

The Rise of Remote Project Management - A New Norm?: A Survey on IT Organizations in Bangladesh

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Abstract: The rise of remote work has brought about a significant shift in the way software development projects are managed. With teams spread out across different locations and time zones, project managers must adapt to new challenges to ensure the success of their projects. These challenges include difficulties in communication, coordination, and motivation. It is seen that project managers are using a range of tools and tactics, including agile methodologies, online communication tools, and best practices for remote work, to address these issues. Other strategies may be required to successfully handle remote software development projects as conventional ones are not always sufficient. In this paper, an in-depth and exploratory survey has been conducted on a sample size of 250 employees from various IT organizations in Bangladesh. The results are analyzed to understand the benefits and challenges that come with the Work from Anywhere (WFX) approach to software development projects. The survey data is compared and analyzed against an extensive list of research papers in a similar field and categorized in three dimensions: *tools and productivity*, *work-life balance*, and *career growth*. The results support a strong correlation between WFX with increased productivity and better health.

1 INTRODUCTION

In the 21st century, most of the developed and developing nations are connected via the high-speed internet that spans the globe. Communication, collaboration, and connectivity have gradually become the norm rather than an exception (Ozimek, 2020). As many doors technology and IT have opened, it is conservative to believe that they have come with the added complexity that needs to be constantly handled and managed. In today's era, virtual collaboration tools and technologies have transformed the traditional approach of project management and thus, eliminated the need for physical meetings between the project manager and the team. PMs can now leverage digital communication tools like video conferencing, project management software, and instant messaging to keep in touch with their teams, track progress, and resolve issues or discrepancies, even if they are located at distant locations. Therefore, the conventional method of face-to-face communication has become less common, and the virtual approach has emerged as an efficient alternative for effective and timely project management. Moreover, the com-

plexity of modern projects is further amplified by the presence of multiple company offices situated in diverse regions across the globe, necessitating a delicate equilibrium between autonomy and engagement. Start-up companies, in particular, frequently engage freelance teams or remote individuals to capitalize on cost reductions and minimize overhead expenses. Also, the global COVID-19 pandemic has forced many co-located workplaces to adopt a work-from-home (WFH)/ work-from-anywhere (WFX) culture to continue daily operations during the lockdowns, and general health concerns (Carroll and Conboy, 2020). Problems regarding work-life balance and mental health quickly arose as the modality of work shifted to WFH. While WFH has certain benefits of working from a safe place, lack of proper management results in most organization employees becoming fatigued as the line between office hours and personal time blurs.

As the COVID-19 pandemic drastically altered the way organizations operate, more companies have turned to remote work as a viable working arrangement to sustain business continuity. "Remote Work" (RW) is an older terminology often used to describe

freelance contractual work. However, with the sudden shift to work-from-home (WFH) arrangements prompted by the pandemic, the term "WFH" has become more widespread as it offers clarity and precision on what it entails. This term has become more familiar to employees and employers, allowing easier communication and understanding of work arrangements. Indeed, WFH has gained widespread adoption in most industries since it is convenient, has lower overhead costs, and is less ambiguous.

All these issues and happenings have a common denominator which is work-from-home (WFH)/work-from-anywhere (WFX) or remote work (RW). Both terminologies are interchangeable and boil down to the same conclusive effect: added complications for project management. It is not the tools we need to orchestrate or coordinate such projects but rather the attitude and aptitude. Since the popularization of project management in the 1950s, its role has expanded with additional responsibilities every decade. In recent years, due to the remote and global nature of work, PMs have to be well-versed in technical skills deemed per the role and robust soft skills. The sudden influx of remote work adoption has already imposed a big challenge for PMs to coordinate effectively with teams and produce optimum output. Failure to address the difference in nature of remote work often results in inefficient output, miscommunication, and even low team morale [8]. Newer strategies are required to efficiently manage projects which require learning various tools, languages/dialects, and astute observation.

In this research, we have conducted thorough surveys among hundreds of employees from various IT companies in Bangladesh. From the survey data, we intend to learn about the current WFH/RW practices or lack thereof, management of such practices, productivity, personal well-being, and their comments about this modus operandi.

Our contribution from the survey is:

- A concentrated survey questionnaire that converges to establishing a correlation between work from home with impact on productivity and health of the employees.
- A categorized representation of the data that generalizes the overall status of the IT organization in Bangladesh.
- Same categorization applied to literature to accommodate a global view of WFH.

The paper is organized with the categorization of the studied literature in Section II. We present the methodology and construction of our survey in Section III and the analysis of the outcome in Section

IV. We conclude with our limitations and future directions in Section V.

2 LITERATURE REVIEW

2.1 Tools and Productivity

The paper (Carroll and Conboy, 2020) focuses on how the Covid-19 pandemic has forced organizations into adopting work from home and altering their work patterns. A few organizations had to completely rethink their business model and move to online services. The paper suggests using Normalization Process Theory, where the theoretical constructs such as Coherence, Collective Action, Cognitive Participation, and Reflexive Monitoring are described, and how these constructs can be implemented to aid remote work practices. Since the effect of the pandemic is long-term, organizations must come up with effective technology-driven practices for remote work to increase productivity and normalize those work practices. When establishing online connectivity for remote work, the remote workers need secure access to business resources (Saline, 2021) which must be provided by the organizations. Making cloud optimizations and tools for performance monitoring, and prioritizing cyber security, big data, analytics, and cloud infrastructure are necessary as customers and remote workers require online services. Monitoring and centralizing tools were advantageous for project managers to track project progress and get efficient reports (Shamim, 2022). The biggest problems with remote work (Ozimek, 2020) were technological issues, such as internet connectivity issues, home computers not working properly and being unable to be fixed, and not having the right equipment such as web cameras and microphones or speakers. Around 40% of the employees (Schmidtner et al., 2021) strongly agreed that their organizations had provided digital tools such as notebooks, video conference systems, and cloud services for their remote work, while 10% disagreed and 3% strongly disagreed. Organizations may decide to stay with the new methods of doing remote work since they are investing resources and costs in providing online services and technologies to employees (Brynjolfsson et al., 2020). Due to the benefits outweighing the disadvantages, many companies decided to go remote post-pandemic going forward, while some adopted a hybrid model where they allow employees to do 3 days of remote work every week. The report (Jain and Suman, 2018) states that almost 40% of Global Software Development (GSD) projects were unsuccessful in delivering the expected bene-

fits due to challenges faced in communication, coordination, and control processes due to geographical and organizational distances. Most companies globally are less experienced in remote work (Shamim, 2022). Agile approaches have been very popular and widespread among organizations (Schmidtner et al., 2021) since it enable the ability to adapt to changes and divide the project work into distinct iterations (Wysocki, 2011). A hybrid project management approach combines methodologies and practices from more than one project management approach. The paper (Gemino et al., 2021) gives us insight into how the hybrid approach can be beneficial, compared to traditional and agile practices in project management. The paper (Brynjolfsson et al., 2020) shows that the pandemic has forced organizations to try out new approaches, some of which were unexpectedly efficient or effective. Research has shown that a hybrid approach can provide substantial improvements within the same budget, time, scope, and quality when compared to traditional approaches (Willis, 1995), which can be used in remote work to increase productivity.

2.2 Work-Life Balance

The report (Boland et al., 2020) discusses how the office and work life should be revisited and adjusted due to the pandemic since it has made work from home a necessity to continue business operations. Organizations had to reconstruct how work can be done effectively in home environments where distractions can happen due to family, work-life balance, and difficulty in communication with others through online systems. Organizations had to make sure they provide platforms such as Microsoft Teams or Zoom meeting calls with a good internet connection to employees so that they can communicate and get work done (Schmidtner et al., 2021). Due to work being done from home, interruptions from family and kids were common when communicating with others online, sometimes causing privacy issues such as leaking information about family members to others in the online meeting calls, and causing discomfort among team members. Online communication required extra effort and concentration, which caused project exhaustion much quicker than before (Shamim, 2022). The report (Alexander et al., 2021) shows that anxiety is decreasing work performance, and job satisfaction, and negatively affects colleagues during work. According to the survey data (Shamim, 2022), the majority of the employees experienced burnout from work. Employees prefer to have more flexibility, where they want to have the freedom of working both from home or in the office as they desire, depending on their

needs and workload. The online meetings took longer than face-to-face, which were held in boardrooms before the pandemic, where time slots were limited and well-defined. The paper (Allen Smith, 2021) discusses how the majority of employees are unwilling to return to office workspaces due to having the comfort of working from home. Survey results from (Brynjolfsson et al., 2020) have shown younger worker groups of 25-35 are converting and preferring to do remote work more than older worker groups of age 65 or older. There is flexibility in working from home, where employees can halt work and return later since they are inside their homes at all times. There is still a drawback, where some project managers put more workload realizing that the employees are working in their homes and might skip working properly, resulting in overwork and burnout (Willis, 1995). However, employees prefer to work from home regardless of the disadvantages. There is also the issue of commuting which consumes time for employees, safety issues, and drains energy, thus employees prefer to work from home regardless of the disadvantages.

2.3 Career Growth / Organizational Growth

The paper (Allen Smith, 2021) contains a survey of 500 participants, stating what remote employees miss the most, which is the in-person conversations, a regular structure, lunches and happy hours with colleagues, and reduced interruptions by family members and kids. Flexibility is the key since the majority of employees say that they want to work remotely three days a week or more during post-pandemic. Being flexible with the model and allowing employees to work in a hybrid format will attract and retain talents as many employees are even willing to leave their jobs to maintain working from home. The overall employability of graduates has decreased due to the pandemic (SHAHRIAR et al., 2021), mainly due to the economic fall during the pandemic, and the lack of holding meetings and interviews in person. The pandemic has slowed down the economy and foreign direct investment has been reduced. The failure rate of startups has also drastically been affected due to the pandemic. The paper (Ozimek, 2020) shows a recent survey from 2020 which estimates that the share of remote workers in the U.S. has quadrupled to nearly 50% of the nation's workforce. Key findings include the rapid rise in remote work, where more than half of the American workforce is working from home during the pandemic. About 56% of hiring managers felt that the shift to remote work has gone better than expected. Remote work has also opened up opportuni-

ties for independent professionals living overseas to get hired and work with top companies and clients around the world. Businesses need to consider the corporate culture and employee trust when considering the return to growth strategies. According to the authors (PMI, 2021) based on survey data, the career opportunities for project management professionals and software developers are the highest, due to the largest and fastest growth in software development jobs globally. Regional trends show that there is an increasingly high demand for software development and management jobs, especially in emerging developing countries. Survey results (Brynjolfsson et al., 2020) show that there has been a rise in unemployment and employees being laid off during the pandemic. The pandemic has also lowered the intensity of unemployed individuals' search activity, as well as the interest for organizations to hire new employees.

3 RESEARCH METHODOLOGY

This study aimed to gain insights into the practices, challenges, and pain points associated with managing software development projects for RW/WFX. We employed an exploratory research design to achieve this objective and collected data through a dynamically branching questionnaire. We designed the questionnaire in such a way that only relevant questions are asked and kept participants engaged. The questionnaire was constructed using Google Forms and was designed to elicit positive and negative sentiments.

Before finalizing the questionnaire, we conducted a small pilot test with a test group to ensure that the questions were relevant and would produce valuable data. The final survey questionnaire comprised 26 questions divided into six sections, as shown in Figure 1:

1. Information
2. Work hours/Productivity
3. Tools for WFX/RW
4. Work-life balance
5. Career Growth
6. Health and Well-being

The survey was distributed to a sample of experienced participants managing software development projects for RW/WFX.

The data collected through the survey was analyzed using descriptive statistics to identify patterns and trends in the responses. The study results provide valuable insights into the current state of practices,

challenges, and pain points associated with managing software development projects for RW/WFX and could be used to inform the development of strategies to improve project management in this domain.

Overall, the methodology employed in this research study is designed to provide a comprehensive understanding of the practices, challenges, and pain points associated with managing software development projects for RW/WFX. Using a dynamic questionnaire and pilot test ensured that the data collected was relevant and valuable, and the analysis of the data using descriptive statistics provided insights into the field's current state.

After validating the questionnaire, we contacted IT organizations based on our connections in Dhaka, Bangladesh. We made a list of 15 such organizations and approached their CEOs, COOs, CTOs, and HRs to seek permission to conduct the survey. We requested them to distribute the Google Form hyperlink to their public employee notification channels such as Email, Slack, Microsoft Teams, and Discord. Out of the 15 companies, 11 permitted us to conduct the survey, and we successfully reached over 500 employees through these channels. Ultimately, 253 completed the study and provided valuable data for this research.

All the survey responses from the Google Form were recorded in a Google Sheet spreadsheet file. We took special care in the Information section to reduce spam by limiting one response per email and using ReCaptcha. As multiple-choice items made up the majority of the poll, we combined several of them to look for potential connections and links. We divided the six sections of the questions into three categories for easier presentation and comprehension:

1. Tools and Productivity
2. Health and Work-Life Balance
3. Career/Organizational Growth

To combine, visualize, and analyze data, we used Google Data Studio (formerly known as Looker Studio) and the charting features of Google Forms. In the data analysis phase, we utilized Google Data Studio (Looker Studio) to analyze and visualize the collected data. The software allows for the creation of interactive charts, tables, and dashboards to represent the data, which helps identify the responses' patterns and trends. The visualization features of the software were particularly useful in interpreting the results and understanding the insights of the data. Additionally, the software allows for easy sharing of the data visualizations and analysis with collaborators, which benefits the research team. A thorough analysis of our collected data is covered in our section on result analysis.

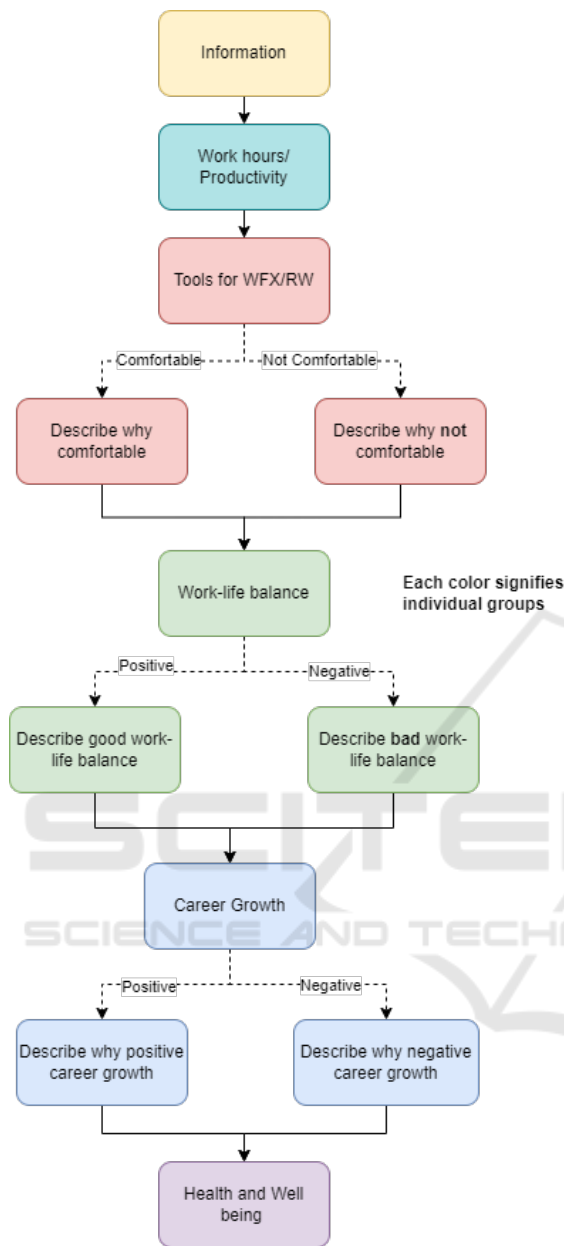


Figure 1: Survey Methodology.

4 RESULT ANALYSIS

Our survey produced some interesting insights and we used the same categorization.

4.1 Tools and Productivity

We questioned our respondents on the productive hours they put in during their office hours, and the tools they used to communicate with the team or man-

agers when they are working from home.

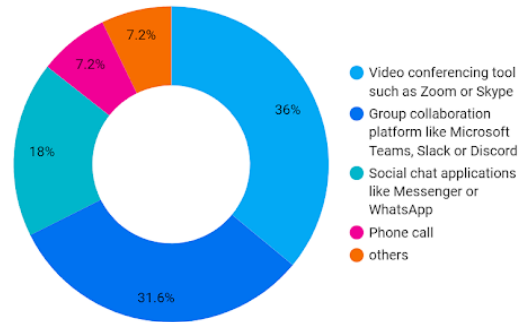


Figure 2: Percentage of usage of tools used during WFX.

In Figure 2, we displayed results of the tools/software used by participants and filtered them by those who responded "Yes" to the question, "Do you feel productive during WFH?"

Most respondents used a video communication tool like Zoom or Skype and a project management tool like Slack for text-based communication. Phone calls were less preferred due to a lack of records. This shows that specialized tools (e.g., Slack, Teams, and Zoom) positively correlate to a productive WFH environment because they enable security, record-keeping, progress-tracking, and quick communication.

We also tried to investigate whether the respondents felt more productive by working more hours or less. Figure 3 tells us that 6-8 hours is the optimal effective hours when they are most productive. Too much (above 8 hours) and less (below 6 hours) resulted in poor deliveries.

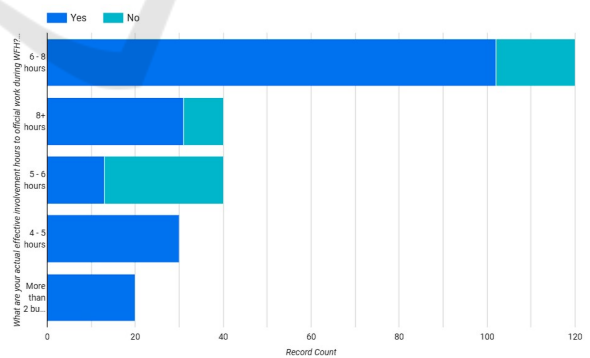


Figure 3: Relation with productivity and hours invested.

4.2 Career Growth

We inquired about the extent to which WFH promotes self-development and career growth. Interestingly, our analysis did not yield conclusive evidence of career growth associated with WFH. Rather, the

results suggest the introduction of additional pressures and some respondents reported going overtime to complete tasks. Nevertheless, a subset of respondents utilized their commute time to invest in self-development by undertaking certified training courses.

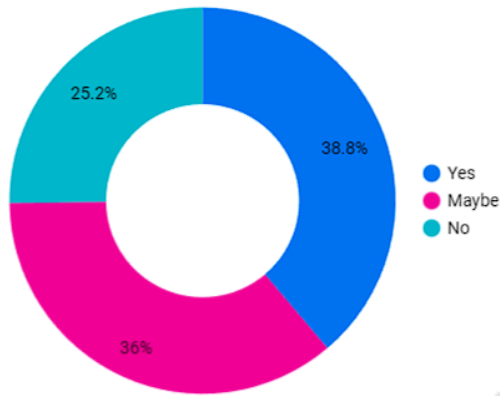


Figure 4: Career growth.

4.3 Work-Life Balance

This portion of the result analysis explains the information gathered and paints an accurate picture of the work-life balance. If we look at Figure 5, 78.4% (196 footprints/data points) of the respondent believes they feel productive during WFH, with an average mental and physical health score of 4.07 and 4.04, respectively. And the remaining 21.6% (54 footprints) think they aren't very productive, with average psychological and physical health, respectively, coming in at 3.33 and 3.67. This confirms that higher overall health results in feeling more productive.

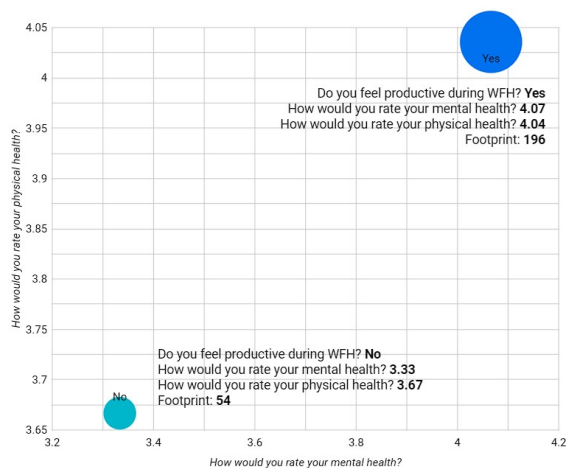


Figure 5: Relation between productivity, mental and physical health.

According to Figure 6, most respondents believe that WFH benefits them. One hundred fifty-one responded positively to WFH whose family lives had a positive outlook. Subsequently, 45 respondents said that the WFH was good for them and had a negligible impact on their family life. Nine respondents reported that the WFH was personally good and negatively impacted their family life. Here we can see that those respondents whose family lives were positively affected strongly believed WFH was good for them and vice versa.

How has WFH affected your family life?	Yes	No
Positively	151	18
I don't know	45	18
Negatively	9	9

Figure 6: Work-from-home and family life.

As demonstrated in Fig. 7, we derived the health score by adding the mental and physical health scores for a total of 10 (5 for mental health + 5 for physical health). Our sample size of 250 respondents yielded an average health score of 7.86 out of 10, which signifies a relatively healthy score while undergoing WFH.

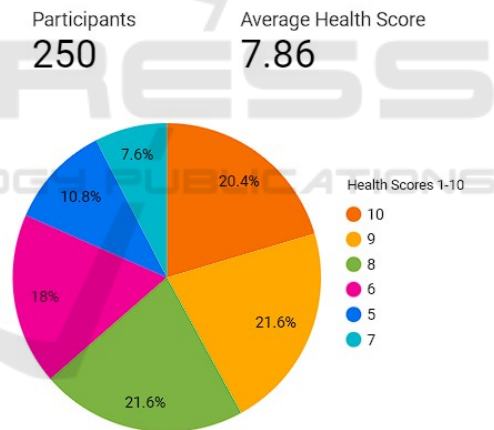


Figure 7: Average health score and their distribution.

4.4 Discussion

The results of our study suggest that working from home can positively impact work-life balance, particularly for IT professionals in Bangladesh. Spending more time with their families and having more flexible schedules allows them to feel more fulfilled and satisfied with their work, leading to increased productivity.

However, it is essential to note that remote work has its downsides, such as feelings of isolation and disconnection from colleagues. To mitigate this, we suggest organizations consider a hybrid working

model, where employees can come to the office on certain days and work from home for the rest of the week. This would help employees to have a balance between being in touch with their colleagues and also having time for their families. Additionally, some participants reported needing more career growth while working remotely. This can be due to a lack of face-to-face interaction with managers and difficulty proving their work. Therefore, managers must provide regular feedback and hold regular meetings with employees to ensure their career growth is not hindered.

Overall, our research indicates that remote working has the potential to improve work-life balance and productivity. Organizations must implement measures to reduce isolation and increase engagement to ensure that remote working is sustainable in the long run. Additionally, managers should ensure that employees are not experiencing stagnation in their career growth while working remotely.

5 CONCLUSION

Our study focused on the effects of remote work on work-life balance, productivity, and the use of specialized management tools in the context of IT organizations in Bangladesh. While our findings demonstrate a positive correlation between remote work, work-life balance, and productivity, it is important to acknowledge the potential limitations of our study related to generalizability to other regions/countries. Further research is required to investigate the generalizability of our findings to other sectors and regions.

The research also highlights areas for future work. For instance, future questionnaires could focus on more specific aspects, such as productivity, which is a crucial concern for managers. Moreover, we acknowledge the limitations of our study, particularly in terms of data segmentation and the need for more extensive data collection from more companies and different types of projects. Additionally, we suggest that future research should also consider distinguishing the perspectives of managers and subordinates. Despite the limitations, our study contributes to the existing research on remote work and highlights the positive impact of remote work on work-life balance and productivity in the context of IT organizations in Bangladesh. The use of specialized management tools such as Slack, Zoom, and Microsoft Teams appears to be beneficial for productivity.

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APPENDIX A: SURVEY QUESTIONNAIRE

No.	Questions
1	Working Hours?
2	What are your usual office hours during WFH? Let's assume you work 8 hours a day. Pick one that closely matches you.
3	What are your actual involvement hours in official work during WFH? How long are you expected to be involved in work each day?
4	How do you start your office from home?
5	Do you have an official setup at home like a dedicated desk table, working environment in the pc/laptop?
6	How do you usually report to your Manager during WFH?
7	How do you usually communicate with your subordinate/team members during WFH?
8	What level of comfort do you usually experience during WFH?
9	Comfort: This is optional but please remember that your responses have the potential to help a lot of people.
10	Discomfort: This is optional but please remember that your responses have the potential to help a lot of people.
11	How do you usually finish your office work every day during WFH?
12	Do you need to inform your Manager if you want to change your workstation during WFH?
13	Is there any company policy implemented in your company if anyone violates the rules of WFH?
14	Have your company/Manager forced/requested you to work during Government holidays or non-office hours during WFH? If yes, then have they given you any extra compensation for this?
15	Were you fairly compensated?
16	How has WFH affected your family life?
17	Affected Positively: This is optional but please remember that your responses have the potential to help a lot of people. Why do you think it did? Please be as brief or elaborate as you want. We would love to hear from you.
18	Affected Negatively: This is optional but please remember that your responses have the potential to help a lot of people. Why do you think it did? Please be as brief or elaborate as you want. We would love to hear from you.
19	Do you think the WFH concept has a positive impact on career growth?
20	Positive Impact on Career: This is optional but please remember that your responses have the potential to help a lot of people. Why do you think WFH had a positive impact on your career growth? Please be as brief or elaborate as you want. We would love to hear from you.
21	Negative Impact on Career: This is optional but please remember that your responses have the potential to help a lot of people. Why do you think WFH had a negative impact on your career growth? Please be as brief or elaborate as you want. We would love to hear from you.
22	Do you think your organization's WFH culture can be improved?
23	Do you think your WFH is good for you?
24	Do you feel productive during WFH?
25	How would you rate your mental health? 1 being very bad (chronic depression, anxiety, or panic attacks); 5 being very good (peaceful, calm, and in control)
26	How would you rate your physical health? 1 being very bad; 5 being very good

APPENDIX B: SURVEY QUESTIONNAIRE (WITH ANSWER OPTIONS)

Please visit the public URL for the complete survey questionnaire with answer options