). Those with children had to adapt to remote schools, a lack of childcare, and finding a working environment at home, sometimes for more than one person. Managers had to learn how to manage remote workers and discover what the expectations of remote work productivity looked like (Kniffin et. al., 2021).

Once the initial shift to remote work happened and the realization that the pandemic and resulting lockdowns would linger much longer than anyone expected, employers and employees found new routines in remote work and ways to make it productive and workable (Salon, et. al., 2022). While the stress and fear of the disease itself were present, employees found in many cases that they preferred remote work. As some organizations began to ask employees to return to the offices, they often resisted citing fear of the disease, lack of childcare, lack of other services, preference for remote work, and in some cases, workers had left more urban areas which precluded a return to the office due to commuting distance (Brooks, et. al., 2022).

Some organizations have required employees to return to the office full time, some have allowed for a hybrid solution with one or more days remote and the balance in the office, and some have decided that remote was so successful they have shifted to remote work completely or made the option available to employees that choose it. (Smart, 2022; King, 2022, Howington, 2022). The Shao et. al. (2021) study found that lack of choice in work location was the primary stressor for workers and suggests that employees want the flexibility to work where they want based on their needs. Not every employee wants to work remotely completely, and some are not suited to remote work (Ferreira et. al., 2021). Flexibility is a primary theme for both employees and employers (Ingusci, et. al., 2021).

Productivity is another major theme appearing in all categories. Initially, organizations were concerned about how the business would remain profitable and competitive (Mykytyn, 2020). Employers had concerns about collaboration, innovation, and team cohesion (Franken, et. al., 2021, Manko, 2021). Many workers reported that their productivity increased because of remote work, while others reported a decrease (Brooks, et. al., 2022). Workers worried about how remote work would impact their careers, social isolation, job security, pay, recognition, uncertainty, and workload (Cohen & Cromwell, 2021). The National Bureau of Economic Research (Barrero, Bloom, & David, 2021) reported that "U.S. patent applications for WFH technologies more than doubled between January to September 2020 (p.3)." The Monterio et. al., (2019) study may provide the most valuable data on productivity and confirms the finding of many similar studies in that productivity in some cases decreased, remained neutral in some, and improved in others.

Implications of Findings

Analysis of the literature shows that remote work offers employees and employers significant strengths. The analysis shows that the weaknesses of remote work for employees are much more significant than those for the employer.

Significant strengths for employees are autonomy, collaboration, commuting, flexibility, productivity, skills, and work-life balance. Employees saved time, money, and stress because of a reduced or no commute. The flexibility of remote work is a significant outcome. Employees like the ability to direct their own workday as they need, which is also reflected in the autonomy findings. Workers in general like control over their workday, work location, and wish to have the choice of how much to work remotely (Salon, et. al., 2022; Shao, et. al., 2021). These contribute to increases in work-life balance.

Collaboration is a significant theme for both employees and employers. This suggests that even though workers were not in the same physical workspace, they improved their interactions with each other. And as the noteworthy results in the category of productivity show, both employees and employers benefited from remote work.

Employers made improvements to technology during the Covid-19 period some of which improved remote work capabilities. Costs savings of remote work are significant as organizations report savings from lower office space footprint (Manko, 2021), reduced overhead (Salon, et. al., 2022), and general savings. Offering remote work improved recruiting and retention of employees (Grzegorczyk, et. al., 2021, Suresh & Gopakumar, 2021) which helped with employee job satisfaction and life satisfaction.

Overall, the results for the strengths of employees and employers are similar and evenly matched. Both groups have significant benefits from remote work with key themes of productivity, flexibility, skills, work-life balance, commute, collaboration, and autonomy.

The results of weaknesses for employees and employers are not as evenly distributed as are strengths. The findings suggest that employees have many more challenges with remote work than employers do. The most significant theme for employees is work-life balance. While it is also a significant finding in strengths, it is much more so in weaknesses. Contributing conditions such as blurred boundaries between work and home (de Klerk, et. al., 2021), childcare and home duties (Brooks, et. al., 2022), an extended workday (Suresh & Gopakumar, 2021), family conflict (Galanti, et. al., 2021), and a lack of transition between office and home (Kniffin, et. at., 2021) all impact work-life balance.

Table 3: Strengths and Weaknesses - Employee

Strength		Weakness	
Employee	References	Employee	References
absenteeism	8,	advancement	2
autonomy	2, 7, 12, 23, 25	anxiety	1, 7, 14, 27
collaboration	5, 6, 15, 21, 28	burnout	1, 14, 15, 27
communication	17, 21	change	4, 9, 12, 24
commute	2, 3, 8, 11, 13, 17, 22, 25, 27	collaboration	6, 8, 17, 26, 28
compensation	1, 5	communication	9, 17, 23, 26
costs	17	costs	27
creativity	11, 21	creativity	7
efficiency	25	disengagement and distrust	8, 26
embrace uncertainty	7	distraction	23, 27
engagement	8, 12	distruptions	24
flexibility	1, 2, 3, 6, 7, 8, 14, 22, 25, 26, 27	engagement	26
health	6, 12, 13	exhaustion	2, 14
innovation	11	fear	12, 24, 27
job options	5, 22	feedback	9
job satisfaction	22, 27	flexibility	5, 10, 13, 24
life satisfaction	22	HIPPA	16
morale	25	innovation	7, 27
motivation	10, 25, 27	isolation	2, 6, 8, 11, 12, 13, 15, 22, 26, 27
office politics	6, 27	job security	27
performance	2, 4	pay	5
perseverance	11	presenteeism	15
portability	25	privacy	16
productivity	2, 6, 10, 11, 12, 13, 15, 17, 18, 22, 27	productivity	6, 9, 18
quality of life	7	recognition	7
relationships	6	security	23
remote access	11	skills	4
save time	11, 17	stress	2, 4, 7, 8, 11, 12, 14, 19, 22, 24, 25, 28
self leadership	12	technology	4, 8, 11, 14, 19, 22, 23, 24, 25
skills	2, 3, 5, 6, 12, 13, 16, 19, 26	skills	19
supportive teams	11, 15	uncertainity	7
technology	16, 23	unemployment	19
well being	1, 8, 13	work conditions	5, 11
WFH arrangement	22, 23	talent	5
work attire	8	work life balance	2, 6, 8, 11, 12, 13, 14, 15, 16, 17, 22, 23, 24, 25, 26, 27
work life balance	2, 9, 11, 13, 17, 22, 27	work load	3, 8, 11, 13, 14, 23, 24, 25, 27, 28
working conditions	11, 13	work space	2, 6, 8, 11, 12, 14, 15, 23
		zoom fatigue	13, 17

Stressors that include the stress of Covid and workload stresses (Shoa, et. al., 2021), cognitive stress (Babpour Chafi et. al., 2021), work-life balance, job, and homework space stresses (Franken, et. al., 2021), technology-induced stress (Salon, et. al., 2022), and general stress (Bowers, 2021) are all significant contributors to the employee stress level of remote work. Technology issues such as insufficient bandwidth (de Klerk, et. al, 2021), internet issues (Samuel & Khan, 2020), and recent technologies (Mykytyn, 2020) all contribute to this weakness.

Challenges with the home workspace and increased workload are both significant findings for employees. Employees took on increased workloads during remote work, partially due to extended work hours (Franken, et. al., 2021). The sudden shift to home during Covid-19 meant that employees did not have workspaces prepared which is shown in the weakness for the workspace (Galanti, et. al., 2021; Samuel & Khan, 2020).

Remote workers show an increase in isolation (Babapour Chafi, et. al., 2021) along with remarkable results in anxiety, burnout, and change. These combined with collaboration and communication added to the weaknesses for employees.

Table 4: Strengths and Weaknesses - Employer

Strength Employer	References	Weakness Employer	References
absenteeism	2, 25, 27	collaboration	2, 3, 8, 17, 28
collaboration	2, 10, 17, 28	communication	1, 10
communication	4, 17	costs	7, 26
convenience	8	creativity	2, 17
costs	1, 5, 8, 10, 13, 14, 17, 22, 25, 27	customer interaction	17, 19
creativity	2, 7	flexibility	14, 15, 19, 22
customer interaction	17	innovation	11, 17, 28
diversity	27	local impact	3
effectiveness	8	management	8, 11, 13, 15, 17, 19, 27
employee's well being	25	morale	17
engagement	12, 27	motivation	17
enhanced financials	8	privacy	15, 16
excelerated acquisition	5, 12	productivity	9, 17, 18, 27, 28
flexibility	10, 11, 17	skills	14, 19, 26
healthier workforce	21, 27	talent	1, 19
innovation	3, 7	team cohesion	10
investments	3	technology	2, 4, 5, 8, 10, 11, 18, 19, 26
local impact	3	work life balance	2
morale	17	work space	6, 26
motivation	10, 17		
outcomes	3		
patent applications	3		
performance	1, 12, 27		
privacy	21		
processes	4		
productivity	1, 8, 10, 11, 12, 15, 17, 18, 22, 25, 27		
profit	8		
recruiting and retention	13, 22, 25, 27		
retention	27		
skills	22		
talent	1, 5		
technology	4, 5, 11, 12, 16, 17, 21, 22		
time savings	14		
work hours	11		

The findings for employers are a bit surprising; there are significant themes but fewer. Employers had findings for technology that suggest that the sudden shift to remote work for a large workforce may have required investments in technologies that may not have happened as quickly (Babapour Chafi, et. al., 2021, Bower, 2021). Employers that had older technology had to upgrade and train employees quickly (Franken, et. al., 2021). This technology shift also contributed to another key theme of management. Employers had to find ways to manage a remote workforce and productivity. There were some employers that looked for surveillance technologies to "monitor" employees (Li, 2021). Employers felt a loss of control and lack of trust in employees when remote (Kniffin, et. al., 2021). Employers' findings also show that they felt that collaboration was harder and reduced (Yang, et. al., 2022).

Key themes for *Employees* are:
- Strengths (productivity, flexibility, commutes, skills, work-life balance, collaboration, and autonomy).
- Weaknesses (work-life balance, stress, workload, isolation, workspace, technology, flexibility, communication, collaboration, change, burnout, and anxiety). See Table 3.

Key themes for *Employers* are:
- Strengths (productivity, technology, costs, recruiting and retention, and collaboration).
- Weaknesses (technology, management, productivity, flexibility, collaboration). See Table 4.

Conclusion

The findings suggest that employees and employers both benefit from remote work in themes of importance to both groups. Employees have increased flexibility, autonomy, productivity, skills, and reduced commute. Employers have increased productivity, reduced costs, better technology, and improved collaboration. The findings also show that employees have a significantly higher share of weaknesses than employers do.

Even with the stresses and work-life balance identified in the analysis, the consensus is still that employees want to continue some amount of remote work in a post-Covid work environment.

Employees want employers to communicate plans for post-Covid remote work plans even when those plans may not be fully developed or are changing (Alexander, et. al., 2021).

Limitations of the Study

This study is limited to time constraints and space requirements as a doctoral project. This is not an exhaustive study of the topic of remote work. The literature reviewed was selected to be part of the period during Covid-19 and the time following. Ideas and plans for remote work are evolving and many organizations are still adapting to a post-Covid future.

Future Research

Questions related to productivity are the employee's self-reported productivity during WFH. Future research could include an in-depth analysis of productivity as compared to economic output or general economic conditions. Investigation into the impact on employee privacy and weakening of protections such as HIPAA may help strengthen and reinforce these areas.

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Appendix A

Research Articles

	Reference	Strength		Weakness	
		Employee	**Employer**	**Employee**	**Employer**
1.	Alexander et. al., 2021	increased well being, flexibility, compensation	increased productivity, up to five times productivity rise with articulated plans and policies for WFH, more talent options, lower costs, strengthen organizational performance,	anxiety, burn out,	lack clear post pandemic plans and communication to employees, risk talent loss
2.	Babapour Chafi et. al., 2021	increased flexibility, autonomy, work life balance, improved individual performance, new skills, increase productivity, time save with no commute, more quality time with family,	reduced absenteeism, more collaborations and knowledge exchange with other managers,	lost comradery, isolation, perceived threats to professional advancement, long working hours, emotional exhaustion, greater cognitive stress, more meetings, maintain an office mindset working remote, poor ergonomics of home office space,	harder to exchange complex information, maintain an office mindset working remote, old technology, group creativity percieved as difficult, less collaboration between groups,
3.	Barrero et. al., 2021	less stimgma associated with WFH, reduced commuting, learned new skills	new investments to enable WFH, increased productivity, increase in US patent applications that advance WFH technologies, innovation in regulatory sphere, higher spending in local communities, better than expected WFH experiences	more meetings, more email, longer workday	lower spending in city centers, lack of in person gathering,
4.	Bowers, 2021	job done with excellence and under difficult circumstances,	technology infrastructure in place for mobile work prior to Covid, use communication tools, decisions made faster,	some may lack ability or willingness to adapt, stress, resistance to learn and use new technology,	challenges from old technology, deployed new technology very fast,
5.	Braesemann et. al., 2022	options to freelance, access to jobs from all over the globe, option to physical migration for more jobs and higher wages, benefit from skill diversity, skill sets determine wages,	accelerated adoption of digital technologies, business processes adopted to remote work, cost savings, access to global talent pool,	possible bad working conditions, "Digital Taylorism", polarization and global concentration of skilled workers, pay effected by geographic location	internet backbone not equally distributed, access to markets and resources reduced based on internet access,
6.	Brooks et. al., 2022	greater freedom and flexibility, new opportunities, inclusivity of remote meetings, improved productivity, develop new skills, risk of Covid infection, removed from negative relationships, improved relationships, improved productivity		different time zones, unsuitable home ergonomics, technological issues, work-life balance, work and childcare, lack of social interaction, reduced in-person interactions, reduced productivity, reduced productivity	ensure employee suitable environments for work at home, lack of office space,
7.	Cohen & Cromwell 2021	need for autonomy, flexibility, maximize quality of life, embrace uncertainty	innovation, encourage directed and emergent creativity, economic benefits of creative solutions,	creativity and innovation not rewarded at work, uncertainty leading to stress anxiety and frustration,	funding restrictions,

	Reference	Strength		Weakness	
		Employee	Employer	Employee	Employer
8.	de Klerk et. al., 2021	improved employee engagement and performance, reduced absenteeism, increased flexibility, improved well being, no commute, no work attire	convenience, enhanced financial returns, organziational effectiveness, cost savings, higher productivity	social isolation, reduced employee engagement, reduced teamwork and collaboration, overwork, increased stress, need for priviate space, insufficient bandwidth, blurring between work and home,	decreased collaboration, requires appropriate technology, resources, and support
9.	Farooq & Sultana, 2021	benefical to females (domestic/family duties and work)		decrease productivity (especially females), struggling to adapt during covid, ineffective communication, less feedback	decrease productivity
10.	Ferreira et. al., 2021	increased worker motivation and producitivty	reduce costs, increase worker motivation and productivity, increase flexibility, positive relations	not suitable for every worker	control technology, communication issues, team cohesion
11.	Franken et. al., 2021	improved remote access, no commute and time savings, increased productivity, improved work-life balance and work space, more supportive teams, financial benefits of no commute, innovation, creativity, and perseverance	increased productivity, longer work hours, adaptive teams and management, increased workload, improved technology and support,	initial technology challenges, stress with work-life balance, increased work hours, lack of face to face interaction, blurred boundries, shared home work space stress, icnreased workload,	initial technology challenges, management adjustments, lack of face to face interaction
12.	Galanti et. al., 2021	autonomy and self-leadership, health, productivity, work engagement, training and new skills,	excelerated acquisition of technologies and software, productivity, work engagement, WFH can give a competitive advantage and improve organziational performance,	in some cases, childcare, isolation, shared workspace, job stress, age and change,fear of covid, family work conflict, social isolation,	
13.	Grzegorczyk et. al, 2021	greater autonomy, better work-life balance, more productive, less time communiting, better working conditions, health and well-being improvements, learn new skills,	reduced office costs, attract talent from larger labor market	tendency for longer work hours, blur work/life balance, higher work load, Zoom fatigue, lack of informal interactions, "prisoner's dilemma"	loss of control, lack of trust in employees, reduced coordination
14.	Ingusci et. al., 2021	job crafting,	time and money saving	stress, work overload, anxiety, work space, technology, shared space with family, work life balance, fatique, burnout,	re-train employees, facilitate employee adaptation
15.	Kniffin et. al., 2021	more productive, coworkers more willing to help, more effective brainstorming in teams,	shift to results focused assessments,	space at home, work life balance, transition time between work and home (commute), social distancing and loneliness, greater risk of burnout, presenteeism (working sick),	lack of control over remote workers, need for modes of surveillance, new management techniques necessary, need to adopt WFH post Covid
16.	LI, 2021	new technologies, new skills,	new technologies	HIPAA relaxed or violated, increase of workplace serveillance, changes in privacy, blurred lines between work school and play,	need to protect privacy globally,

	Reference	Strength		Weakness	
		Employee	Employer	Employee	Employer
17.	Manko, 2021	save time, reduce cost of commuting, better work/life balance, increased productivity, value of multimodal communication (email, live video, other communication tools),	cost savings from smaller office footprints and more lenient WFH policies, increased productivity, benefits of watercooler type socializing software, provide technologies for remote work, improved group sessions, increased productivity, higher customer interaction, improved morale and motivation, WFH as a diagnostic test,	awareness of what colleagues are working on, ability to make decisions as a team, ability to brainstorm with team members, difficulty communicating with colleagues, challenges to remote collaboration, lost visual clues from body language, emotions, and embodied experiences, Zoom fatigue, child care and home duties	concerns to the impact of creative work, concerns to the impact of innovation, short term survival decisions that can interfere with longer term innovative activity, challenges to maintain company culture during WFH, access to information and reference materials a problem area, meetings not quite as good, productivity not nearly as high, customer interaction not quite as good, keeping people on task, dealing with crises, making and implementing new plans, hard to maintain morale and motivation,
18.	Monteiro et. al., 2019	positive productivity for skilled workers	significant productivity increase for medium firms, firms that conduct R&D positive productivity,	negative productivity for low-skill workers,	negative productivity for small firms, no productivity change for large firms, firms with no R&D negative productivity,
19.	Mykytyn, 2020	certain skills in high demand,		new technologies, frustration from little training, need for adequate internet access and bandwidth, increased unemployment,	management challenges of changing technologies, little to no warning of Covid complications, how to train employees on new tools, customers dealing with employees working remote, need for adequate bandwidth, additional security requirements and costs, supply chain disruption, shortage of specialized skilled workers,
20.	Pandemic Positives: Extending the reach of court and legal services, 2021	new remote work options,	new remote option not available prior, use of technologies, partnerships with coordinating groups, build supportive infrastructure, access to resources outside geographic restrictions, services made easier to access, greater convenience,		sudden shift to remote not ideal
21.	Resiere et. al., 2020	information sharing, creative solutions,	technology to improve health and privacy,		
22.	Salon et. al., 2022	telecommuting more effective and normalized, flexibility, quality of life benefits, commuting less, increase productivity, option to live further from workplace, higher job satisfaction, higher life satisfaction, changed attitudes toward remote work	reduce overhead costs, higher productivity, learned how to manage remote workers, lower job turner, technological advances and investments	fully remote does not provide the best quality of life for all employees, poor work-lfe blanace, social isolation, technologically induced stress	not all jobs allow for remote work, employers may allow for some remote work to retain workforce but prefer in office full time, new workers expect remote work option

	Reference	Strength		Weakness	
		Employee	Employer	Employee	Employer
23.	Samuel & Khan, 2020	satisfaction with WFH arrangment, technology requirements,		longer hours, technology access issues, communications issues, work life balance issues, internet issues, physical workspace, distractions at home, security problems,	
24.	Shao et. al., 2021			forced remote work due to Covid, disruptions, lack of readiness to WFH, childcare demands, technology issues and stress, workload stress, Covid infection stress,work/life balance,	
25.	Suresh & Gopakumar, 2021	autonomy, flexibility, improved efficiency, portability, improved morale, feel motivated, recapture commute time,	improved productivity and profit, improved recruiting and retention, employee's well being, lower absenteeism, less sick leave, increased productivity,	extended work day, technology issue stress, work/life balance,	unavailalbity of technology, incompatiable hardware,
26.	Voytsekhivska & Voytsekhivskyy, 2021	more "authentic", new skills training, flexibility		disengagement and distrust, less likely to share ideas or help each other, feeling disconnected with asynchronous communication, work life balance,	requires investments in technology and training, possible cost for home technology and work space needs,
27.	Vyas & Butakhieo 2021	work effectively, enchaces productivity, better work-life balance, increased job satisfaction, reduced communting time, avoiding office politics, increased motivation, flexibility	reduce turnover, less absenteeism, higher talent retention, use of less office space, improved gender diversity, healthier workforce, job satisfaction, better productivity, increase job engagement, increase job perfomance	social isoloation, costs related to WFH, blurred boundries , overwork, miss going to the office, increased stress, fears related to job security, anxiety, burn out, distractions, imbalance between work life balance, concern about reduced productivity	organizational trust, trust by managers, negative association with work motivation,
28.	Yang et. al., 2022	stronger connection to existing collaboration networks		cross group interactions decreased, collaboration network more siloed, access to information decrease, worker networks more static, work longer hours	less worker collaboration, possible reduction to productivity and innovation,