

## THE PSYCHOLOGICAL ASPECTS OF VIRTUAL OFFICE AT HOME FOR EMPLOYEES AND EMPLOYERS DURING THE COVID-19 PANDEMIC

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### ABSTRACT

**Introduction/Main Objectives:** The COVID-19 pandemic has made changes to all aspects of life. Work must be done at home or somewhere outside the office. Although a virtual office is mostly done from one's home, it can be done anywhere. The aim of this paper is to describe the positive and negative psychological aspects when implementing virtual offices at home for employees and employers during the COVID-19 pandemic. **Background Problems:** A virtual office has commonly been used during the pandemic condition. Many psychological aspects of a virtual office can affect the employee and his/her family. The impacts can be both positive and negative. **Research problem:** There are negative impacts, from a psychological aspect, of creating a virtual office at home besides the positive values. **Novelty:** This paper highlights the psychological aspects when implementing a virtual office at home. People often think that working from home has no challenges at all; it is considered to be more flexible and comfortable. On the other hand, working from home has many aspects that should be considered from the employees' and employers' views. **Research Methods:** This is a narrative literature review. Various types of literature were taken from the Science Direct and Google Scholar databases. Inclusion criteria were research and review articles. Exclusion criteria were un peer-reviewed articles and unavailable full texts. To maintain the quality of the paper, all the articles were read twice. The articles were categorized in a table, summarized, and then narrated. **Finding/Results:** The positive psychological impacts are flexibility, creativity, and independence. A worker can creatively manage his/her time accordingly, to create a life balance between work and family. The negative psychological impacts are life-work conflicts, burnout, and the autonomy-paradox. **Conclusion:** The essential keys for a virtual office's implementation are resilience, creativity, flexibility, and adaptation. The use of a virtual office may continue, due to time and financial efficiencies, despite the COVID-19 pandemic ending.

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### ARTICLE INFO

**Article information:**

Received 9 October 2021.  
Received in revised version 27 April 2022.  
Received in revised version 5 July 2022.  
Accepted 6 July 2022

**Keywords:**

COVID-19, home, psychological, virtual office

**JEL Code:**

D13, I31, J22, K31

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## **INTRODUCTION**

The objective of this paper is to describe the psychological aspects of a virtual home office's implementation for an employee during the COVID-19 pandemic. The psychological aspects can be both positive and negative. The COVID-19 pandemic has changed daily life, as it may now include the implementation of a virtual office. This is the focus of our paper, because virtual offices may continue to be used although the COVID-19 pandemic is over. A virtual office offers flexible time and place management. Although a virtual office's implementation is flexible, it has some problems from the employers' and employees' sides that are often unseen, which can bring new obstacles when they are not handled properly. Therefore, the implementation of a virtual office, and working from home, may be continued for a long period. Even if the COVID-19 pandemic has ended, people might continue working from home due to the flexibility and efficiency in time, place, and management this offers.

### **1. Virtual office's implementation during the COVID-19 pandemic**

The COVID-19 pandemic has changed our daily life. The government issued regulations that self-isolation and working from home must be implemented. All activities must be done at home. Schooling and work are now done online from home. COVID-19 has financial, mental, and social impacts. Work from home can be done through a virtual office (Pan et al., 2020). Due to physical distancing, home confinement, and the lockdown policy, the home is commonly used as a virtual office (Chawla et al., 2020).

Nowadays, a virtual office is an alternative. A virtual office is also called teleworking. A virtual office, in this paper, is also the same as working from home, although a virtual office

can be done anywhere, not just from home. There are a lot of changes to offices due to the COVID-19 pandemic. Recent lockdowns make virtual offices rational choices for maintaining working rhythms (Donthu & Gustafsson, 2020). In March 2020, approximately 50% of workers in the US were working from home (Brynjolfsson et al., 2020). Another study showed that about 62% of employed Americans were working from home during the COVID-19 pandemic; it was only 25% about a few years ago (Boland et al., 2020). However, a recent study found that during this COVID-19 pandemic, almost 90% of workers undertook teleworking (virtual office). They used videoconferencing for working because of its practicality (Brem et al., 2021).

More than 40% of the surveys of Chinese firms revealed negative impacts of the COVID-19 pandemic, such as a reduction in performance (Narayanamurthy & Tortorella, 2021). The negative impacts of a virtual office include inadequate infrastructure, an increase in stress, missing work colleagues and the work environment, impaired manager-employee relationships, unrealistic performance expectations, and distrust among colleagues (Graves & Karabayeva, 2020). In a study of 256 employees, with the majority being from U.S. firms, Caputo and Hyland found that approximately 40% of respondents felt that the COVID-19 pandemic reduced cross-functional collaboration. Meanwhile, more than 30% of them worried about the impact of remote work on their work-life balance. However, another study by HSBC reveals that a virtual office tends to increase the employees' productivity (Narayanamurthy & Tortorella, 2021). A virtual office also increases the availability of transportation time (Graves & Karabayeva, 2020).

## 2. The impact of Industry 4.0 with the association between COVID-19 work implication (virtual office) and employees' performance

Industry 4.0 is the next new era of the industrial revolution. The signs are the advancement and emergence of technologies such as blockchain, the internet of things (IoT), advanced robotics, and also artificial intelligence (Ivanov et al., 2018). These technologies improve employees' performance because they can establish a real-time connection between physical and digital systems. Industry 4.0 can reduce costs, enhance flexibility, increase speed, and improve quality. Therefore, working tensions can be dampened (Olsen & Tomlin, 2020). The association of digital and physical systems in Industry 4.0 affects operational management. It also impacts the special way employees deal with the working processes during and after the COVID-19 pandemic (Narayanamurthy & Tortorella, 2021).

Industry 4.0 technologies affect the employee's performance. The intensity and the orientation of that moderation depend on the work's implication and performance metric analysis. The COVID-19 pandemic has created new ways of working. It has also improved employees' behavior at work through the digitalization of working and service organizations. A home office work environment increases the output's quality and the employees' performance. In the study's sample, we did not find any significant direct impact of job instability, a sense of market insecurity, or a virtual connection with employee performance. Technology's adoption can negatively moderate the relationship between output and the home office (virtual office) work environment. The technology could positively increase virtual connectedness and output. However, the technology does have a negative affect on the relationship between output and job insecurity (Narayanamurthy &

Tortorella, 2021). The COVID-19 pandemic makes almost all the employees work in a different setting than previously. Travel restrictions, social distancing, and a virtual office or remote working are a continuance of earlier processes. It has changed the way employees work and carry out their activities. The employees also show behavioral changes. These behavioral changes can affect their cognitive, emotional, and physical well-being. These factors will impact their performance, which can be in a positive or negative direction (Graves & Karabayeva, 2020).

The implementation of Industry 4.0 (I4.0) and the COVID-19 pandemic have made significant changes to employees' activities and work. The use of new technology has had to be mastered to mitigate the COVID-19 pandemic's implications. Narayanamurthy & Tortorella studied 106 employees from various organizations who worked remotely (doing virtual office). They studied the impact of COVID-19's implications on the employees' performance. The factors tested were the output quality and delivery. They also verified the moderating role of Industry 4.0 technologies on that relationship. The results reveal that the employees' performance had been affected by the COVID-19 working conditions. The changing conditions, due to the COVID-19 pandemic, included virtual office/home office working, virtual connections, and job insecurity (Narayanamurthy & Tortorella, 2021).

The impact of Industry 4.0 on the association between COVID-19's work implications (virtual office) and employees' performance is based on the specific conceptual model. This model uses the theoretical lens of the social construction of technology (SCOT). This theory assumes that technology is embedded in the social context. Human behavior is not determined by technology, but human action is shaped by

technology. This theory emphasizes that the technology's involvement can affect the flexibility of the group, including its social development and stabilization (Narayanamurthy & Tortorella, 2021).

A study collected 106 responses from different service sector firms. This reveals that the employees who started working from home during the COVID-19 pandemic had a direct impact on the workers' and the firms' performance. This was due to the different working situations, which were shifted from the office to home. The home condition is different because there could be family interference. The technology of Industry 4.0 has been shown to have an impact on the work performance of the employees during the COVID-19 pandemic. The impact is varied, based on the type of work and the employees' conditions. Therefore, organizations must rethink their routines and processes during the COVID-19 pandemic. It is essential for the work implications. The organizations that implement Industry 4.0 must use the technology and virtual offices for their work. This study is important as it can enhance the employees' performance. There is added value for the managers and team leaders in handling difficulties when implementing a virtual office (working from home) during the COVID-19 pandemic (Narayanamurthy & Tortorella, 2021).

## **LITERATURE REVIEW**

Some models and suggestions have been made regarding managing working offices during the COVID-19 pandemic. Ivanov made a model that integrates resilience, agility and sustainability, based on the COVID-pandemic situation (Ivanov, 2021; Ivanov et al., 2018). Individual coping mechanisms are essential for underpinning organizational coping mechanisms. There are positive roles for coping mechanisms based on similar past experiences

(Gunesse, Saileshsingh Subramanian, 2020).

The adoption of augmented reality, virtual reality, holographic displays, and collaboration spaces will increase with the use of telepresence technologies. Different technologies in Industry 4.0 such as big data, artificial intelligence, virtual reality, the internet of things, autonomous robot, 3D printing, and biosensors, are all very useful in managing the working environment during the COVID-19 pandemic. Applications and collaboration spaces are critical for running virtual networks and offices (Narayanamurthy & Tortorella, 2021).

The social construction of technology (SCOT) theory reveals how several social factors and forces will shape technological developments. There are five perspectives to the SCOT theory. They are perception, appropriation, interpretation, enactment, and alignment. Different groups of users need to apply and share the technology's application and development. They need to design and conduct a real-time internet-based technology, and the objects in a virtual office, in a dynamic way (Kwok & Koh, 2020).

Teleworking is considered effective at decreasing the virus's transmission among workers. There may be a huge change in people's work-life balance. It changes both the life aspects of the workers and entrepreneurs (Giones et al., 2020). There will be a long-term impact on work arrangements. It is an opportunity for women to increase their competence as mothers and working women. However, the double roles between mother and working parents sometimes make their emotional and stress levels increase (Arntz et al., 2020).

Collaboration platforms and teleconferencing make the virtual office a new tool for keeping the work going smoothly from a remote place. Social and physical distancing have forced the adaption of the office to meet future

expectations (Pan et al., 2020). New office trends in the future might change unpredictably. People might feel that the virtual office offers more flexibility than working in their usual office does. That is why it is important to explore the opportunities and challenges in implementing a virtual office (Zhang et al., 2020).

Although working from home by implementing a virtual office became a solution during the COVID-19 pandemic, there are some issues. Challenges in implementing a virtual office include misconceptions that the virtual office is not as effective as the usual office, with regard to how fast the work is finished. Not all of the office workers are familiar with digital platform meetings in the beginning. Some customers are still adapting to the fact that their needs will be met through different digital ways. A virtual office provides excellent opportunities for business, education, and society. It allows leadership and working autonomy to show flexibility (Pan et al., 2020).

The virtual office is equal to working from home. It needs coordination and online meetings. Employees strive to explore the tools and experiments in the virtual office. It needs an open-ended and long-lasting process (Pan et al., 2020). Autonomy and flexibility are the positive aspects of the virtual office (Pan et al., 2020; Whillans et al., 2021). A virtual office's practices will become routine in the long term. It will change the culture and policies of organizations. However, professionalism must be maintained. Adjustments must be continually made to promote the benefits' progression. In other words, the COVID-19 pandemic can induce creativity in developing virtual offices all over the world (Pan et al., 2020).

Many studies have revealed that a virtual office is associated with the job description and family considerations. The jobs that usually have

the option of teleworking (virtual office) are the professional ones (such as doctors, teachers, or lecturers) and the managerial ones. There are a lot of determinants to be considered when arranging a virtual office. The effects on family members of the virtual office in the home must be determined. (Zhang et al., 2020).

The result of a study by Zhang et al. in 2020 reveals that a person's life stage impacts his/her teleworking behavior. Singles tend to telework, rather than married people. However, having children might raise conflicts when doing telework. Parents should learn to share household chores with their spouses, to reduce any imminent conflicts at home (Zhang et al., 2020). Parents who worked from home required extra support during the COVID-19 pandemic (Ralph et al., 2020). There are a lot of opportunities for developing a virtual office at home. The concepts, models, tools, flexible spaces, interior design, indoor climate, and building characteristics are the important features of a virtual office.

## **METHOD, DATA, AND ANALYSIS**

The method of this paper was a narrative literature review. The literature was selected from the Science Direct and Google Scholar databases. The keywords were COVID-19, psychological, and virtual office. Inclusion criteria were that the paper must be peer-reviewed and it has a related topic. The exclusion criteria were viewpoint or opinion papers.

There were seven papers from PubMed and 766 papers from Science Direct. After screening for the title, there were three papers left from PubMed and 370 from Science Direct. The papers were refined using the following filters: a research paper (175), psychology (55), social sciences (70), business, management, and accounting (70). Finally, there were 175 papers from Science Direct. After screening the papers

by their title, abstract, and full text, there were 33 journal articles and one web page. The selected journals were assessed based on the following criteria: the type of the document, the language, subject area, authorship, keywords, title, and abstract’s content (Fauzan & Jahja, 2021). The flow of the selection is depicted in Table 1.

One web page was added due to the need for updated and current information about virtual offices. At the end, there were 33 selected journals and 1 web page.

The analysis of the selected journals revealed a theory, namely the SCOT theory.

**RESULT AND DISCUSSION**

Implementing a virtual office at home is a challenge for some workers. There are also some benefits to be gained from it. Weighing the ratio of the benefits and challenges can help the worker to make a decision and handle the problems better. The challenges and benefits will be different depending on the worker’s family condition, age, infrastructure/available equipment in his/her home, and resilience. Below are some thoughts and studies about the benefits, challenges, solutions, and plans for implementing a virtual office at home after the COVID-19 pandemic has subsided. This paper

used the SCOT theory to strengthen the comprehension about the psychological aspects of implementing virtual office at home.

The social construction of technology theory is also known as the SCOT theory. Although it is related to technology, it can be associated with the social construction of society. In this condition, new technology can affect the creativity of society. One such case of an online transportation service in Lamongan is Cak Ed Delivery. It is considered to be an innovation for easy and cheap transportation solutions (Madja, 2021). The SCOT theory is also important for the organizational and political economy. This theory is related to economical and organizational behavior (Klein & Kleinman, 2002).

In the education field, the SCOT theory is suitable for long distance learning systems. The students and teachers use the technology to undertake the learning and teaching processes. Digital literacy is one factor that boosts the development of technology during the learning process. The SCOT theory can be used in the implementation of the socio-economy and technology to increase society’s wellness (Irwanto & Irwansyah, 2020).

Implementing a virtual office at home has many benefits and challenges, as described below.

**Table 1.** The selected journals for narrative literature review

	PubMed	Science Direct
Source	7	766
After selected for title, language, and type of document	3	175 (research paper) 55 (psychology) 70 (social sciences) 70 (business, management, accounting)
After selected for abstract and keywords	3	30

## 1. Benefits of the virtual office at home (working from home)

### 1.1. For the worker

Organizational adaptation, a flexible working environment, and economic reasons have made virtual offices more acceptable during the COVID-19 pandemic (Zhang et al., 2020). The positive side of a home virtual office is autonomy. Autonomy means flexibility to reach a holistic outcome in work and life (Richter & Richter, 2020).

Workers can benefit from saving time when working from home. The workers don't need to get up early to go to the office. They also don't face any travel delays when going home from the office (Heryani et al., 2020). The time saved can be used for more productive activities (Narayanamurthy & Tortorella, 2021).

### 1.2. For the organization

Service organizations should rethink their processes for the post-pandemic condition, based on the lessons learned during the COVID-19 pandemic. For example, the home office environment tends to be an interesting way to enhance the employees' performance in the organization. The output's quality can be improved in organizations that adopt virtual connections and technology. This situation will add value to managers and team leaders who have faced difficulties when handling the negative impacts of the COVID-19 pandemic on the performance of the employees. This will also be important after the COVID-19 pandemic ends. There are huge opportunities to innovate in the implementation of a service organization in virtual offices by using technology (Narayanamurthy & Tortorella, 2021).

Underutilizing the capacity of technology in service organizations can decrease the benefits of individuals' performance. This also occurred

during the COVID-19 pandemic. There have been several changes in the way organizations do their work. Therefore, it is essential to regularly assess and monitor the relationship between employees' performance and virtual work situations. This regular assessment can guide the team during the configuration assessment of the digital technologies' implementation. On the other hand, it can also fine-tune it to the best fit for its capabilities and requirements (Narayanamurthy & Tortorella, 2021). However, the COVID-19 pandemic is a recent case; therefore the impact on employees' performance might be subtle. It may cause a misguided result in the study. Organizations had to innovate to find new solutions during the COVID-19 pandemic. There have been many challenges in all areas of operational working, especially in human resource management. Coping and adjusting to a newly altered working environment is essential (Carnevale & Hatak, 2020; Narayanamurthy & Tortorella, 2021).

Some of the workers have never experienced any remote working situations in the past. They received no training about working from home. It caused stress for leaders and teams. Therefore, the organizations had to tackle the initial challenges and face the reality together as a team. Communication and management routines could be done through a virtual video conference. After the COVID-19 pandemic ends, a significant number of workers might choose to continue to work from home. A leader must try to organize his/her team in virtual ways (Newman & Ford, 2020).

There are five important steps in organizing a new virtual team to create an effective working condition, as follows (Newman & Ford, 2020):

#### a. Establish and explain the new reality

This step is important to make sure that all of the team members acknowledge the new

reality. This process will help them to reduce their anxiety and fear. Although there is uncertainty, a leader should try as hard as possible to manage changes. A leader must teach their team members how to work from home by effectively using a virtual office. Time management skills and communication tools must be mastered to get better results. Multiple personal issues at home might interfere with the workers' productivity (Newman & Ford, 2020).

b. Sustain the culture and trust the leader

A leader must try to establish a fair and comfortable environment for the team. During virtual work, a leader needs to make extra efforts to build trustworthiness within the team. The members depend on the leader to sustain the organization and the team culture. Employees should trust their leaders. A leader can be a source of team knowledge. A good leader should advocate the members about leadership. Building trust is crucial for remote employees. Managers should try to prevent feelings of isolation among the members. Less trust will have a negative impact on the organization and productivity. A higher level of trust will create more proactive members, optimism, and an open atmosphere (Newman & Ford, 2020). An empathetic leadership style is suitable for increasing job satisfaction (Negoro & Wibowo, 2021).

There are some important steps for the leader to build trust, as follows (Newman & Ford, 2020):

- a. Reminding the team of the cultural beliefs, norms, and values in an oral and written way
- b. Using virtual rituals or celebrations for any personal milestones and sending physical gifts for members to celebrate the

achievement

- c. Reminding the team to pay attention to the data sharing protocols
- d. Building cooperation with the technical support team to ensure each member has the required training on the platforms and equipment
- e. Building cooperation with the human resources department to ensure each member has a professional training program and career counseling, mental health support, and also corporate recognition.
- f. Ensure the feeling of safety for members by ensuring that they are safe to learn, contribute, and try without fear of being punished or embarrassed

c. Upgrade the communication practice for better practice in virtual platforms

Communication works better in a face-to-face setting. Therefore, during virtual work, a leader should modify and enhance the communication techniques by virtual platforms. Virtual communication uses less nonverbal communication. When a leader cannot create good communication, the risk of misunderstanding will be higher (Newman & Ford, 2020). Organizational structures and benchmarking are important to evaluate the result of the employees' work (Naser et al., 2022).

d. Encourage leadership sharing experiences

A good leader can communicate with employees in face-to-face and virtual ways. This will enhance a cohesive interpersonal relationship. A successful collaboration is very essential in teamwork. An interactional transformational leadership style impacts the creativity of the employees (Adi & Sukmawati, 2020). The style of leadership is

essential to improve the innovative work of the employees (Kurniawan et al., 2021).

- e. Auditing to ensure an organization's cultural value

This is the most important step. The audit must be done periodically. It is essential to make sure all the processes run smoothly. It can affect the team's effectiveness. An audit can check the previous processes such as effective communication, building trust, sharing leadership, and responding. The audit process aims to check and make sure that everything runs smoothly. When everyone agrees on the team's commitments and tasks, then the next steps will be more easily carried out. A leader should learn to master leadership skills in a virtual setting. Giving tasks and assessments should be balanced. Feedback is needed to balance the performance of the tasks, both individually and by the team. The mental health aspects of all the members of the team must be paid attention to. Coaching must be given routinely. Dissatisfaction should be handled quickly. It is essential for building relationships and trust. A good relationship will lead to greater levels of trust. There are some important items during the audit process, such as the leadership style, team members' personalities, team goals, the mission of the organization, and the relationships among the team members (Newman & Ford, 2020).

### *1.3. For the family*

A virtual office is successful when the work-life inclusion is good. It means there is full support for individuals to thrive and grow in their families and work together. In this situation, there is no sacrifice required by either the family or the work. Everything is in balance. There is time for hobbies, exercise, the family, and work (Kossek & Lee, 2021).

## **2. Challenges of a virtual office at home**

### *2.1. For the worker*

The important determinants of a virtual office are the technology, the location, and the organization. A conflict will happen when there are problems between those determinants. When the office is opened, as usual, there will be conflicts between employees. However, when a virtual office is used, the conflicts will be between family members (Zhang et al., 2020).

In a virtual office, family and work-life are merged anytime and anywhere. Information and communication technology allows for maximum flexibility and productivity. However, an overload of information and technostress can happen. Workers need to check emails, chats, or other platforms more often to stay updated with the work. This condition will lead to work-life conflicts and burnout. This is called the autonomy-paradox (Richter & Richter, 2020). Burning out during virtual work can be alleviated by setting the correct time. There must be complete interactions to reduce burnout. The interactions comprise of task interactions (content), huddle interactions, bounce interactions, development interactions, and process interactions (Whillans et al., 2021).

### *2.2 For the family*

When using a virtual office from home the interruptions from family members can be so frequent that the boundaries between work time and family time are vague. Temporal and spatial boundaries are no longer clear. The virtual office offers flexibility in time and place (spatial), but the boundaries are vague between the office and home. Children often distract their parents' concentration while the parents are at work in a virtual office (Zhang et al., 2020).

Based on the social culture, women tend to experience more pressure and responsibilities for

domestic chores and devoting time to the family. When women have advanced careers, their spouses and children usually still push them to spend most of the time totally to the family (Manolova et al., 2020). Studies reveal that approximately 20% of women quit their jobs to take care of children (vs 1% for men) (Kossek & Lee, 2021). These discrepancies are stronger after childbirth. The younger the children are, the greater the responsibilities and conflicts will be. The conflicts will be less when the family reaches the empty nest stage. This is when the parents are about 55 years old, or more. Therefore, there is a curvilinear relationship between the life stage and the work-life conflict in the family. A greater pressure is felt when the children are less than five years old. Having the office at home will reduce the work-to-family conflict, but increase the family-to-work conflict. However, when the children are 0 to 5 years old, parents prefer to have a virtual office. This can reduce any time and space constraints while parenting. Having more children could trigger bargaining and the division of the household chores between the parents. (Zhang et al., 2020).

Another study found that individuals who integrate work and life are “dual centric”. They prioritize work and family at the same time; they are often women. They have less job satisfaction, more exhaustion and depression. Crossing over at any time between work and family is exhausting (Kossek & Lee, 2021).

The traditional gender roles are a big problem for women when they still have to take care of the children while working at home. The father has no obligation to take care of the children. There is a heterogeneous structure of work arrangements between couples. The allocation of household chores between the mother and father is vague. Fathers tend to throw the

responsibility onto the mother. This is not fair (Arntz et al., 2020).

The impact of a virtual office at home (working from home) depends on the number of dependent children. The more children a family has, the more complicated the situation will be. Conflicts will arise between work and family. Working mothers and fathers need to work and take care of their children at once. There are some choices in working from home, namely full teleworking, part-time teleworking, and on-site jobs. The burden and conflict will be less if the parents take part-time teleworking (Arntz et al., 2020).

### *2.3 For the infrastructure/equipment*

Working from home is not easy. When implementing a virtual office, some challenges and opportunities are to be expected. When the employees do not have the correct and complete equipment to work from home, such as a computer, printer, scanner, a good internet connection, and a quiet place to work, conflicts cannot be avoided (Chanana & Sangeeta, 2020).

Communication is also a challenge in a virtual meeting. Sometimes workers are in the same virtual room, but they do not fully understand the meeting’s context. This condition can be solved by sending a debrief after the meeting (Whillans et al., 2021).

## **3. Opportunities and solutions for a virtual office at home**

To maintain a balance between freedom and stability, a digital worker must manage his/her virtual office in flexible and mobile ways. This is an attractive lifestyle. The combination of digital platforms and digital work in a virtual office makes the worker very independent (Richter & Richter, 2020).

Everyone must find a way to lead him/herself. An effective way of coordinating multiple roles at the same time is crucial for a virtual office. Organization and leadership are essential to set the boundaries between home and work life. Clear communication of the expected targets must be delivered to every staff and family member before the virtual office is settled. Awareness and the technostress from operating the digital platforms of a virtual office can be managed through constant coordination and adaptation (Richter & Richter, 2020).

The online communication approach is very crucial for maintaining the bond between employees and employers. Encouragement and motivation can be given by online platforms. Employers and employees have had to be creative during the COVID-19 pandemic. Last but not least, the concept of the virtual office has created a huge area to be explored during the COVID-19 pandemic. This good habit of a virtual office's implementation will continue after the pandemic has ended (Chanana & Sangeeta, 2020). Teamwork is essential in building relationships among workers. Virtual working can be used as an opportunity to learn and adjust to a new situation. Virtual work needs more coordination time. Everyday email may be good for reminding the team members of the track and tasks. Sometimes, a virtual meeting can be accompanied by virtual dinners, virtual yoga, or virtual drinks to build the relationship. Workers feel they have free time with their families while working virtually at home (Whillans et al., 2021).

#### **4. Future implementation of a virtual office at home after the COVID-19 pandemic**

Virtual offices might continue after the COVID-19 pandemic. There will be no return to the previous office habits (Heidenreich & Talke, 2020). Teleconferencing is considered effective

in its cost and time aspects (Brem et al., 2021). The COVID-19 pandemic has pushed many people to adopt the existing digital technology for their new normal daily activities (Heidenreich & Talke, 2020). One interview study revealed that the managers concluded that virtual conversations were more effective because there was more individual work done and less unnecessary personal chatting (Whillans et al., 2021).

A virtual office is low-cost. There is a software framework, named the "Virtual Office Model." It was made by researchers from information and technology tools. By using this model, the designers, managers, engineers, and other employees can work from home or any place without requiring a big space. It is effective because workers can work anywhere as long as the internet connection is good. It is cheaper to use a virtual office rather than rent a physical space/asset. A virtual office also reduces waste from paperwork, saves money on transportation fees, and saves time on transportation time. A virtual office is more affordable than a physical office. Smart computer/laptop operating systems and real-time monitoring will make virtual offices run faster (Badiuzzaman & Rafiquzzaman, 2016).

The essential concern is the human resources' evaluations. They are quite difficult to do in a virtual office. Evaluations are based on the accomplishment of time scheduled tasks. Meetings are held via videoconferencing. Tasks can be submitted electronically by email. Virtual conference rooms can be rented and they are found to be more economical than a physical office. A virtual office only needs a small space to arrange technical components such as laptop/computer/smartphone and a good internet connection. Employers can monitor the whole flow of the work from any place at any time. Therefore, a virtual office is a global working

place. A virtual office, by working from home, can be seen as a new choice (Badiuzzaman & Rafiquzzaman, 2016).

Another similar term for a virtual office, besides working from home, is digital nomads. With the help of technology, digital nomads are free to work anywhere they choose. Digital nomads usually are virtual workers who like to travel. Therefore, they can have jobs where they can work from anywhere they like. An example of a digital nomad is a website designer. A website designer is hired to design or improve a website. This can be done while traveling all over the world. Sometimes, digital nomads prefer to have co-working spaces to meet friends and to teamwork (Narayanamurthy & Tortorella, 2021).

#### CONCLUSION AND SUGGESTION

As the virtual office has been an alternative during the COVID-19 pandemic, it has had opportunities to increase the capacity of each individual without any time and distance boundaries. The virtual office has moved the perspective from an organizational workplace one to an individual one. This has been possible due to the improvement in the global access to information and technology infrastructure. The practical implication of this is that a virtual office at home is more dynamic and flexible. Meanwhile, the challenges in implementing a virtual office at home are disturbance from family members, not having the necessary equipment at home (computer, scanner, mouse, or printer), and the home being noisy.

The limitation of this paper is that a narrative review cannot assess the whole comprehensive understanding. It is suggested that empirical research should be conducted into the virtual office and its implications for the psychological aspects of the employees. The implication of this paper is that, as a virtual office is a new habit in

the working place, it can create positive and negative psychological impacts, therefore employees, employers, and family members need to work together to minimize the negative impacts and maximize the positive psychological impacts.

#### ACKNOWLEDGMENT

Acknowledgment was given to the committee of the 9th Gadjah Mada International Conference on Economics and Business that was held on September 25, 2021. This paper was presented at the conference.

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