



# The Project Manager's Challenges During Covid-19 Pandemic

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**Abstract:** Covid-19 has affected our daily routines, particularly how we work, which is increasingly conducted virtually to avoid face-to-face interaction. The objective of this study is to provide insight on the challenges confronting project managers during the Covid-19 pandemic. This study is based on a review of the relevant literature and discusses the Covid-19 background, its influence, the Work from Home strategy, factors affecting the performance of virtual projects, and the construction sector's issues. The article then explores and outlines the obstacles confronting project managers during the Covid-19 pandemic. In conclusion, during Covid-19, project managers' responsibilities are increasing substantially. Due to the difficulty of the role of a project management from the start, project managers must be intellectually, emotionally, and physically prepared, especially throughout the pandemic phase, which has no end date. Additionally, they must immediately acquire new skills and information and prepare for the worst-case scenario, as this pandemic is unprecedented for anyone, and thus no one has the best guidelines to follow. Finally, project managers must be more creative in managing projects and entertaining all stakeholders to ensure that the projects continue to run smoothly and within the constraints.

**Keywords:** Covid-19, coronavirus, project manager, project management

## 1. Introduction

The Covid-19 pandemic has affected everyone's life, including students, instructors, general workers, government employees, project managers, and team members. Students and teachers use online remote learning to complete their syllabuses when they are unable to attend the learning institution. Other occupations, such as project managers and their teams, require working virtually from home and holding physical meetings only on certain days. While others are permitted to work in offices with a limited number of personnel who follow strict standard operating procedures such as social distancing, frequent hand washing, and mask use, as recommended by the World Health Organization (WHO).

### 1.1 Covid-19 Coronavirus Pandemic

Covid-19 or Coronavirus (CoV) pandemic has been taking the spotlight around the world since its first emerging in Wuhan, China. This first infection incident in Wuhan, Hubei Province, China happened on 29 December 2019 affected the patients' lower respiratory tract with pneumonia [1], [2]. Though most of us think CoV appeared firstly in late December 2019, actually its subtype named beta-coronavirus has been existed and also spread rapidly in 2002 in Guangdong, China causing infections in over 8000 human and deaths of 774 people in 37 countries [3]. CoV itself are pathogens for human and all animals with a backbone or a spinal column including mammals, birds, reptiles, and other wild animals [4]. As the new CoV in 2020 is very contagious and rapidly spread globally, it is thus recognized as a new

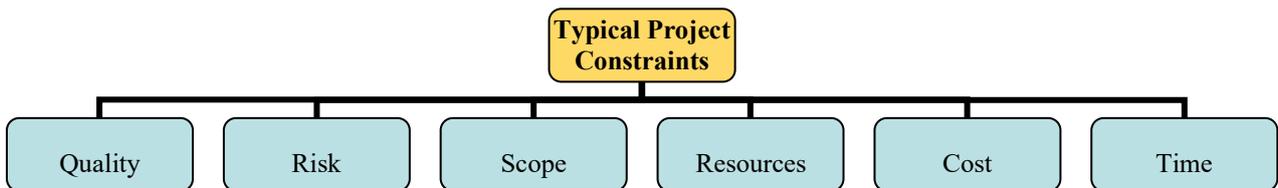
strain of CoV after laboratory investigations and profound sequencing studies [4]. Also, this virus only took roughly a month to infect 106 people in other 19 countries after its outbreak in China in the late December [5].

In the beginning, this virus was named as 2019-nCoV but then is renamed to SARS-CoV-2 because of the similarity with the virus causing SARS outbreak (SARS-CoVs) [6]. Therefore, because of its fast-spreading ability, this virus creates a serious threat to the public health even for modern and developed country. While globally, WHO has proclaimed that the CoV outbreak to be an international concern for public-health emergency [7]. This proves the severity of CoV in affecting everyone’s normal life. There are three ways to date on how the CoV is transmitted. These include transmissions through contact, droplets and airborne [8] [9]. The transport of droplets ejected from respiratory tract occurs when the human cough, sneeze, speaks and even breathes [10]. Sometimes, the continuum size droplets i.e. puff were trapped and carried away in a moist and warm atmosphere [11], making it stay longer in the air. Besides, there was a finding shows that infectious virus may originate in exhalation of air comes from breathing itself [12]. Thus, through these transmissions, other people will be exposed to the infectious droplets if infected people projecting these droplets. This also means the easiness of this virus to be transmitted is beyond what human can see and expected. If they are infected, even breathing alone might transmit the virus to other people.

There has been released news about the vaccine for Covid-19, its successfulness has not yet been proven in any journal or research papers. Although the developers of the vaccine, Pfizer declares that its vaccine is proven 90% effective while Moderna revealed its vaccine nearly 95% effective in the end-stage of clinical trial [13], [14], it is still best for the public to apply prevention measures to avoid being exposed to the virus as both not been proven safe and effective yet. Therefore, what’s best to practice is to keep social distancing at least 2 m as it is the safe estimated distance with no wind availability. However, one may want to consider increasing the social distance when there is wind as the droplets can travel together with the wind [10]. While the most significant actions to do are washing hands as frequently as possible, use hand sanitizer as well as avoid touching face and mouth after having contact with possibly contaminated environment [6] [15]. The WHO also has advised to avoid contact with infected people, farm animals and wild animals and avoid public meeting [6][15], besides providing the mask guidance to be used in healthcare and community and throughout home care for Covid-19 cases. In this document, WHO suggested health workers wearing N95 or FFP when dealing with suspected or confirmed Covid-19 patients, healthy people may wear masks as protection and the suspected or confirmed patients need to wear a medical mask in the presence of other people [16].

**1.2 Project, Project Management and Role of Project Manager**

A project is a non-permanent effort to produce a unique product, service, or result. Project ends when the objectives are reached or when the project is terminated. A project may include one person or thousands of people, and it can be completed in a day or years. At least one (or more) project managers are required to manage a project. Project managers must consider the triple constraint that comes along with the project namely scope, time, and cost. The scope of the project is the list of tasks that will be completed. The scope should be defined according to customer expectation in terms of product, service, or results. Time comprises the duration of project completion and the project schedule. The budget for the project and the resources required are referred to as cost. To achieve the project’s aims, the aforementioned constraints must be balanced. Aside from these three constraints, there are other constraints to consider, such as quality, risk, and resources, all of which impact the capacity to satisfy scope, time, and cost objectives. As a result, while the customer expresses excellence, the project also contains uncertainties and resources. The scope, duration, and cost of a project are rarely met as planned. Thus, it is more realistic to determine a range of objectives and allow for any uncertainties. To ensure client satisfaction, project managers must be knowledgeable on the most important constraints for each project. A typical project constraint was shown in Fig. 1 [17].



**Fig. 1 - Typical project constraints [17]**

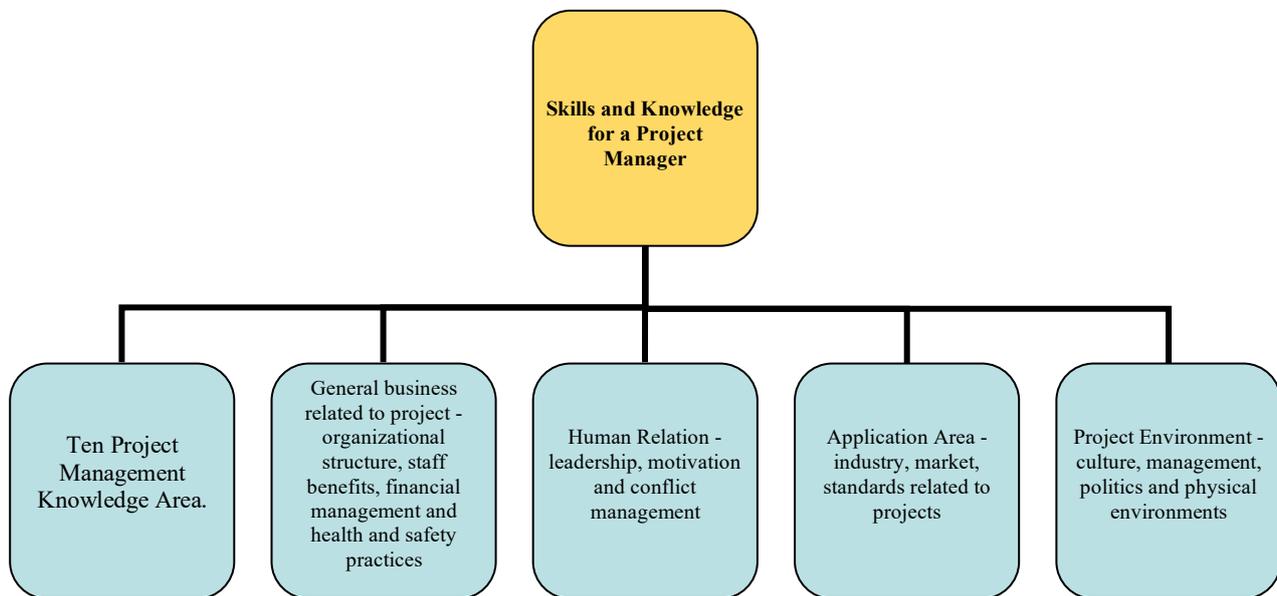
Project management can be regarded as the application of knowledge, skills, tools, and procedures in project activities in order to meet project objectives. As a result, in contrast to striving to meet the constraints, project managers must support those who are involved in or affected by project activities throughout the process, ensuring that their needs are fulfilled. Project stakeholders are those who are involved in or affected by project activity. Project sponsors, project teams, support staff, clients, users, suppliers, and opponents are among them. Because they are all vital to a

project's success, project managers must cultivate positive relationships with them in order to understand and meet their requirements and expectations [17].

Initiating, planning, executing, monitoring and controlling, and closing are the five groups of project management processes. These five groups correspond to the ten project management knowledge areas that project managers must understand and master. The following are the ten knowledge areas in project management [17]:

- a) Integration - coordinating all the other knowledge areas
- b) Scope - working with all stakeholders to manage required work for project completion
- c) Time - estimating project completion time, develop project schedule, and ensure timely completion of project
- d) Cost – prepare and manage project budget
- e) Quality - fulfill the specified needs
- f) Human resource - effectively use the people involve in project
- g) Communications – generating, gathering, disseminating and store information of project
- h) Risk – recognizing, analyzing and responding to project’s risks
- i) Procurement – the buying process of goods and services for an ongoing project
- j) Stakeholder management – identify project stakeholders, recognizing their needs, and develop good relationship with them during project

Project management tools and techniques are required especially in handling important projects, as these can facilitate project managers and their teams to perform work in the ten knowledge areas. As each project is unique, the project management is very broad and often complex as problems faced in one project may differ from others. Therefore, it is necessary for project managers to upgrade their knowledge and skills to manage projects. In short, project managers need to have skills and knowledge as stated in Fig. 2 [17].



**Fig. 2 - Skills and knowledge required by a project manager [17]**

### 1.3 Relation of Covid-19 to Project/ Project Manager/ Project Management

The situations that have arisen because of Covid-19, particularly social-distancing adoption, individual movement restrictions, large group gatherings, and wearing masks in public, have affected people's normal way of life [18], but it is undeniably for our own good to reduce SARS-CoV-2 virus infections. Although the positive side effect is clearly to reduce the number of people who become infected, the negative side effect of the pandemic's existence and consequences is that it poses a threat to businesses [19]. In addition, because of the effects of pandemic infections, businesses must have a plan in place for their employees and their continuity [20]. Furthermore, in order to remain operational and survive during the pandemic, business managers are implementing measures such as Work from Home methods, non-paid leaves, pay cuts, pay and hiring freezes, and temporary suspension or permanent termination of employment for employees in order to downsize the businesses. [18].

Because of the non-freely movement and restricted physical meeting with people, Covid-19 pandemic will affect the smoothness of the process to prepare, manage, and finally complete the projects for businesses that are heavily involved with a lot of discussion, meeting and dealing with people including clients, suppliers, and other stakeholders. This issue must be examined by project managers as well, because project managers are responsible for resolving all of these issues as they are the ones who manage the project. Following that, project managers must be prepared if any of their subordinates are suspected or confirmed to have Covid-19 as a result of meetings with project stakeholders. Thus, the suspected or infected subordinates need to be ensured to quarantine themselves and should not be allowed to come to work to prevent and reduce transmission among team members. Project managers may need to appoint other team members to fill the position, such as attending other meetings linked to that project or even attending the meeting alone to replace their infected subordinates, as well as splitting the work of the infected subordinates among the other team members. This means that project managers must always be one step ahead of their staff and be prepared for the worst.

In some cases, project managers may have to deal with demotivated employees because of salary cuts. Because team performance is based on group member's participation in their individual task achievement [21], one member's poor performance will negatively affect the project's outcome. As a result, project managers should always engage, motivate, and remind their subordinates of their common goals so that they do not deviate from the project's purpose. After all, a team that has a common understanding of their goals can work effectively [22], and the precise goals themselves will inspire oneself to enhance their task performance after receiving feedback [23] from their superior. Meanwhile, because of corporate downsizing, there is a good likelihood that a project that would typically require five employees to complete may now only require three people to complete. This will add to the current stress from the Work from Home strategy, thus increasing the stress level of the team members. This issue will also have an influence on the project managers' ability to manage the project.

## **2. Purpose of the Study**

The emergence of Covid-19, which originated in Wuhan, China and has now spread throughout the world, demonstrates that this pandemic is a significant challenge for all countries to overcome [24]. The infectious disease caused by the SARS-CoV-2 virus spread quickly, even affecting people in Europe, including France, Germany, Finland, Italy, and Sweden [25]. Because of the rapid transmission of illnesses, most nations throughout the world implement lockdowns, movement control, and border closures to reduce contact in the population [26], thus controlling the spread of the virus. As a result, the lockdown restricts people's activities, including going to work, forcing them to work from home, except for jobs that require employees to be physically present.

Fortunately, after a strict lockdown, governments all over the world begin to ease the lockdown, progressively resuming commercial activity, but strict guidelines must still be obeyed. Although business has restarted, the company's projects continue to be impacted. For example, during lockdown, a construction project is completely suspended, and it cannot be completed if employees work from home, as the construction supplies will always require personnel to organize them according to the construction plan. While for other types of projects that involve physical meetings, such as seminars, a quick change in the project plan, as well as the medium to carry out the project, is required so that the post-CoV projects continue to adhere to government regulations. Because a project must be completed within a certain time frame and budget in order to meet its objectives, the lockdown that prevents most economic activities from operating has a significant effect on the planning, management, and execution of the project. This study sought to highlight on the difficulties faced by project managers during the Covid-19 pandemic.

## **3. Challenges of Project Manager**

Even if the pandemic does not directly affect the building and engineering sectors, delays in construction projects, cost overruns, and poor quality levels are common [27]. When it comes to large-scale public construction projects, time and cost have increased globally across five continents and 20 countries in the last 70 years, with an average increase of 28% [28]. Thus, the addition of a pandemic will worsen the situation. For instance, in Malaysia, during a partial shutdown (Movement Control Order, MCO), only certain sectors are permitted to operate, while others, including development, are halted. Only critical service providers, such as food, telecommunications, and water, are permitted to operate [29]. As the construction project is halted for around three months during the MCO, the project managers must revisit and re-update the project plan in order to list and establish the budget, scope, schedule, i.e., the expected time of project completion, and risks. Additionally, project managers must be vigilant for any updated government rules while the pandemic is ongoing, as there may be changes to regulations and requirements for completing projects.

The construction industry is also a financial engine for both developing and developed countries, as it generates wealth, improves people's quality of life, and significantly contributes to society's employment. In Malaysia, the construction sector is a significant contributor to gross domestic product (GDP) growth, generating between 3% and 5% of the aggregate economy's GDP from 1991 to 2010 [30]. Thus, the economy was undoubtedly impacted by the sector's brief closure during MCO. Fortunately, after the MCO was lifted in Malaysia, other industries, notably the construction industry, were free to resume operations and projects. However, the difficulty does not end here for project managers. When a project resumes, subordinates will become infected with the virus. As stated in [31] and [32],

proximity between people, particularly in a crowd, promotes the propagation of the Covid-19 virus; therefore, the best remedy is to practice social distancing. Dangerously, this virus can spread via "silent carriers," the movement and gathering of which depends on the carriers [31]. This is the second obstacle that project managers must overcome. Project managers must constantly monitor and remind their subordinates, taking any necessary actions earlier than their subordinates, to ensure that their subordinates always exercise social distancing and therefore stop the virus spreading from one to another. The situation may deteriorate further if subordinates refuse to collaborate by gathering close together when the project supervisors are not present. To resolve this issue, project managers may seek help from other trusted employees to oversee among themselves in order to prevent undesirable future Covid-19 spread.

The use of the Working From Home method prevented the physical gathering of the team, which increased communication barriers and hampered the project's progress [33]. Email, video conferencing, web conferencing, web portals, mobile phone, fax/letter, instant messaging, remote access tools, social networks, and data-sharing repositories are among the communication technologies available and used in project management remotely [34]. Poor communication technology choices for the Work From Home method have a significant impact on the project team's success [35]. As a result, the Working From Home method combined with poor choices of communication technology will increase non-face-to-face communication barriers, extending the project's completion time owing to a lack of information flow between the sender and receiver, which is critical in communication skills [36]. As a result, project managers must work harder in this scenario to overcome the communication barrier by ensuring that the information received by the receiver is accurate and complete [36]. Furthermore, the project manager must guarantee that the Work from Home approach does not impede the smooth running of their project, as well as constantly attempting to optimize the method of communicating the message or discussion so that the digital project does not lag behind the actual/physical project. This is because project managers are actually leaders for a particular project. As a result, a leader's responsibility is to communicate regularly with each team member, including hearing their ideas and feedback on their work and offering them with helpful advice [37], as well as ensuring that project material is received thoroughly and correctly comprehended. Aside from the communication barrier, there are other issues of project management to consider that project managers may wish to examine to guarantee that their project is delivered according to plan. This comprises team composition, clear roles for team members [38], shared project data and records, and a competent project team, which give 32% weightage from the total factors that influence the success of a virtual project [35].

Prior to initiating any project, project managers must carefully choose and trust team members. Trust is the most difficult aspect and a source of contention for project managers. During the epidemic, the government declared that only certain industries would be allowed to work, while others would have to work online. When this occurs, project managers cannot physically recognize team members who are not devoted to their task, lack necessary knowledge or abilities, or are unreliable in assisting other teams in completing the project [39]. These factors will influence the project's completion date. Thus, it is critical for project managers to carefully select team members for virtual teams to ensure that they can collaborate effectively and trust one another [40]. Additionally, it is beneficial for project managers to understand their team members' personalities and their tendency for trust [39].

Because of the breadth of project managers' responsibilities, project managers must also be informed of any online platforms or tools available to facilitate virtual collaboration and resolve issues that develop because of those tools. For instance, project managers can use Google Drive to share, modify, and review files or documents, keeping their subordinates informed about their projects in real time [41]. This also means that project managers must stay informed about Google's free storage and any additional storage purchased for their projects.

#### 4. Conclusion

The paper highlights the difficulties faced by project managers during the Covid-19 pandemic. The background of Covid-19 has been explored, as well as the most recent news on the Covid-19 vaccine. The Covid-19 epidemic, which began in Wuhan, China, is highly contagious and poses a threat to humans and any animals with a backbone. It was renamed SARS-CoV-2 from 2019-nCoV because of its resemblance to the virus that caused the SARS outbreak (SARS-CoVs). WHO has also declared this virus epidemic a global public health emergency. The development and vaccination programme of Covid-19 vaccines such as Comirnaty (Pfizer-BioNtech), Moderna, Vaxzevria (AstraZeneca) and Vaccine Janssen (Johnson & Johnson) have become a priority in most of the country.

During the Covid-19 pandemic, project managers must assist stakeholders in acquiring the necessary skills and knowledge in the project management knowledge area, the project management application area, the project environment, general project business, and human relations. Work from home, unpaid leaves, wage reduction, pay and hiring freezes, and temporary suspension or permanent termination of employment are only some of the effects of Covid-19 for businesses. These factors have affected the efficiency upon which projects are prepared, managed, and finally completed. Additionally, project managers must address these consequences for their subordinates, including preparation if their subordinates are suspected or confirmed to have Covid-19, as well as negative emotions expressed by their subordinates as a result of their demotivation to complete their assigned tasks, which impedes the project's progress.

The project manager's challenges include the following: (1) project delays; (2) revisiting and re-updating the project plan; (3) staying informed of any updated government regulations; (4) extra oversight of their subordinates to ensure they comply with government regulations and WHO recommendation; (5) the choice of communication technology; (6) the communication barrier; (7) the need to optimize the method of transmitting the message or discussion virtually; (8) the proper selection of team members as well as trusting them, and (9) stay informed about any online platform or tools available to assist with virtual collaboration and think further, i.e. manage the purchase of storage when free storage runs out. In conclusion, project managers' duties are increasing significantly throughout Covid-19. Because of the inherent difficulty of project management, project managers must be more intellectually, emotionally, and physically prepared during this pandemic. They must also rapidly gain new skills and information that prepare them for the worst-case scenario, as this pandemic is unprecedented for everyone, and thus no one has the best guidelines to follow. Finally, project managers must be more imaginative in managing projects and entertaining all stakeholders to ensure that the projects continue to function smoothly and within the constraints.

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