

# The Rise of Virtual Employee Monitoring in Cloud and Its Impact on Hybrid Work Choice

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### Abstract

The Covid-19 pandemic has fundamentally altered the way people work. Many employees are willing to adopt a hybrid work model in which they prefer to continue to work from home for some portion of their working days. The growth of a hybrid working is one of the major post-pandemic global work trends. With a rising share of the labor force working from home, many firms have increased their employee monitoring measures in response to worries about deteriorating productivity and staff well-being. As a result, a growing number of employees were exposed to an increased control through electronic monitoring which may affect their willingness to choose a hybrid working. This research investigates the role of employees' privacy concerns on their willingness to choose a hybrid working model. We collected a primary dataset from 261 employees who experienced full-time work from home during the pandemic. To measure the privacy concern, we asked the participants to rate their concern on 10 mostly monitored activities over the cloud during the pandemic including website visited, apps used, etc. This research also included the other factors that can explain the employee's willingness to choose a hybrid working model, such as Gender, Proximity bias, WFH infrastructures, Length of commute time to work, work-life balance, and hybrid-work productivity. We applied ordered-choice regression models to achieve the study objectives. The findings suggest that privacy concern is an insignificant determinant of hybrid working choice. We argued that this is because employees cannot evade monitoring in any working arrangement and because the benefits of adopting hybrid working outweigh the privacy loss due to online employee monitoring. The findings also suggest that employees' fear of proximity bias decreases the willingness to choose hybrid work. The length of the commute time to work, hybrid-work productivity, and work-life balance increase an employee's inclination to engage in hybrid work. Female employees are more willing to adopt a hybrid working model than male employees. The results also showed that the willingness is significantly reduced for employees who fear proximity bias against hybrid workers.

**Keywords:** Hybrid working, Ordered choice, Privacy concern, Productivity, Proximity bias, Work-life balance

## 1. Introduction

The notion of work and the workplace is transforming fast and it is uncertain the contemporary office will fully restore to pre-pandemic standards. As we enter the next stages of the pandemic, businesses are debating whether and how to pull their staff back into the workplace following significant work from home. While some workers wish to work from home full-time after the Covid-19 pandemic, a large part of the workforce would prefer a balance in which they are at the office for part of the workweek and at home for the rest. According to various post-Covid-19 polls, most individuals desire a combination of in-person with remote work, and many have said that if they were not given the choice, they would quit their positions [1] [2]. As a result, a relatively new word has become popular: hybrid working.

Hybrid working has previously existed, but its popularity has surged as a result of the pandemic and following remote working experiments. Many organizations are now thinking about what the term "hybrid" represents for them, how they will fulfill this new employee expectation, and what will be required for these new methods of working to be successful [3]. There is no precise definition of hybrid working as of yet, but at its heart, it is a system in which a person, team, or organization works part-time in the office and part-time remotely [4]. Some of the physical qualities of a flexible workplace may also be found in a hybrid workplace. A flexible workplace is a sort of workplace that allows workers to work in several locations and methods [5].

According to several surveys, there is a noticeable trend of hybrid working due to the Covid-19 pandemic across countries. According to a recent Accenture survey, 83 percent of employees favor a hybrid work setup [6]. According to the CIPD's research, 40% of businesses anticipate more than half of their employees to work frequently from home when the pandemic has finished [7]. Before COVID-19, just around 5% of the workforce worked mostly from home, according to statistics from the Office of National Statistics [8]. The COVID-19, as well as government directives to remain at home, exacerbated this greatly. Before the pandemic, according to CIPD data, 65 percent of firms either did not provide routine working from home at all or only offered it to 10 percent or less of their employees [7]. Following the crisis, that 65 percent is predicted to plummet to 37 percent. This signifies a fundamental change in working methods that people professionals must prepare for [7]. According to Microsoft's 2021 Work Trend Index, a survey of nearly 30,000 workers in 31 countries, 73 percent of respondents wants remote work possibilities [9]. Though remote work is not a possibility for many individuals, according to McKinsey & Company statistics, an estimated 20-25 percent of the workers would work from home 3 to 5 days a week without losing productivity [10]. When employees who would work from home at least a day each week are included, the figure rises to 40% [10]. FlexJobs polled over 2,100 workers who worked remotely throughout the pandemic and discovered that 58% would abandon their employment if they could not continue to work from home at least a portion of the time [2] [1]. According to a recent McKinsey poll of 100 executives from various sectors and locations, nine out of ten firms will combine remote and on-site working in the post-pandemic future of work. 1 During the pandemic, production, and consumer satisfaction both rose, according to the report. These businesses are planning for hybrid work by educating executives for remote leadership, redesigning procedures, and rethinking how to support people in their jobs. [11]

A hybrid workspace can offer some advantages to businesses. First, it requires fewer physical spaces. A company can make better use of physical space if there is less congestion than in typical offices. Effective space management keeps the office from seeming too empty or too busy. As a consequence, a firm can lower overhead expenditures. The immediate effect of the hybrid working option on business will be a significant decrease in operational expenses. Because organizations do not need as much actual office space, the price of renting, equipping, and maintaining such places will decrease. Even if the remote

workforce receives a home office stipend, running expenses will be significantly reduced [12]. Second, employees spend a substantial amount of time spent waiting in traffic or queuing on a crowded train. By reducing travel time by allowing a hybrid option, employees may achieve a better work-life balance, with more time for healthy daily routines. What improves job performance more is relaxation before work rather than being irritated on the commute [12]. Furthermore, many of the employees are parents and carers who, in the past, may have had to compromise time with their families or time at work in order to stay on top of their duties. A Hybrid work schedule's improved flexibility makes it simpler for that person to meet everyone's demands. It also allows individuals to shine in their role more readily since it eliminates the prejudice that time spent in the workplace equals devotion to the job [12].

At the start of the pandemic, there was fear that workers would be less engaged while working remotely; but, over the last year, surveys have shown that this is not the case. Indeed, remote employees are just as engaged, if not more so. According to a Gallup survey, the greatest employee engagement happens when employees work remotely 60–80% of the time (or three-four days each week) [13]. Engagement level rises when workers work a combination of remote and in-office hours. The combination of solitary work (which is inherent in remote work) and cooperation (which is inherent in in-person work) has a measurable effect on worker engagement, and therefore on employee satisfaction [13]. Gallup showed that when workers devote some time working virtually and some time in a physical location alongside their colleagues, engagement increases. Weekly face contact with colleagues and management seems to enhance engagement: the sharp rise happens when workers devote 60% to 80% of their time working remotely – or 3 to 4 days in a five-day workweek [14]. It is worth remembering that five years ago, in 2012, professionals who worked less than 20% of the time remotely enjoyed the greatest increase in engagement [14].

A particular disadvantage of the hybrid model for a firm is that employees may be confused about who is on-site and when [15]. More flexibility in a hybrid work setup necessitates the establishment of personnel schedules across the firm. If firms do not, they can run into resource problems if too many individuals arrive at once. Employees may also be unsure when their colleagues will be on-site. This might result in misunderstandings and dissatisfaction among employees. One solution for this issue is to tailor personnel schedules to the company's requirements. Workers will experience encouraged to come on-site to interact with their peers, collaborate, and establish connections if the company provides a suitable timetable. They will be allowed to have the structure of a conventional work paradigm while still enjoying the freedom of hybrid employment. To guarantee that the company uses the appropriate scheduling model, [15] argued that it should collaborate with workers and managers to develop optimal scheduling rules and procedures.

Another disadvantage of hybrid working is the rise of virtual monitoring. Employee monitoring using digital means is anticipated to become increasingly prevalent as remote working grows increasingly popular [16]. Employers will use it to imitate the control that already prevails in the workplace. Employees may embrace it as a necessary cost for the freedom to work from home or anywhere else [16]. During the COVID-19 crisis, the requirement for remote work spawned a new demand for monitoring software that, for example, monitors workers' computer-based activities or snaps webcam images of them on a frequent basis, keeping track of their availability and appearance in front of their computers. During 2020, the usage of staff monitoring software increased by 50% and has continued to rise [17]. Such surveillance tactics may violate employees' privacy rights and present questions about their capacity to agree to or opt-out of being observed. While national law may compel employers to get workers' approval, given the power imbalance in the job relationship, such consent is unlikely to be effective [16].

## 2. Employees' privacy and the rise employee monitoring

Privacy is necessary for the flourishing of human individuality and the safeguarding of human dignity. It enables humans to shield themselves from unwelcome intrusion into their lives and to choose how they wish to engage with the outside world. Privacy allows humans to set limits on who has access to locations, and possessions, as well as conversations and information. The landmark article "The Right to Privacy" by Warren and Brandeis (1989), in which privacy is defined as "the right to be left alone" [18], initiated systematic research of the concept of privacy. Theories of privacy often refer to privacy as a right of people that protect them against third-party intrusion into their personal lives. Many theories characterize this right to noninterference in terms of access and control: privacy rights limit access to private matters while giving people the exclusive right to regulate such access [19].

Surveillance in the workplace refers to management's capacity to monitor, record, and track employee performance, behaviors, and personal attributes in real-time (for example, by Internet or telephone monitoring) or as part of larger organizational procedures (for example, drug testing in recruitment) [20]. Vorvoreanu and Botan (2000) distinguish between workplace surveillance and workplace monitoring, stating that "the term monitoring is generic and can be extended to all automated gathering of information about work, regardless of purpose" [21]. Surveillance, on the other hand, refers to a connection between a power and individuals whose behavior it intends to regulate" [21] [22].

Workplace monitoring is both necessary and common. Employees expect their performance to be evaluated, goals made, and information about their actions. This is considered excellent management practice. Employee monitoring that goes beyond what is reasonable or necessary (i.e., when employers use intrusive monitoring to delve into the lives of employees outside of work) may cause controversy; Moreover, when employers require exacting and precise information on how employees use their time may also cause controversy. As a result, employees may accept some of the surveillance's protective elements while opposing some of its more invasive parts at the same time [20].

Technological advancements and working arrangements have opened the way for various sorts of employee monitoring. The following are some of the most prevalent types [23]: a) Website monitoring: Web tracking solutions allow organizations to see what their workers are doing online, including which websites they visit [24]. This applies to both virtual and in-office workers. b) Application monitoring: These technologies examine how apps, tools, programs, and the infrastructure that supports them are utilized. They capture data and information that gives an insight into the application's performance [25] [26]. c) Social media monitoring: This sort of monitoring includes keeping tabs on workers' personal and professional social media accounts, as well as their usage of social media during working hours [27]. d) Email monitoring: This type of monitoring entails reviewing workplace emails sent from and to staff [28]. It aids in the monitoring of internal and external contacts. d) Phone tracking: This approach allows you to record and listen to your workers' phone talks, voice mail messages, and video calls. e) Keylogging: Keylogging software records keystrokes to see what workers are typing. This may be a useful record of how staff uses their work equipment. f) Time tracking: This entails creating a virtual time clock. This might also include manually filling out weekly timesheets or maintaining track of employee time and activity. g) GPS tracking: This approach is to watch workers' GPS whereabouts so employers can see where they are [29] [30]. This strategy, however, is most effective when staff utilizes company-issued devices and cars. h) Video surveillance: For many decades, many companies have relied on this form of monitoring [31]. Employers install video cameras and capture staff' and customers' daily activity [32]. Employers may monitor workers' performance in real-time using this strategy. Video surveillance makes it simple to detect unauthorized activity or misbehavior at work. Employers may use this technology to determine if workers are there,

where they move, how they act during working hours, and whether they are properly using products, among other things [32].

Employee monitoring has several benefits, one of which is that it serves to boost work performance. Supervisors who carefully listen to workers' phone conversations and see how they conduct their job obligations may more quickly identify individuals who might benefit from extra training or coaching. Monitoring assists in identifying certain work habits that may be causing poor performance. Because most businesses tell their workers about prospective monitoring activities, surveillance assures that employees perform their best. [33]

Employee surveillance comes with its own set of privacy problems [34]. Most workers are concerned that their supervisors are watching them even when they are not at work. They are concerned that their private talks may be captured, and that their passwords will be compromised. Excessive monitoring, on the other hand, maybe harmful to workers for a variety of reasons. For instance, if employees do not allow the disclosure of their details, it may be transmitted to unknown third parties, compromising their privacy [20]. Excessive monitoring may also be harmful to workers because, like other surveillance systems, employee surveillance devices can suffer from “function creep” [20] [35]. When information is utilized for a purpose other than the one for which it was originally intended, this is known as “function creep” [20] [35]. Unintentional function creep is common. This is because monitoring systems may occasionally give more information than planned, and management must resist the desire to expand monitoring without first involving personnel [20].

The psychological impacts of worksite monitoring include a rise in stress and a decrease in morale, which leads to people becoming anxious about dedicating less time to their occupations [36]. One of the challenges presented with the usages of security cameras and electronic technology for that purpose, as it applies to all workers more broadly, is that such transmitted forms of monitoring constrain employee autonomy and amplify job strain, both of which are enablers of increased absenteeism and turnover. According to one study of employees' responses to advanced technologies used to track their job-related activities, allowing affected workers to participate in the process increases their feelings of procedural justice while decreasing the intensity of employees' attitudes of invasion of privacy [37]. This shows that appropriate transparency and confidence are required between workers and management in order to counteract the possible detrimental impacts of workplace monitoring on efficiency and production.

The lines between what defines a workplace are blurring, particularly as digital devices and technology mediate most of our work material and conversations, both remotely and on-site [38]. Employees' access to employers via their devices outside of the office may result in electronic surveillance, which can happen directly at work or as a result of their access to employers using their devices outside of the workplace [38].

Employee surveillance at home is rising after Covid-19. Organizations are trying to keep things operating throughout the outbreak. And many company owners, big and small, are wondering whether it is time to monitor what their employees are doing while they are not in the office. In a study of 1,250 U.S. businesses, Digital.com discovered that 60% of them use this tracking software to monitor employee activity and productivity. A further 17% are thinking about introducing it [39].

Most office employees are aware that their employer has access to their Chat messages, emails, and webpages that they browse on workplace computers. However, more thorough surveillance of employees within their own homes is new, and it raises significant concerns about workers' privacy [40]. StaffCop and Clever Control, for example, provide remote control of cameras and microphones, allowing monitoring of



homes and people's private life. Others monitor private communications on social media chat, record keystrokes, collect passwords put into websites and apps, or snap random screenshots of the desktop to guarantee that employees are performing their tasks. NetVizor, for example, promises to function "completely in stealth, invisible to the consumer." [40]

According to the report by ExpressVPN, "employers are concerned about remote workers' productivity," particularly during the Covid-19 pandemic lockdowns and with a remote workforce [41]. This makes sense for some employers since it is tough to track workers' productivity when they are not in the workplace. About 74% of executives believe "remote work causes them to experience a loss of control over their business," while 69% say "remote work makes them feel uneasy because they can not observe employees in person." Even more concerning is the fact that 57% of supervisors "don't trust their workers to work without in-person supervision" and 59% "do not trust their workers to work without digital supervision." [41] [42]

A key consideration is striking a balance between the employer's legitimate interests and workers' privacy rights. Although businesses may believe that monitoring workers working remotely is legal, there is a danger that the line between what is lawful and what is reasonable may be crossed. Any intrusive and privacy-invading employee surveillance, whether within or outside the workplace, may boost compliance temporarily but it can backfire in the end. It reduces workers' autonomy and may increase the pressure and stress of the job. Additionally, it erodes trust, which is at the heart of the emotional contract between employees and bosses. [43] [44],

While employers realized they would need to abruptly move operations to remote labor, many of them immediately sought to find out how to keep a close eye on their employees when they were not around them. They grew eager for apps that would provide managers with more information on what their employees were doing while they were working at home. [45].

### **3. Research model hypothesis development**

#### *3.1. The impact of privacy concern on intention to adopt hybrid work model*

From the discussions in the previous section, we can infer that the privacy concern of employees in remote work is negatively associated with the intention to adopt a hybrid work model. This led to the following hypothesis:

Hypothesis 1: Employee's privacy concern is negatively associated with willingness of choosing hybrid working

#### *3.2. The impact of gender on intention to adopt hybrid work model*

Recent surveys show that female employees tend to prefer hybrid working. According to a recent poll by FlexJobs, around 41 % of female employees would prefer hybrid work post-pandemic, compared to 30 % of their male counterparts [46]. Additionally, around 68 % of female employees would prefer working remotely post-pandemic, compared to 57 % of their male counterparts [46]. These figures are consistent across several polls and research. This is partly because weary and stressed-out female employees assumed a greater share of domestic tasks during the pandemic. According to a McKinsey analysis, women are 1.5 times more likely than men to spend an extra three hours per day on housekeeping and childcare [47]. Many studies suggest that women do more housework and childcare. As a result, female professionals,

particularly working mothers, are overwhelmed with diverse household chores [48]. Skilled men have the luxury of working extra unpaid overtime to advance in their careers. It is difficult for working mothers to do so [48]. TheSkimm, a media company, discovered that almost two-thirds of millennial women saw remote work as a priority, with 43 percent saying it is very important or very essential going ahead and 22 percent saying they might no longer look to work for an organization if work-from-home was not an option in the future [49] [50]. These observations lead to the following hypothesis:

Hypothesis 2: willingness to choose hybrid working will be greater for female employees.

### *3.3. The impact of proximity bias concern on the choice of hybrid work model*

Proximity bias concept explains that employees who devote more time (in person) with supervisors are more likely to advance in their careers. While it causes issues such as presenteeism and exhaustion, some employees will feel that turning up to the workplace is a worthwhile commitment if they want to advance [51]. Because hybrid work tends to produce a two-tiered structure of workers: a) those who work mostly in the office and b) those who work largely remotely. Those at the workplace are more likely to be guys who enjoy the benefits of being in the spotlight with supervisors and coworkers [48]. Workers who frequently work from home may experience a negative influence on their career as a result of a lack of in-person contact with coworkers and management. Those looking to advance may feel obligated to spend more time in the workplace in order to be seen by the management. This is supported by research by (Bloom et al., 2015), which shows that in-person employees are more likely to be promoted [52]. They also found that many workers were concerned that working from home might isolate them and limit their opportunities for career advancement such that it lowered the rate of promotion by around 50% [52].

Remote working limits employees' capacity to network and socialize. It has been shown by King and Kovács (2021) that during the Covid-19 pandemic, both personal and professional networks shrank by 16% [53]. It is unknown if connections will diminish in a long-term hybrid scenario as well – but it is apparent that the less time an employee spends at work, the more difficult it is to develop his or her career [51].

The workers who work from home remain “out of sight and out of mind” [54], resulting in fewer promotions and compensation increases [52] [51]. According to a recent SHRM poll, 42 percent of managers confess to forgetting about remote workers when allocating duties, and 67 percent of supervisors believe remote workers are more readily replaceable [55]. The discussion shows that employees' fear of proximity bias can lead to a decreased interest in hybrid work. Accordingly, we hypothesize as follows:

Hypothesis 3: fear of proximity bias has a negative impact on the willingness of choosing a hybrid work model

### *3.4. The impact of remote work infrastructure on the choice of hybrid work model*

It may be required that the employees acquire the appropriate physical tools and software or upgrade their home offices to take full advantage of hybrid working. To choose hybrid work, new digital technologies may be required to ensure productivity regardless of location [56]. The managing of two desks in a hybrid work model may be difficult for employees. It is nearly unfeasible to establish up to two workspaces that are well-equipped for the variety of work tasks they must perform. For instance, workers may lack a photocopier or print machine at home. As a result, regardless of where they work, they are mostly attempting to accomplish something without the necessary tools [51]. Employees may have brought items

such as seats and monitors home with them, but they will also require them while working in the office if they choose a hybrid work model [56]. A slow internet connection is a significant barrier to conducting many tasks from home. Even if a job allows for remote work (teleworking), such an option may not be accessible in reality if the worker does not get access to fast internet at home. For the great majority of jobs, the practicality of home-based employment is likely to be dependent on internet availability and speed, which is lower in some parts [57]. In under-developed locations, internet connection, particularly residential access, is less developed, further impeding employees' ability to work from home [57].

Depending on whether the person is in or out of the office, resource access fluctuates. Employees at the workplace have immediate and easy access to infrastructure and technology to help them do their tasks [58]. Employees who work remotely, on the other hand, typically find it more difficult to show their expertise due to their less advanced technology configuration and infrastructure (slow connections, inability to access specific resources from home, a less complex home office setting) [58].

Some employees with inadequate home-working setups may easily believe that the physical workplace is a more suitable environment for them. Thus, even if a company provides remote work days, some employees will still go to the physical office. Therefore, we expect that employees with a good home-working setup will be more likely to choose a hybrid work model. Accordingly, we purpose the following hypothesis:

Hypothesis 4: the existence of work from home infrastructure motivates the employee to choose hybrid work

### *3.5. The impact of commute time on the choice of hybrid work*

Employees spend numerous hours trapped in traffic. It is unpleasant for employees to begin and finish the day with an unduly lengthy commute. But, although they may not enjoy it, more of them are doing it [59]. It has an effect on their lifestyle. For instance, some employees may sacrifice sleep and rise early in order to escape road gridlock. Additionally, there have been some documented instances of employees who leave the office early, and those who purposefully remain later to avoid traffic congestion. They periodically get exhausted, anxious, and lose their attention on their task [60], occasionally becoming irritated before the work begins. According to research, traffic congestion in urban regions is likely to have an effect on an individual's mental health [61]. When a person is trapped in a circumstance involving honking, traffic, pressure, or over-stimulation, he or she often has a sense of powerlessness and helplessness, which eventually results in increased stress [62].

Psychologically, an individual's constant exposure to bad experiences has a detrimental effect on his or her mental and physical health [63], as well as on his or her work and life satisfaction [64]. Many firms hear frequent complaints from their workers about everyday traffic congestion, and the problem has developed into a big worry for enterprises today [62].

The urge to work from home is increasing as commute time becomes longer and more inconvenient. Employees that reside a long distance from their workplace might work remotely and/or change their timetables to avoid commuting during peak hours. Additionally, employees may work from home for complete working days to avoid traveling entirely. Employees in computerized professions may work many hours per day from a home office, lowering total demand on the nearby road or public transit system. Additionally, these individuals may work from home several days per month to completely eliminate their travel. The above discussion leads us to expect that when the length of commute time increases the likelihood of choosing a hybrid work model also increases.



Hypothesis: The length of commute time to work has a positive impact on the willingness of choosing hybrid work.

### *3.6. The impact of work-life balance on the choice of hybrid work*

For companies looking to retain qualified staff, virtual access to work through technology has helped them overcome work-life balance challenges. This can become very useful for those who need to think about family arrangements, or who wish to have free time for other activities. For some employees, hybrid working can give a break from the constraints of traditional office hours. [65]

Hybrid working can improve employee wellness since it allows employees to cope with commitments outside of work [66] [67]. When an employee has the freedom to pick their own working location, they may often achieve a better work-life balance and optimize production by working remotely or during their most productive hours. A hybrid work arrangement by allowing staff the liberty to these choices fosters work-life balance. Employees feel that flexible working methods increase workplace morale, which may favorably affect work-life balance, [68].

Past studies have viewed flexible working arrangements as a tool to help people achieve work-life balance because they allow people over when and where they work [69]. According to the role theory, a role is a collection of responsibilities, obligations, and expectations that are related to an individual's position and status [70]. In their everyday lives, people play a variety of roles (i.e., role accumulation). In his or her family-life domain, a person may be an employee, a spouse, and/or a father/mother at the same time. Varying positions need different amounts of time and effort. These roles in many life areas are often conflicting, which may lead to inter-role conflict [71]. Work-life conflict is said to take three forms: time-based conflict, strain-based conflict, and behavior-based conflict [71], as well as two directions: work-to-family conflict (WFC, work meddling with family) and family-to-work conflict (FWC, family meddling with work) according to the (inter)role conflict theory [72].

A hybrid work arrangement, in this view, can become a compromise solution to meet conflicting multiple roles' needs. Introducing flexible working hours benefited both the employee and the firm. Flexibility in the workplace also allows individuals to conduct tasks outside of their job responsibilities, allowing them to better balance their professional and personal lives. Mokhtarian and Salomon (1997) determined that family-related reasons are a major motivator of work from home [73]. Furthermore, according to Haddad, Lyons and Chatterjee (2009), other family members may enjoy an employee's work from home, which might be a powerful motivator for an employee to telework [74]. Therefore, we expect that a perceived work-life balance by an employee would motivate him/her to choose a hybrid work model

Hypothesis 6: Perceived work-life balance by an employee is positively associated with the willingness of choosing a hybrid work model

### *3.7. The impact of perceived Productivity on choosing hybrid working*

Hybrid work arrangements may enhance productivity by accommodating individuals' own work schedules. Individuals have distinct preferences for the most productive periods of a day to work. Productive hybrid working can enable employees to work at their own speed and at times that are most convenient for them, allowing them to do their best work [75].

Hybrid employees can make greater use of their time in a hybrid workplace. Hybrid work alleviates burdens such as commuting and financial obligations, allowing for more time spent on work. They might opt to

avoid commuting during congested periods. They can devote their whole attention to projects without the distractions and interruptions associated with a typical office atmosphere. They can work whenever they choose. Employees that are happier, more rested, and less anxious have greater productivity [5].

A further effect of hybrid work is that it may help minimize presenteeism. While many workers still regard the office as a 'hub' that keeps us linked via work, a large part of the urge to be in the office is motivated by presenteeism — the opportunity for others to see that an employee is active. A hybrid workplace might remove these preconceptions in favor of a greater emphasis on productivity, delivery, and value [14]. The findings by [52] showed that productivity increased by 13% immediately after opting into remote work, and by 22% nine months later. When employees assume that productivity increases with hybrid working, they will tend to choose hybrid working. Therefore, we expect that employees perceived productivity in the hybrid work model positively impacts the likelihood of choosing hybrid working. As a result, we propose the following hypothesis:

Hypothesis 7: Perceived productivity by an employee is positively associated with the willingness of choosing hybrid working

## 4. Methodology

### 4.1. Participants

The sample of the study was collected by distributing the survey on LinkedIn and Facebook. Over the course of 45 days, 261 people (51.72 percent of them were male; 48.28 percent were female) answered the questionnaire. The participants were from different professions, industries and countries. This strategy allowed us to sample individuals from a variety of professions and organizations, boosting external validity and reducing the possible bias that comes with sampling from a single industry or occupation [76] [77]. However, we excluded the industries that have very low feasibility for working from homes such as leisure and hospitality, farming, or construction industries. [78]

### 4.2. Measures

Willingness to choose hybrid working:

Willingness to choose hybrid working (hyb) is the dependent variable in this research. It measures the degree to which employees are willing to select hybrid working. It is an ordinal variable that ranges from 'definitely unwilling' (coded as  $hyb=1$ ), to 'definitely willing' (Coded as  $hyb=5$ ).

Privacy concern:

The privacy concern variable is the main independent variable of this study. The variable consists of two parts. The first part asked the respondents if each item from table 1 is monitored. It takes 1 if the item is monitored, and 0 otherwise. The list of monitored items is collected from the survey by ExpressVPN [41]. The second part asked for the degree to which they agree or disagree on a 5-point scale (e.g., 5 = strongly agree, 4 = agree, 3 = neutral, 2 = disagree, 1 = strongly disagree) with the following statement: "I feel that mentoring of the following activities is a violation of my privacy right". The responses from both parts were then multiplied. The lowest possible value for a participant is zero: when he/she is monitored on none of the items given in table 1. The highest possible value is 50: When all the listed items are monitored and he/she strongly agrees with the privacy violation statement.

Table 1 Monitored Items

	Items
a)	Visited websites/time spent on different websites
b)	Time spent on applications/number of applications accessed
c)	Screen recording in real-time
d)	Screen captures frequently
e)	Log times / active work hours
f)	Productive vs. unproductive hours logged
g)	Chats / messaging logs
h)	Monitoring/access to computer files
i)	Inbound and outbound emails
j)	Transcribed calls

**Gender:**

The independent variable gender is a binary variable. It takes the value 1 if the employee is female. The value is zero for male employees.

**Proximity bias concern**

Participants were asked to indicate the extent to which they agree or disagree with the following 4 statements on a 5-point scale (e.g., 5 = strongly agree, 4 = agree, 3 = neutral, 2 = disagree, 1 = strongly disagree).

- When I am not in the office full time the chance of my promotion decreases.
- When I am not in the office full time the chance of my pay-rise decreases.
- When I am not in the office full time I can become excluded from important meetings
- When I am not in the office full time I can become excluded from in-office bonding events.

**Work-life balance in hybrid:**

Participants were asked to indicate the extent to which they agreed or disagreed with each of the 4 items [79] using a five-point Likert-type scale ranging from 1 = strongly disagree to 5 = strongly agree.

- Hybrid working can facilitate a healthy balance between the time I devote at work and the time I have free for non-work activities.
- Hybrid employees can have less trouble balancing their job and non-work hobbies.
- I believe that the balance between my job obligations and non-work hobbies is about correct at the moment.
- In hybrid working, professional and personal lives are balanced.

**Perceived productivity in hybrid working:**

Participants were asked to indicate the extent to which they agree or disagree with 3 statements [80] on a 5-point scale: a) In hybrid working, I would feel energetic enough to complete all my work. b) In hybrid

working, I would be able to finish complex tasks. c) In hybrid working, I would be able to focus on achieving my goals.

#### Commute:

The independent variable transportations capture commute time spent to travel to the physical office. The variable has 3 levels as follows: commute= 1 for Short (commute time: less than 20 min), commute=2 for medium (commute time: between 20–40 min), and commute= 3 for long (commute time: more than 40 min).

#### Homeworking resources

This independent variable measures the existence of 5 necessary tools required for working from home. We asked the participants to write down the 5 necessary tools required for them to effectively work from home. Next, they were asked to identify if each of them was available. The variable takes 1 if the item is available, and zero, if not. The responses were then added. So, for instance, if an employee has 3 out 5 tools available at home, he or she has a score of 3. As different employee may need different types of tools, we did not provide a prepared list of tools for all employees. Instead, we asked them to list the important tools by themselves and asked them if each tool is available.

Table 2 Details of the variables

Symbol	Description	Type of variable	Measurement/code	Expected results/ expected sign on coefficients
hyb <sub>i</sub>	Employee's willingness to choose hybrid work model	Dependent variable; Binary	5 levels: <ul style="list-style-type: none"> <li>• 1=Definitely unwilling</li> <li>• 2=Unwilling</li> <li>• 3=Undecided</li> <li>• 4=Willing</li> <li>• 5=Definitely willing</li> </ul>	
sex <sub>i</sub>	Gender of employees	Independent variable; Binary	2 levels: 0 = male 1= female	Female employees are more likely to choose a hybrid working.
prx <sub>i</sub>	Extend to which an employee agrees or disagree on the halt of career progression when working from home	Independent variable; Ordinal	5 levels: a five-point Likert scale (1= strongly disagree to 5= strongly agree)	proximity bias concern is positively associated with willingness to adopt hybrid working.
inf <sub>i</sub>				
WLB <sub>i</sub>	Perceived Work-life balance by employees	Independent variable; Ordinal	5 levels: 5-point Likert scale on Four items adapted from Brough et al., (2014) [79]	Perceived Work-life balance is positively associated with willingness to adopt hybrid working.

$prd_i$	Perceived productivity by employees	Independent variable; Ordinal	5 levels: 5-point Likert scale on Three items adapted from Koopman et al. (2002) [80]	perceived productivity is positively associated with willingness to adopt hybrid working.
$cmt_i$	Length of commute time to office	Independent variable; Ordinal	3 levels: 1= Short (commute time: less than 20 min) 2= Medium (commute time: between 20–40 min) 3. Long commute time: more than 40 min	Commute time length increases the employee's willingness

#### 4.3. Model specifications

Based on the hypotheses about privacy concerns and other determinants of hybrid work willingness, we constructed the regression model as follows:

$$hyb_i = \alpha + \beta_1 prv_i + \beta_2 sex_i + \beta_3 prx_i + \beta_4 inf_i + \beta_5 WLB_i + \beta_6 prd_i + \beta_7 cmt_i + \varepsilon_i \quad \text{Eq (1)}$$

Where,  $\alpha$  is the intercept,  $\beta_1, \dots, \beta_7$  are coefficients, and  $\varepsilon_i$  is an error term. The descriptions of the dependent variable and all the independent variables are provided in table 2.

Our sample observations face 5 ordered alternatives, from definitely unwilling to definitely willing. To model the outcomes,  $hyb_i$ , we observe that there seems to be a logical ordering in these responses. Ordered models have been commonly utilized to assess dependent variables on the Likert scale [81] [82]. We can model the recorded response  $hyb_i$  by taking into account a latent variable  $hyb_i^*$  that is linearly related to the explanatory variables  $X_i'$ . Accordingly, we construct an ordered response model as follows:

$$hyb_i^* = X_i' \beta + \varepsilon_i \quad \text{Eq (2)}$$

$$hyb_i = 1; \text{ if } hyb_i^* \leq \gamma_1,$$

$$hyb_i = 2; \text{ if } \gamma_1 < hyb_i^* \leq \gamma_2,$$

$$hyb_i = 3; \text{ if } \gamma_2 < hyb_i^* \leq \gamma_3,$$

$$hyb_i = 4; \text{ if } \gamma_3 < hyb_i^* \leq \gamma_4,$$

$$hyb_i = 5; \text{ if } hyb_i^* > \gamma_4$$

Where,  $hyb_i^*$  is the latent variable interpreted as 'willingness to choose hybrid working',  $hyb_i$  is the observed response,  $\gamma_1, \gamma_2, \gamma_3, \gamma_4$  are the threshold parameters,  $X_i'$  is the vector of independent variables in eq(1), and  $\beta$  is the coefficient vector, and  $\varepsilon_i$  is the error term. The dependent variable of this study is a binary variable. Therefore, we applied three different Ordered models: The ordered Probit model, the



ordered Logit model, and the Ordered Extreme value model. These models are different in terms of assumed distributions of their error terms. The ordered response model estimates both the regressor coefficients and the threshold parameters. The coefficients are interpreted in reference to the underlying latent variable. A positive value of the coefficient indicates that the associated variable increases an individual's willingness to adopt hybrid working.

### Results and discussion

Figure 1 shows the counts and percentages of different levels in the willingness to adopt hybrid working. The largest portion of the participants 31 percent are undecided whether or not they should choose hybrid working. 26 percent were willing and 18.39 percent were definitely willing to choose hybrid working. Only 18 participants (only 6.90 percent) belong to the group who were definitely unwilling, and 44 participants (16.86%) belong to the group of people who were unwilling to choose hybrid working. Overall, the majority of the participants are willing for hybrid working than unwilling.

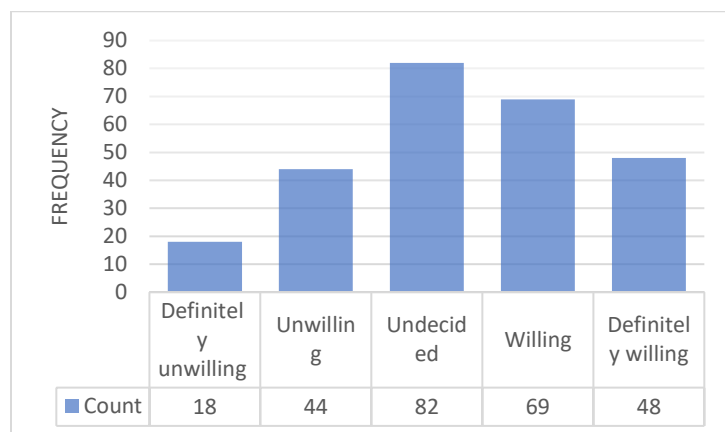


Figure 1. Respondent's hybrid working choice frequency

Tables 3, 4, and 5 show the results of the three ordered choice models: Ordered probit, ordered logit, and the ordered extreme value model. The likelihood ratio (LR) tests significantly reject the hypothesis that the slope coefficients are all equal to zero. We observe that the likelihood ratio (LR) statistics are 528.79, 525.22, and 521.79 for Probit, Logit, and Extreme Value models, respectively. The associated p-values with LR statistics are less than 0.05. This indicates that in all three models, the independent variables had a joint significant impact on the willingness to choose hybrid working.

The Z value is used to determine the statistical significance of a single regression coefficient. All the 3 models produce almost similar results. Privacy concern is an insignificant determinant of the hybrid working choice of employees, in all the three estimation models. The perceived productivity has the greatest positive impact on the hybrid working willingness. The coefficients of productivity are 4.08, 7.16, and 4.73 in the ordered probit, logit, and extreme value models, respectively. The concern of proximity bias has the greatest negative impact on the hybrid working willingness. The coefficients of proximity bias concern are

-3.52, -6.19, -4.36 in the ordered probit, logit, and the extreme value models, respectively. The commute time, gender, and work-life balance significantly increase an employee's willingness to adopt hybrid working, as all three have positive and significant coefficients as seen in tables 3, 4, and 5. The variable tools (represent the necessary work from home tools) had insignificant effects on the employee's willingness to adopt hybrid working. The tables also show the estimated values of 4 threshold parameters  $\gamma$ 's at the middle panel of tables with the heading "Limit Points". The z statistics and the associated p-values indicate that the estimated thresholds are statistically significant in the case of all three models. Table 6 shows the summary of prediction evolutions of the models. The Ordered Probit and the Ordered Logit provide identical numbers. They both outperformed the Extreme Value model in terms of correct predictions.

Privacy concern does not significantly affect the decision of employees to choose hybrid working. There can be some possible reasons for this. First, the increase in the monitoring of remote workers is negligible. The increase of online monitoring, reported in many news outlets including The New York Times [83] and The Washington Post [84], is possibly not worrying for the employees who participated in this study. The virtual surveillance industry is still in its infancy. The Covid-19 has accelerated the pace but the industry could not attract a large percentage of the organizations. An employee can not escape from monitoring in any of working arrangements, whether hybrid, work from home, or traditional work from an office. Monitoring is present in every work form. Therefore, privacy concern does not seem to be responsible for choosing hybrid working. Second, the privacy paradox can explain our result. privacy paradox refers to the case when people claim to be worried about their privacy, they take virtually few precautions to safeguard their personal information [85]. According to this explanation, privacy concerns are unimportant because the advantages and/or conveniences of embracing hybrid working outweigh the risks of online employee monitoring.

This finding has some implications. First, organizations that wish to reap the benefits of a hybrid work model can monitor the employee activities in virtual work without the risk of making the employees change the work model. When utilized properly, this form of reporting may benefit workers by assisting them in avoiding overwork and burnout. The employee does not change the work model because of their privacy concern in virtual work. The monitoring, however, should be within a legal realm. Any surveillance activity that may violate regional laws should be stopped. There are other activities that can boost the productivity of virtual employees. organizations can adopt them such as interaction with senior managers [86], ensuring the right virtual tools, and mental health checkups among others [87].

Women are more likely than males to choose hybrid work according to our findings. The ratio of women to men working remotely is not the issue; rather, the fear is that the new hybrid workplace may increase possibilities for existing bias to hurt women and introduce new impediments to success. Remote employees were promoted at a lesser rate than their counterparts in the office, implying that women working remotely at home may be in danger of slipping even further behind in the professional world. Companies must realize how hybrid work might aggravate gender inequality and modify their approach to mitigate that risk. Better training for managers, improved support for remote employees, and electronic resources to evaluate employee experiences and career progression for both men and women are all part of this.

Findings also suggest that proximity bias concern negatively affects the willingness to choose hybrid working. Face time helps employees obtain better work and leads to professional progress since it demonstrates their dedication to their job, team, and company [88]. Employees who do not want to choose hybrid working feel that those who work in close physical proximity to their supervisors are viewed as better workers than those who work remotely. Even if more employees work from home than they did

before the pandemic, the potential of feeling marginalized, invisible, and disposable is present — and some employees will make efforts to prevent it. Those who fear being completely forgotten will seek refuge in the office [51]. Companies should create measurable employee objectives and then assess all employees' performance strictly against those standards. This can help to establish a fairer workplace while combating proximity bias. Evaluate your staff based on the actual impact they bring.

By adopting a hybrid workplace model, employees feel that they can achieve more balance between work and personal life. When questioned about the benefits of homeworking, working people said that work-life balance was the most important factor [89]. According to the reports by Slack, flexibility is the primary motivator that makes remote work a good experience and hybrid work a desired model in the long run. Workers who have the choice to work a flexible schedule perform better in areas such as stress and anxiety, job satisfaction, and productivity. It's also crucial to recognize that working from home has not improved everyone's work-life balance. Some have seen more intensive work routines, with reduced travel time simply replaced by more time working. While some have profited from increased autonomy over work schedules, others have been subjected to increased monitoring and heavier workloads.

Hibob surveyed 1,000 UK-based full-time workers [90]. When questioned about their overall productivity when working from home, we discovered that 48% of workers felt productive while working remotely, while 52% did not [90] [91]. However, in a remote-working setting, the emphasis changes. Rather than a fixed number of hours worked, project completion within a certain timeline becomes more critical. It has become a goal to provide teams with the capabilities they require to simplify their operations. [75] In an ideal circumstance, workers are evaluated on their performance rather than their behavior; they are no longer need to 'appear busy' while the boss is around, but instead set out to accomplish their goals on their own time. This builds employee trust and provides them with a feeling of self-motivation. [75] However, isolation, a lack of personal relationships with others, and an increase in stress are some negative consequences of hybrid working. These implications are significant from an employee well-being standpoint, as well as in the broader context of the possible loss of idea exchange, innovation, and creativity associated with not physically gathering employees [92] [93].

The commute is an important component of the employee experience, one that will significantly influence the emerging workplace changes. According to our findings, the commute time has shown a positive effect on the decision to adopt a hybrid working model. Many transportation infrastructures are aging and trying to keep up with passenger levels, while housing affordability makes it difficult to reside closer to workplaces mostly in city centers. Instead of sitting in traffic or on a stuffy subway, people may utilize this time for productive activities. Having that extra time in the day might have a significant impact on an employee's life. Employers and employees should work together to find ways to reduce the social, physical, and mental effects that long journeys to and from work might have.

Table 3. Ordered Probit model results

Dependent Variable: HYB  
 Method: ML - Ordered Probit (Newton-Raphson / Marquardt steps)  
 Sample: 1 261  
 Included observations: 261  
 Number of ordered indicator values: 5  
 Convergence achieved after 6 iterations  
 Coefficient covariance computed using observed Hessian

Variable	Coefficient	Std. Error	z-Statistic	Prob.
PRV	-0.232450	0.260404	-0.892651	0.3720
SEX	2.162311	0.205805	10.50661	0.0000
PRX	-2.245021	0.293856	-7.639862	0.0000
INF	-0.066320	0.287363	-0.230788	0.8175
WLB	2.602208	0.313287	8.306150	0.0000
CMT	2.380476	0.177530	13.40884	0.0000
Limit Points				
LIMIT_2:C(7)	1.756507	0.383846	4.576073	0.0000
LIMIT_3:C(8)	3.577742	0.414211	8.637485	0.0000
LIMIT_4:C(9)	5.824723	0.508981	11.44389	0.0000
LIMIT_5:C(10)	8.006544	0.629743	12.71398	0.0000
Pseudo R-squared	0.506366	Akaike info criterion	1.568829	
Schwarz criterion	1.705401	Log likelihood	-194.7322	
Hannan-Quinn criter.	1.623727	Restr. log likelihood	-394.4868	
LR statistic	399.5091	Avg. log likelihood	-0.746101	
Prob(LR statistic)	0.000000			

Table 4. Ordered Logit model results

Dependent Variable: HYB  
 Method: ML - Ordered Logit (Newton-Raphson / Marquardt steps)  
 Sample: 1 261  
 Included observations: 261  
 Number of ordered indicator values: 5  
 Convergence achieved after 6 iterations  
 Coefficient covariance computed using observed Hessian

Variable	Coefficient	Std. Error	z-Statistic	Prob.
PRV	-0.347415	0.460313	-0.754738	0.4504
SEX	3.796042	0.383296	9.903695	0.0000
PRX	-3.914278	0.534525	-7.322903	0.0000
INF	-0.126402	0.500545	-0.252530	0.8006
WLB	4.552792	0.574396	7.926220	0.0000
CMT	4.219862	0.347121	12.15674	0.0000

Limit Points				
LIMIT_2:C(7)	3.206788	0.689260	4.652509	0.0000
LIMIT_3:C(8)	6.359113	0.761359	8.352319	0.0000
LIMIT_4:C(9)	10.29202	0.963630	10.68047	0.0000
LIMIT_5:C(10)	14.18317	1.216920	11.65498	0.0000
Pseudo R-squared	0.501238	Akaike info criterion	1.584329	
Schwarz criterion	1.720901	Log likelihood	-196.7550	
Hannan-Quinn criter.	1.639227	Restr. log likelihood	-394.4868	
LR statistic	395.4637	Avg. log likelihood	-0.753850	
Prob(LR statistic)	0.000000			

Table 5 Ordered Extreme Value model results

Dependent Variable: HYB

Method: ML - Ordered Extreme Value (Newton-Raphson / Marquardt steps)

Sample: 1 261

Included observations: 261

Number of ordered indicator values: 5

Convergence achieved after 6 iterations

Coefficient covariance computed using observed Hessian

Variable	Coefficient	Std. Error	z-Statistic	Prob.
PRV	-0.262512	0.291530	-0.900464	0.3679
SEX	2.530770	0.247962	10.20628	0.0000
PRX	-2.669294	0.348119	-7.667770	0.0000
INF	0.090695	0.326065	0.278152	0.7809
WLB	3.123582	0.375702	8.313997	0.0000
CMT	2.910455	0.234197	12.42738	0.0000

Limit Points				
LIMIT_2:C(7)	1.755589	0.457677	3.835869	0.0001
LIMIT_3:C(8)	3.910410	0.468065	8.354408	0.0000
LIMIT_4:C(9)	6.605782	0.602567	10.96273	0.0000
LIMIT_5:C(10)	9.237916	0.786313	11.74840	0.0000
Pseudo R-squared	0.498501	Akaike info criterion	1.592603	
Schwarz criterion	1.729174	Log likelihood	-197.8347	
Hannan-Quinn criter.	1.647500	Restr. log likelihood	-394.4868	
LR statistic	393.3043	Avg. log likelihood	-0.757987	
Prob(LR statistic)	0.000000			



Table 6 Prediction evaluation for all 3 models

Willingness levels	<i>n</i>	Correct	Incorrect	% Correct	% Incorrect
<b>Ordered Probit Model</b>					
1	18	10	8	55.556	44.444
2	44	28	16	63.636	36.364
3	82	57	25	69.512	30.488
4	69	40	29	57.971	42.029
5	48	36	12	75	25
Total	261	171	90	65.517	34.483
<b>Ordered Logit Model</b>					
1	18	10	8	55.556	44.444
2	44	28	16	63.636	36.364
3	82	56	26	68.293	31.707
4	69	41	28	59.42	40.58
5	48	36	12	75	25
Total	261	171	90	65.517	34.483
<b>Ordered Extreme Value model</b>					
1	18	9	9	50	50
2	44	26	18	59.091	40.909
3	82	54	28	65.854	34.146
4	69	40	29	57.971	42.029
5	48	37	11	77.083	22.917
Total	261	166	95	63.602	36.398

## Conclusion

There has always been more than one way to work, but the present Covid-19 pandemic has relocated so many people into new surroundings that the three workplace models—remote, on-site, and hybrid—are considerably more apparent than they were before. After the remote working for extended periods and demonstrating that they could be quite as effective away from the office as they are in it, it is evident from many surveys that workers are not much eager to return to daily offices. Instead, they want to lock in the advantages of the hybrid working approach. The office, on the other hand, is unlikely to vanish completely. Because some individuals who choose to not return to work full-time recognize the value of coming together with coworkers, particularly in terms of cooperation and relationship development.

In response to concerns about declining productivity and employee well-being as a result of an increasing proportion of the labor force working from home, several businesses have enhanced their employee

monitoring systems. As a result, an increasing number of employees have been subjected to enhanced control via electronic monitoring, which may influence their inclination to accept a hybrid work approach. Using three ordered-choice regression models, this study analyzes the impact of employee privacy concerns on their propensity to accept a hybrid working arrangement. We gathered primary data from 261 employees who worked from home full-time during the pandemic. The participants came from a variety of backgrounds and businesses. However, we omitted the industries in which working from home is unpracticable, such as leisure and hospitality, farming, and construction. To assess participants' privacy concerns, we asked them to assess their level of worry for ten often tracked behaviors during the pandemic, such as websites viewed, applications utilized, and so on. We also included other variables that might affect an employee's desire or reluctance to select a hybrid working model, such as gender, proximity bias, WFH infrastructures, commuting time to work, perceived work-life balance, and perceived productivity.

All three models in our study produce almost similar results. Privacy concern is an insignificant determinant of the choice hybrid working, in all the three estimation models. The findings suggest that employees' decision to work in a hybrid environment is not influenced greatly by privacy concerns. We argued that this is because employees cannot avoid monitoring in any working situation, whether hybrid, fully remote, or typical work from an office. Every work form includes some type of monitoring. As a result, the need for privacy while working from home does not appear to be a motivator for selecting hybrid employment. We also argued that privacy issues are inconsequential because the advantages and/or conveniences of embracing hybrid working exceed the risks of online employee monitoring. Employers that want to increase employees' productivity, and reap the benefit of the hybrid work model can monitor employee activity in virtual work without forcing employees to change their working model. When used correctly, this type of reporting may help employees by supporting them in avoiding overwork and burnout. The perceived productivity has the biggest positive impact on the willingness to work in a hybrid environment. The fear of proximity bias has a negative impact on the willingness to operate in a mixed environment. The commute duration and work-life balance all improve an employee's desire to engage in hybrid work. Moreover, female employees are more inclined to adopt hybrid working than male employees. The variable tools (representing the required work from home tools) had no effect on the employee's readiness to adopt hybrid working. Businesses that intend to realize hybrid work-led benefits in the future need to closely examine what motivates employees to choose among different types of working.

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