

# THE EFFECT OF VIRTUAL WORKING TEAM ON JOB PERFORMANCE: A STUDY OF AEROSPACE MANUFACTURING INDUSTRY IN MALAYSIA

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## ARTICLE HISTORY

Received: 06 October 2021

Accepted: 31 December 2021

## KEYWORDS

Job Performance  
 Virtual Working Team  
 Virtual Communication

## Abstract

Job performance is one of most businesses' measures to ensure that their business is sustainable, lucrative, and expandable. It is also an important level indicator in Malaysia aerospace manufacturing industry to maintain competitiveness in the global market. By the end of 2019, when a pandemic had hit the world, the situation became more challenging where the government-imposed movement controls to prevent the disease from spreading. This situation led most aerospace manufacturing companies to explore alternative measures to maintain their business operations, including introducing work from home as a virtual working team for their indirect workers. As this strategy just introduced in Malaysia aerospace manufacturing sector, the concern arises as to the extent of its impact on their job performance. The purpose of this study is to examine the influence factors in the virtual working team environment and its relationship to job performance. This study uses a quantitative causal method for analyzing the effect and relevance of independent variables on dependent variables. The scope is limited to the Malaysian aerospace manufacturing sector and its employees when dealing with global suppliers and customers. The study focuses on the employees who have worked in virtual communicate during the pandemic from the year 2020 to 2021. Therefore, the findings hope to provide valuable insights to Malaysian manufacturing organizations in effectively managing their virtual working team and enhancing their employees' job performance.

## 1.0 INTRODUCTION

Malaysia's aerospace manufacturing industry has been critical in developing countries' efforts to expand and flourish, especially in the manufacturing and aviation sector. This industry has been predominantly export-oriented, which is directly contributes to Malaysia's economy. For the manufacturing industry, competent employees are the most important function for the sector to survive for a long business period. Understanding and exploiting the implications of the job performance, which is advantageous to both employers and employees. Employee performance refers to how efficiently and effectively a person does their work (Purbasari et al., 2017). An organization must understand how its employees perform at work to succeed in a worldwide competitive market. Employees' effort to achieve organizational objectives is determine by whether the individual succeeds or not in completing each strategy outlined and implemented effectively. It is attractive to know and discuss components of their working environment aspect related to their job performance. The issue of job

performance becomes interesting to investigate in perspective of what factors can influence employee's performance.

Many factors can influence employee's performance in the manufacturing industry; however, this study will focus on a different situation where the global is dealing with a pandemic that affects the entire socioeconomic system. To protect the community and prevent the spread of the disease, the Malaysian government has taken proactive strategies by imposing Movement Control Order (MCO). Only a few essential businesses categories allowed continuing their operating after getting approval from the Ministry of International Trade and Industry, Malaysia (Azmin, 2020). However, the approval is subject to stringent requirements with limited numbers of workers in the plant (not exceeding more than 60%). In addition, they must adhere to the government's Standard Operating Procedures (SOP). This situation gives the leadership a challenge in completing their task effectively to the given timeframe. When working from home as a virtual working team, the main concerns raised were how they

managed their way of communicating effectively and the factors influencing their job performance.

### 1.1 Background of Study

Job performance refers to the standard to which an employee satisfies the variables specified in the job description. It also depends on an employee's abilities, experience, seriousness, and the amount of time available to perform the task (Raharjo et al., 2019). According to Bokhori and Halim (2017), several factors are influencing on an employee's performance, such as personal issues, supervisory attitudes, work environment, general company culture, working conditions, job responsibilities, teamwork, employee relationships, non-financial and financial incentives rewards, and flexible working hours. Managers need to assess if their subordinates are doing their jobs effectively and efficiently or room for improvement (Robbins et al., 2009). The performance of each employee has a significant impact on the company's overall performance (Onyebuchi et al., 2019). As for the aerospace manufacturing sector, it is critical to guarantee that the global supply chain is adequate to deliver commercial aircraft components so as not be disrupted. Due to the new Covid-19 pandemic situation, many authorized industries have minimized the number of workers in their manufacturing plants to curb the spread of disease. This led to most non-direct production employees working from home as a virtual working team to communicate among employees, suppliers, and customers.

The effective virtual working team on daily routine work becomes a critical aspect that needs to be focus, since it will influence job performance. However, there were limited studies on virtual working teams related to the manufacturing industry, especially in the aerospace manufacturing sector in Malaysia. Hence, this study aims to evaluate the factors influencing job performance for Malaysia's aerospace manufacturing companies working in virtual communication during a pandemic. There are two main objectives outlined in this study; to examine the factors influencing employees' job performance of effective virtual working communication and identifying strategies for employees to enhance their job performance by effectively working in communication during a pandemic.

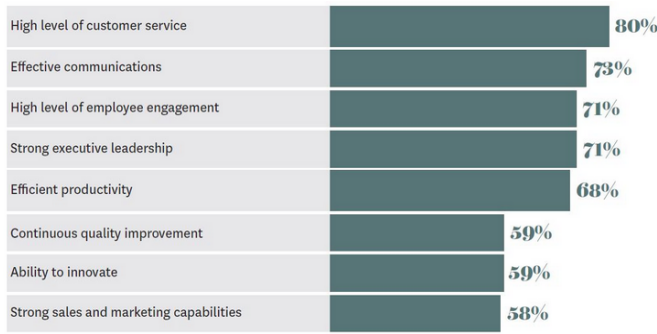
By conducting this research systematically and ordered it is important to show how the study is perform. This study is limited to the Malaysian aerospace manufacturing sector and its employees, which are specializing in the aero-structure manufacturing industry and dealing with global suppliers and customers. The study focuses on the employees who have worked as a virtual working team and communicate during the pandemic from the year 2020 to 2021.

## 2.0 LITERATURE REVIEW

At a company level, the organization's dedication to systematize the objectives and mission of every individual in the company and collaboration with high-level management is required to manage the company as effectively as possible (Raharjo et al., 2019). According to Kassim et al. (2009), solid organizational commitment will motivate people to work toward organizational goals and employee performance.

### 2.1 Job Performance

Job performance defined as the result of an employee's best effort to complete a task depending on their skills, experience, and seriousness, and the amount of time available (Raharjo et al., 2019). It means the precise results that a person wants to achieve in their employment and the organization's desire to attain those results. While Bokhori and Halim (2017) defined it as the capability and ability of an employee to completing their job as referred to as employee performance. The job requirement includes each employee's responsibilities, activities, and tasks in the organization. Leadership style also has a significant and beneficial impact on organizational success and employee performance (Simsek and Ozturk, 2018). Meanwhile, there are three primary elements can be measured for employee performance: job productivity, job quality, and job accomplishment (Iqbal et al., 2012). However, in the context of work from home or work remotely, on job performance of employees remains uncertain (Allen et al., 2015). According to Susilo (2020), the characteristics of the job itself significantly influence job performance when working in telecommuting. Telecommuting defined as working on a computer connected within employees from home or wherever else. It is crucial for employees in advisory or supporting tasks, such as promptness in responding and good attitude attributes, such as being trustworthy (Judge A and Robbins, 2017). Management support, trust, and communication are essential success factors for a virtual working environment (Kowalski et al., 2005). Based on findings from a global survey done by Harvard Business Review (HBR) in 2013 shows that the effective communication element provides the second-highest (Figure 1) and most influential factor to enhancing employee's performance.

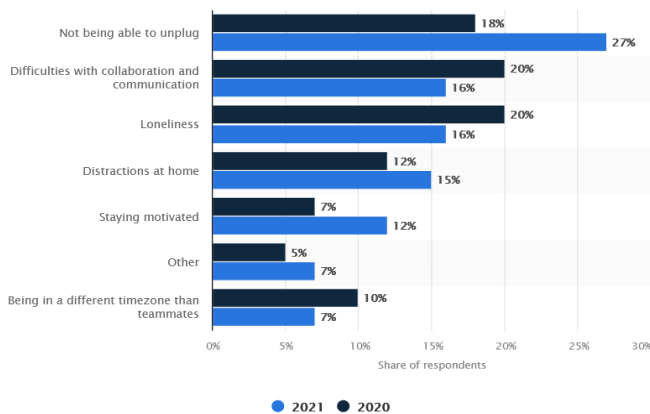


Source: 2013 HBR Analytic Services Survey

Figure 1. Factors Most Likely to Bring Success.

## 2.2 Virtual Working Team

Virtual communication becomes a common platform for every meeting, discussion, presentation, and reporting of all necessary information among employees as a daily routine works. Virtual communication is more complex than face-to-face, demanding, and challenging communication (Lockwood, 2015). Effective communication includes words, behaviours, quick and correct responses in delivering information (Morgan et al., 2014). With the pressures of global economic competition and supported by the rapid development in communication technology, most organizations are increasingly focusing on virtual team's communication capabilities to increase the effectiveness in communication on their operation (Nydegger, 2010). Madell (2019) claimed that working remotely has weaknesses, such as a lack of monitoring, which increases the risk of miscommunication. Based on researcher Mlitz (2021), many employees who work remotely do not have a properly designated workspace; instead, their living and work environments are mixed. Thus, employees struggling to focus while working remotely, and it will be affecting their job performance.



Source: Statista 2021

Figure 2. Biggest Struggle with Working Remotely.

A virtual working team, also known as the remote team, refers to a group of employees who collaborate and work together to plan, execute, and assess the progress of the project (Salas et al., 2008). Each working assignment and communication are through technology such as email, voice, or video conferencing services in order to collaborate. Although technology has improved communication ability, the performance of virtual working teams faces the challenge of losing knowledge due to ineffective coordination and communications and lack of time in sharing the information (Karayaz, 2008).

Most previous studies show that virtual team communication is more effective when it is coordinated with the right style and traits of the leaders (Balthazard et al., 2009; Hoch & Kozlowski, 2014; Kelley & Kelloway, 2012). In addition, the practical key elements for a virtual working team include frequent communication and have clear objectives among team members (Morgan et al., 2014). By practicing regular communication positively influences the motivation of each member of the virtual team to concentrate and convey information effectively in order to complete the task perfectly according to the plan. Individual quality of work is also one of the essential parts of a virtual working team. Each employee is responsible for the output of quantity and quality required to achieve task objectives as agreed upon by the working team or their superior (Ivancevich et al., 1996). According to Cullen et al. (2004), the concept of employee integrity itself directly influences to the quality of their job performance. Furthermore, to complete all of the tasks every day, employees must consistently have a certain level of commitment. Working as part of a team requires synchronization and subsequent interconnected activities across team members; small mistakes or delays will affect the team's goals and performance

## 2.3 The Relationship between Virtual Working Team and Job Performance Team

Virtual working teams depend heavily on technology communication channels to coordinate their daily work. It is crucial to examine the relation between the task's structure and coordination effectiveness as it affects individual and team performance (Victor et al., 2021). Working as a team must have strong coordination among employees in an organization. Iskandar M. et al. (2014) claimed its absence would show difficulty in operating business operations or, more importantly, cause serious harm between individuals. In addition, according to Karayaz (2008), virtual team performance hampered by a lack of knowledge and skills caused by inadequate coordination, poor communication, and a lack of timely information sharing. For improvement, he suggested optimizing various application forms of collaborative information

technologies through a well-coordinated system. Hence, structured coordination, diverse knowledge and expertise can be developed, integrated, and deployed.

In a virtual working environment, communication is a basic fundamental necessity to be focus. Each employee may feel isolated, and it is critical to keep them engaged by communicating with them frequently to raise their knowledge and understanding (Teresa M. P., 2021). The team should communicate more among virtual employees by having regularly scheduled meetings to ensure each assignment carried out smoothly as planned and not jeopardize the team's performance. According to Morrison et al. (2020), having frequent scheduled interactions among the team will promote more open conversations and mutual agreement on each activity towards the team's mission.

Works that accomplished efficiently with minimum direction and supervision is important criteria in measuring good job performance. Piccoli et al. (2004) mentioned two types of team effectiveness; team performance, where on-time delivery of high-quality results or products and where individual requirements are fulfilled. However, according to Awang et al. (2015), the condition of the working environment is one of the factors influencing employees' work speed and effectiveness. When working at home, it is necessary to create a good work environment that is both comfortable and conducive to acquire concentration and produce good outcomes. Understanding the concept of quality of work that adheres to the standards such as accuracy, neatness, attention to detail, consistency, and follows procedures will improve job and team performance.

Based on past studies, several influencing factors have identified when working in virtual communication and their relationships with job performance. Hence, three hypotheses constructed to verify the correlation between the dimension of the virtual working team and job performance as follows:

H1- Team coordination has a direct positive influencing on Job Performance.

H2- Communicate frequently has a direct positive influencing on Job Performance.

H3- Quality of work has a direct positive influencing on Job Performance.

## 2.4 Conceptual Framework

Job performance influenced by many factors of variables. Based on studies in the literature found varieties of models connecting them to job performance. However, the studied and theoretical concept established by Victor G.A. et al. (2021) emphasized in this research. According to the study's

findings, one of the essential variables in the model is task features. While, the main part of task feature is effectively coordinate their task using communication technologies where the result gives positive influence with a high confidence level. Next, an important variable is the empowerment of the team members by the leader. Empowerment consists of sharing a vision and regularly communicating within the team to create a significant connection to the team performance. Another important factor identified in the study is working at a high-efficiency level for an extended period. It entails delivering high-quality results and solutions on time, ensuring all stakeholders' satisfaction, and increasing their job performance.

Based on this underpinning theory, the framework have been develop to examine the relationship between three dimensions in a virtual working team as an independent variable and the dependent variable's job performance. The three dimensions are team coordination, communication frequently, and quality of work. The study's model developed after a thorough evaluation of the scientific literature on the subject.

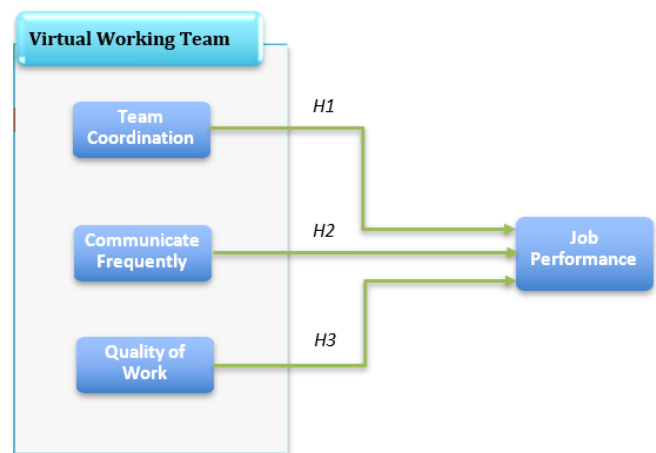


Figure 3. Research Conceptual Framework

## 3.0 METHODOLOGY

This study uses a quantitative causal method for analysing the effect and relevance of independent variables on dependent variables. Quantitative analysis is based on numerical results, delivers systematic conclusions and covering a wide range of research topics. While being more efficient, effective, and cost-effective (Ticehurst and Veal, 2000). The selected method is similar to the previous studies that have almost related to the topic (Susilo, 2020; Iskandar M. et al., 2014; Victor et al., 2021).

This study employs inferential statistics approaches, which means it aimed to answer the research questions by collecting and analysing the samples and then



generalizing the outcome to explain a population. Survey will be conducted by distributing the questionnaire and completing online to the relevant aerospace manufacturing industry in Malaysia. For the population design, respondents' selection was based on an executive level in random departments, including managers, associate managers, and senior executives. By assuming that all respondents have working experience and can work from home, it is justifiable to ensure they have access to the internet. Therefore, the Purposive sampling method is being used because it is for employees who had access to the internet and had direct experience working in virtual communication. To help gather respondents, the questionnaire link will be distributed through any means of social media (Facebook, Twitter, LinkedIn, and group mail). The responses measured using a 5-point Likert scale and evaluated accordingly; 1-strongly disagree; 2-disagree; 3-neutral; 4-agree; 5-strongly agree. The questionnaire targeted 500 respondents. The sample size calculation of this study is determined using GPower software tool through power analysis. All data will be checked for response bias, validated the theory and evidence to support the interpretation. Reliable response data will be kept and analysed further. For statistical analysis, SPSS and AMOS software will assist with the required analyses to evaluate effectively all reliable responses. The results will be presented in figures, tables, and charts, making them easier to interpret.

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## 4.0 CONCLUSION

Through this study, the most influential factors in a virtual working team on job performance have been identified via all relevant previous research and theories related to the topic. This research demonstrates how a realistic conceptual framework was developed to understand and examine the existing influencing factors in virtual working communication and their relationship to job performance. It is made a decisive contribution to the research of the influencing factors in virtual working teams on job performance for Malaysia's aerospace manufacturing industry. By conducting this study systematically, they can identify an appropriate and effective way for virtual team working communication. Hence, the organization and employees having an opportunity to develop the strategies and enhance their performance.

## Acknowledgement

Authors wishing to acknowledge Dr. Nurhanan for her great guidance. Thanks are also to Dr. Mohamad Zamhari and Dr. Nik Mohd Izual for their suggestions on preparing and establishing this manuscript.

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