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THE CHALLENGES OF CONSTRUCTION PROJECT MANAGERS IN MANAGING CONSTRUCTION DURING THE TRANSITION TOWARD ENDEMIC

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ABSTRACT

Endemic can be defined as the constant presence and/or prevalence of the disease or infectious agent in a population within a geographic or the disease that is consistently present but manageable by the communities. The construction workforce was worried about being redundant or relying on furlough schemes to express concern about the construction industry's future. The aim of this paper is to explore the adaptation of construction managers through challenges faced as shifting towards endemic. The research objective is to identify the challenges of construction managers in managing construction during the transition towards the endemic. The quantitative method was chosen for this research methodology, and the questionnaire was distributed to 254 Construction Project Managers in Pahang, Malaysia. The data from the questionnaires will be analyzed using SPSS version 28.0, and descriptive analysis will be used to present the data. Finances crisis is a critical challenge for Construction Project Managers to face in managing construction during the transition towards the Endemic.

Keywords: *challenges, project manager, endemic, construction, pandemic*

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INTRODUCTION

The term “Pandemic” can be defined as an infectious disease. However, widespread non-communicable diseases such as cardiovascular and cancer are not included. The pandemic can also be understood simply as the rapid spread of disease to many people in a particular area. One of the recent pandemic crises that happened is the COVID-19 pandemic, the first case of a pandemic Covid-19 was reported in a region of China named Wuhan. It is not taking long for the pandemic to outbreak because the infection of the virus leads to numerous people dead. Thus, World Health Organization (WHO) decided to take the initiative by recommending that the government to put the brakes on. However, the initiative that is recommended by the World Health Organization (WHO), the lockdown is a double edge sword because even though it slows down the transmission of the virus Covid-19 but it stops most of the sectors in the country and those sectors, including the economic and construction sector (Esa et al., 2020).

The rising death numbers have led to changes in every aspect of our work, school, recreation, travel, economic well-being, and interactions with friends and family. The construction industry is one of the vital sectors in the Malaysian economy as by construction the others sector can be developed by construction (Ibrahim et al., 2010). The construction of a theme park called Legoland at Johor actually open for more job opportunities in the tourism sector, and also it helped in the economic sector that's one of the concrete proofs that show construction industry is an inessentials government redecided to the life of the strict regulations during the lockdown and began to open several sectors besides food and beverages in the construction industry. However, the government decides to limit the number of laborers in an area. For example, in construction sites, only several laborers can work on the project to slow the transmission of the virus.

After several years in a rough and tight situation, the government finally announced that on 1st April 2022, Malaysia would shift toward the endemic phase (Zakaria et al., 2023). Endemic is a situation where the virus or disease is accepted as part of our lives, and the chain of the virus cannot be broken thus, the solution is to live alongside the virus. As the country moves towards the endemic phase, several Standard Operating Procedures (SOP) are being lifted, such as the necessity of wearing a face mask in open spaces and limitations at a particular place at a time. Will moving towards the endemic phase be the solution we have sought for years? Can all our losses during the pandemic recover to their original state before the pandemic happened?

The COVID-19 threat in Malaysia became more obvious after Singapore, Malaysia's neighbor, reported its first imported COVID-19 case from Wuhan, China, on January 23, 2020. This was also the country's first positive case. Eight close connections from the first case were found in Johor, Malaysia. On January 25, 2020, Malaysia reported its first COVID-19-positive patient, less than 48 hours after the first case was reported in Singapore. From Wuhan, China, this instance was imported (Abdullah, 2020). Within six days of the initial case, a total of eight positive cases were reported. According to (Abdullah, 2020), each case was brought in from China. On February 3, 2020, it was revealed that the first Malaysian to test positive for COVID-19 had

previously traveled to a foreign nation for a business meeting that also included a delegation from China (Ahmad, 2020).

Pandemic VS Endemic

The spread of infectious diseases with pandemic potential occurred regularly throughout history. Some of the significant pandemics throughout history are plague, cholera, flu, severe acute respiratory syndrome coronavirus (SAR-CoV), and Middle East respiratory syndrome coronavirus (MERS-CoV), have affected humanity and their lifestyle (Piret & Boivin, 2021). The latest pandemic that hit humanity is the new coronavirus disease 2019 (Covid-19) pandemic. Numerous infectious diseases that lead to pandemic are caused by zoonotic pathogens transmitted to humans by contact with the animal through hunting and global trade activities. Humans learned about the pathogen's transmission mechanism to humans and established a couple of methods to prevent and control the infection rate. Implementation of preventing and controlling infection rates by isolation, quarantine, and border control have been used centuries ago to minimize the spread of infectious diseases. However, massive development and usage of technologies and an introduction to pharmaceutical interventions have improved our health condition and slowed the infection rate. Nowadays, Homo Sapiens is able to detect possible infectious threats through global surveillance programs of water-borne pathogens, vector-borne pathogens, and zoonotic spillovers at the animal-human interface. Rapid diagnostic testing, contact tracing, drug repurposing, biomarkers of disease, and new platforms for developing and producing vaccines are needed for an effective response in case of pandemics (Piret & Boivin, 2021).

The change from hunter-gatherers to agrarian societies has favoured the spread of infectious diseases in human populations. Trades between communities that expand widely have increased the interaction between humans and animals, facilitating the transmission of zoonotic pathogens. Urbanization, expansion of trade between cities and territories, increased travel, and effects on ecosystems due to the increase in human population raised the emergence and spread of the infectious disease by zoonotic pathogens leading to higher risks for outbreaks, epidemics, and pandemics. The terms endemic, outbreak, epidemic, and pandemic are all related to the occurrence of health conditions compared to their predicted rate and their spread in geographic areas (Grennan, 2019). Emergency infection newly appears in a population or spreads in a new geographic area (Morens et al., 2004). The zoonotic transmission of pathogens from animals to humans is the pivotal mechanism by which emerging infections have afflicted humans throughout history. The probability of cross-species transmission of pathogens was dramatically enhanced with increased interactions with animals through hunting, animal farming, trade of animal-based foods, wet markets or exotic pet trade.

Terminology

In the year 2009, the sudden emergence and rapid global spread of the influenza virus H1N1 led to confusion about the definition of the word "Pandemic" and how to recognize a pandemic when it has occurred. The swine flu caused by the H1N1 influenza virus is considered a pandemic by the World Health Organization (WHO).

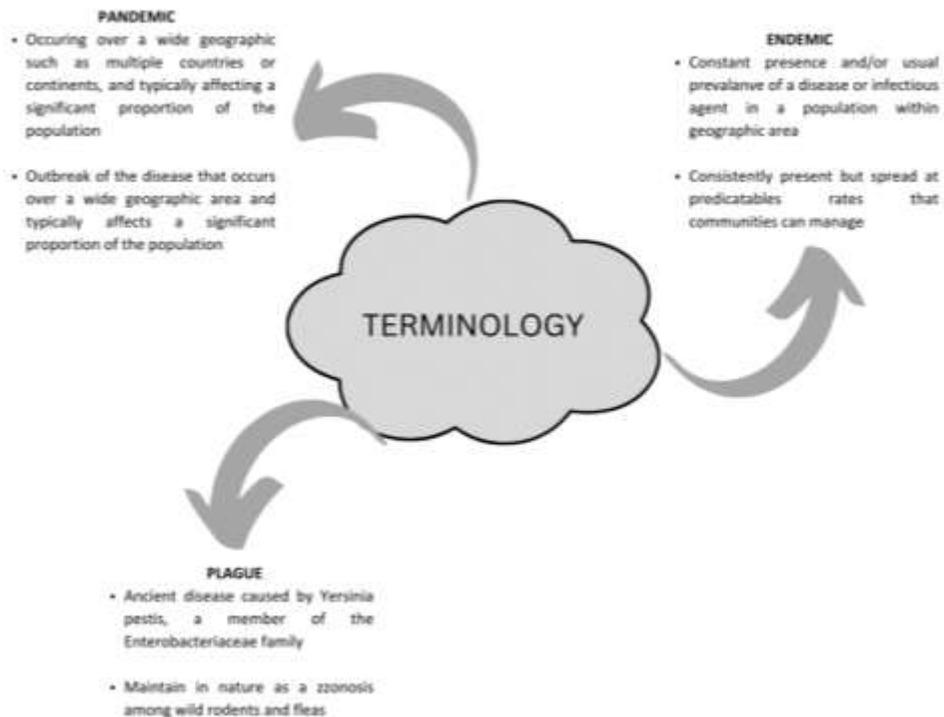


Figure 1: Terminology

Challenges Of Construction Project Managers In Managing Construction During The Transition Post-Pandemic

The worldwide coronavirus (COVID-19) pandemic has brought about a whole new set of risks for the construction sector, causing previously unheard-of delays, disruptions, and uncertainty on construction projects. The industry has also been forced to adopt more advanced technology to deal with the decreased workforce on job sites. Additionally, it is anticipated that the post-pandemic building period will be very different as the industries embrace technology as a method for collaboration and augmentation. As a result, without efficient risk management, the construction industry will find it incredibly difficult to survive. The project managers will need to review the current risk plans to determine whether they can adequately address new risks brought on by COVID-19. This research done by Adhikari (2021) examines the construction industry's past, present, and future (the "Post COVID-19 NORM"). It identifies the important tactics for controlling projects and construction risks both during and after the COVID-19 pandemic. Several authors conducted research in the year 2020 to 2022 regarding the challenges faced by the construction project managers in managing construction during the transition to post-pandemic.

Health And Safety On Site

Health and safety on site are among the earliest things that need to look at as the disease can easily spread, and thus, action needs to be taken to prevent any more pandemic outbreaks. Several individuals and groups will be responsible for slowing down the infection rate. The spread of the virus can be from physical touch and also from the air. In order to minimize the spread of the Coronavirus, health and safety guidelines have been introduced to the site (Olanrewaju et al., 2020). Besides that, the Occupational Safety and Health Administration (OSHA) has taken the initiative during the pandemic on site, such as health screening before the beginning of work, standard guidelines and provision of personal hygiene products, and regular health checks (Agyekum,2021). One of the good practices that have been implemented and practised on construction sites is maintaining social distancing (Assaad,2021). Meanwhile, the action taken against workers who are already infected by the virus will be isolated or quarantined for several days in order to prevent the spread of the virus out of control.

Economic Cost

The pandemic made many companies go bankrupt or limit operating hours; thus, they had to increase the product price to overcome the financial crisis. The economic cost can be explained by the material costs in the market skyrocketing. For instance, steel prices have risen up to 140% during the first pandemic outbreak occurs. The material cost was really concerning as it will affect the construction cost. There is no possible way that the material cost can be lower even a bit during the pandemic. Due to the cost that increases drastically, several projects must be cancelled due to exceeding the client's budget. Besides that, the project's cost will increase when more time is taken to finish the construction or delay. According to the literature title Covid-19: main challenges during the construction stage, the research identified seven challenges, and among them is economic cost (Francisco Sierra, 2021).

Possible Legal Exposure

In the early impacts of the Covid-19 Pandemic on the United States construction industry, states had disparities on whether construction operations were essential or non-essential. The literature state that few states considered and identified the construction industry as essential, and few others are not or at least partly essential. Due to that reason, some states put restrictions on construction operations while some were no restrictions at all, and even some states put partial restrictions on the construction industry (Alsharaf et al., 2021). In addition, significant confusion occurs whether their business is considered essential or non-essential due to varying restrictions across the states. It was even more unclear for the two participant's employers if they could continue the operations or not. Uncertainty on when construction operations will resume in several states where restrictions are placed on that location. The dilemma regarding whether new restraints would be placed if Covid-19 cases increased in their communities.

Manpower Availability

Manpower is crucial in the construction industry as they need numerous labourers to execute the project successfully. However, the manpower is short of hand and ineffective during the outbreak. The strict restriction by the government, such as Movement Control Order (MCO), limited the number of occupied at one time and more. The shortage of manpower slower the output of the construction as the workload for each labour increases tremendously. The shortage of manpower also will lead to delays in the project as the output is less compared to when the manpower is lost.

Instability Of Supply Chain And Sub-Contractor

The main contractor normally chooses the sub-contractor they are comfortable with and knows they can execute the plan as the client wishes. However, the sub-contractor and supply chain are not located near the main contractor. During the Restrictive Movement Order (RMO), the government put a strict law that the citizen needs to follow to cut down the spread of the covid. For instance, the project's site is located in Ipoh, but the sub-contractor from Manjung will face issues as they need to apply and get approved to travel across the region. Supply chain disruptions resulted in an increase in the cost of construction materials (Alsharif et al., 2021).

Uncertainty Relates To Constant

The future is varied, and there is still uncertainty related to the constant. Many things can change with a small thing and even a big this. For example, the pandemic hit very hard as numerous issues occur at once, and not even anyone can predict drastic changes to the norm due to the Pandemic. Adaptation and survival are needed to continue living in the stressed situation of fear of the COVID-19 virus. For instance, construction businesses may have to handle extra costs themselves unless there is relief from the owners and other stakeholders as per contractual agreement (Alsharif et al., 2021). Prepare for future unexpected pandemics and emergencies (Alsharif et al., 2021).

Unpredictable Evolution Of Pandemic

The evolution of the pandemic is very unpredictable as the cases and new viruses get immune to the vaccine and adapt to it. The flow of the pandemic is still unknown to the world. However, the government is trying its best to move the Pandemic phase and enter the Endemic phase just like in the past. The citizen needs to be able to live alongside the virus and adapt to a case similar to the pandemic cases in the past when they decide to enter the Endemic phase. There will be a significant increase in disputes, litigations, and claims on their project and across the industry (Alsharif et al., 2021). In addition, the pandemic has prompted industry stakeholders to look at contractual documents and examine clauses that offer relief in uncertain circumstances (Alsharif et al., 2021).

RESEARCH METHODOLOGY

The quantitative approach has been used in this analysis as a research method to accomplish this study's goal and address the research questions. The methodology has obtained all the information. It will also offer the researcher a better understanding and can be used as a checklist to ensure that the research aims and objectives can be met. In addition, it would also be assisted in showing the crucial part of the research to ensure that the goal can be obtained. The research methodology must be designed and fully understood to ensure the research's success.

This research was separated into four stages. The first stages begin with identifying the problem statement, creating the research title, and setting up the research aim, objective, and questions to clarify our research. Another thing that also been carried out during the early stage for most of the time was a literature review which consisted of articles and journals related to the research title had been used. The literature review is conducted to help the researcher understand the research topic and scope. The next following stage is the data collection process in order to look for essential information that is required. The data collection process was then done through the survey of the questionnaire. The questionnaire was distributed to the scope of research through email.

Therefore, in the third stage, the data analysis stage, the data was structured based on the sub-topic to simplify and ease the analysis to do. The entire questionnaire has been summarized through data analysis using the Statistical Package for Social Science (SPSS). The findings of this research were answered from the data analysis obtained. Last but not least, the final stage is writing the report in which the conclusion and suggestions are made based on the data analysis findings.

The process of data collection was taking part in the following stage in order to look for essential information that is required. The questionnaire was distributed using a survey approach as part of the data collection process. The questionnaire was distributed to selected construction managers located in the Pahang area, and the questionnaire was distributed through email due to the time limitation. The third stage is the data analysis stage. The data were structured based on the sub-topic to make the analysis using the Statistical Package for Social Science (SPSS) version 28. The findings of this research were answered from the data analysis obtained. Lastly, there will be the writing report stage which the report will be made based on the outcome of the data analysis.

A questionnaire survey was structured to accomplish this study's purpose and goals. This questionnaire survey helped to collect quantitative information from respondents of this research, which is the construction managers. The variables for the questionnaire were extracted from the literature review. This questionnaire was distributed to the Construction Project Manager in Pahang through email. The questionnaire was separated into two sections: Section A for the demographic data and Section B for the challenges. Pahang is chosen due to the highest number of projects in the East Coast region, which is 254 projects from the source of KKR.

The data collected from the respondents will be analyzed using Social Science Statistical Package (SPSS) version 26.0 software. All of the forms of tables, pie

charts, and bar charts can be categorized under descriptive analysis. Therefore, descriptive analysis was used to describe the data's basic features in this research. This is the simplest method as it reflected the overview of the results, and the results were calculated in percentage or an actual number of each question option that will be provided. In Section A, frequency analysis is used to present the response result in the questionnaire. Meanwhile, Section B 4 Likert Scale is used to analyze the data using SPSS version 28.0 and describe using descriptive analysis.

Data Analysis and Findings

This section describes the data analysis based on the findings obtained through the questionnaire survey that was conducted. The data regarding the challenges of construction project managers in managing construction during the transition towards endemic is shown in the pie chart below.

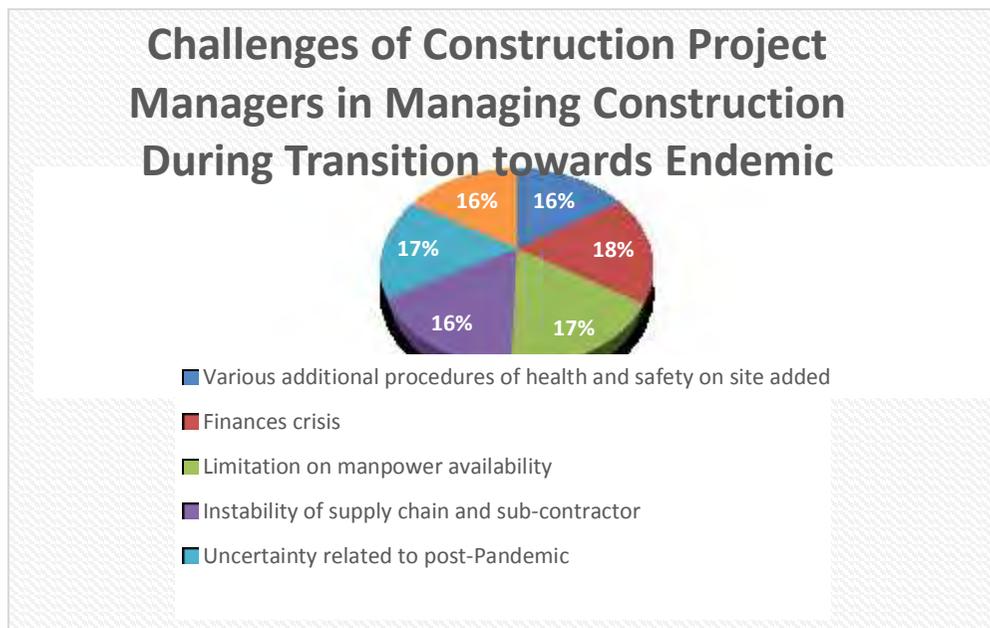


Figure 2: Challenges of Construction Project Managers in Managing Construction During Transition toward Endemic

DISCUSSION

In this section, the discussion will point to the objective: to identify the challenges of construction managers in managing construction during the transition towards endemic. Based on the Table, the first in ranking is the financial crisis, with a mean of 3.3684. The available evidence suggests that the research identified seven main challenges during the construction stage, including economic cost (Sierra, 2021). The COVID-19 pandemic have caused the price of steel bar to increase drastically.

Further evidence supporting the finances as challenges of construction managers in managing construction during the transition towards endemic may lie in the findings of the project can be classified as project success when it efficiently achieved the iron triangle of time, cost, and scope or quality of the project outcome (Muller & Jugdev, 2012).

Next, the second in the ranking after finances crisis is a limitation on manpower availability, with a mean of 3.2105. The resource availability in the market and site is limited, including the material, equipment, and skilled workers (Advances, 2022). The government has limited the number of workers at the site during the occurrence of the Restrictive Movement Order (MCO) In addition, the human resource theme consisted of the level of workers' expertise, low productivity due to limited workers and working time, and the termination of workers to reduce the project cost (Advances, 2022).

Lastly, based on a table, the third highest mean is the supply chain and sub-contractor instability, with 3.1579. the available evidence to support the challenges in supply chain disruptions leads to an increase in the cost of construction materials (Alsharef et al., 2021). During the crisis of the pandemic, numerous several need to shut down their operation due to the government order. Further evidence that supports the challenges regarding the instability of supply chain support may lie in the findings of supply shortage, material price fluctuations, legal issues and interruptions in contractual terms, and impact on existing accomplished activities.

CONCLUSION

Numerous challenges were faced by the construction project managers in managing the construction during the transition towards endemic such as the financial crisis (Francisco Sieera, 2021). In order to have a better understanding and provide a solution, the issue and challenges need to be identified first like the challenges that be presented in this study. The conclusion for this study was drawn from the questionnaire survey results. Throughout the literature, researchers discovered that the construction industry is recovering from the damage received from the previous pandemic. The challenges of the construction project managers in managing construction during the transition towards endemic have been successfully explored and the objective has been achieved.

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Tarikh : 20 Januari 2023

Prof. Madya Dr. Nur Hisham Ibrahim
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