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REBUILDING THE RESILIENCE OF CONTRACTOR FIRMS AFTER THE PANDEMIC

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ABSTRACT

The COVID-19 pandemic has profoundly impacted the construction industry in Malaysia, leading to numerous unfinished construction projects and severe challenges for contractor firms. This research aims to understand the construction process following Malaysia's standard and identify the hurdles faced by contractor firms after the pandemic. The objective is to provide valuable insights and recommendations for rebuilding resilience in the post-COVID-19 era. The problem statement revolves around the significant number of uncompleted construction projects during the pandemic, resulting from disruptions in the supply chain, labor shortages, and financial constraints faced by contractor firms. The study will be divided into three sections: A) Assessing the impact of COVID-19 on construction projects, B) Identifying the challenges faced by contractor firms, and C) Exploring the strategies and adaptations adopted by contractor firms to mitigate the pandemic's impact. The recommended strategies will focus on effective risk management, workforce adaptation, technology integration, and financial planning, aiding contractor firms in overcoming the challenges posed by the COVID-19 situation.

Keywords: *contractor firm, construction work, post-pandemic challenges*

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INTRODUCTION

In early 2020, Malaysia faced the worst virus attack in world history. The outbreak of the Coronavirus or known as COVID-19 has forced the government to close business premises and must take measures that may affect business activities and the country's economy in general. One of them is the Movement Control Order (MCO) applied at various levels and for a certain period has severely affected construction activities. Starting in March 2020, the Malaysian government implemented a series of social distancing, known as the Movement Control Order (MCO) under the Prevention and Control of Infectious Diseases Act 1988 and the Police Act 1967 (Liew, 2021). Phase 1 of the MCO started on 18 March 2020 and ended on 3 May 2020 followed by the Conditional Movement Control Order (CMCO)) starting on 4 May 2020 and ending on 9 June 2020; Enhanced Movement Control Order (EMCO) - a stricter order period for a period of 14 days is implemented for certain locations that have a large group of positive Covid-19 cases. This was followed by the Movement for the Recovery of the Control Order (RMCO) starting on 10 June 2020 (Liew, 2021 and Kamarazaly et al., 2020). Next, another stage of the CMCO 2.0 was announced to take effect on 14 October 2020 following the increase in positive cases of COVID-19 in the country and extending to the endemic period in October 2022. This was followed by the Movement for the Recovery of the Control Order (RMCO) starting on 10 June 2020.

However, the lockdown is a double-edged sword because, while it slows down the transmission of the virus Covid-19, it also embeds almost all economic sectors in the country, including the construction sector. After almost a year has passed after the endemic period, most contractor firms continue to be tested with every aspect of the chain starting from industrial supply to meeting project completion dates. The concept of 'survival' is very important currently. Liew (2021) stated that even after the MCO was lifted, contractors continued to experience disruptions and must comply with new regulations created due to the pandemic, for example, contractors must include strict standard operating procedures (SOP) regarding health and safety measures to the construction site. In addition, the contractor must also always obey all closing instructions if directed at any time. Such disruptions have prevented them from carrying out their work as originally expected and achieving the project's objectives. At the same time, this article suggests eleven resilience strategies for contractor companies, especially post-Covid-19.

LITERATURE REVIEW

According to Article 7(t) of PAM Contract 2006, a contractor is defined as 'the party named in the Articles of Agreement and includes the contractor's legal successors or personal representatives or any person to whom the rights and obligations of the contractor have been transferred with the agreement of the employer' (Rajoo, et al.,

2010). Meanwhile, Kamarazaly et al., (2020) highlighted the contractor has an obligation in the construction industry, which is to ensure the project 'must' be completed with any necessary means. The construction industry is an industry that involves many stakeholders and one of the stakeholders that holds a big part in the industry is the contractors (Jin et al., 2017).

COVID-19 is an infectious disease caused by a coronavirus that causes respiratory infections in humans. When this pneumonia epidemic began to attack the whole world starting from Wuhan, China at the end of December 2019, then the World Health Organization (WHO) suggested that any infected country should enforce a curfew. Impact of this order, most countries began to experience declining economic growth or faced a crisis of various national supplies. Impact of this order, most countries began to experience declining economic growth or faced a crisis of various national supplies. At the same time also affects many industries including the construction industry. Most of the development and construction projects in Malaysia are delayed due to this epidemic. As a result, Malaysia's construction sector has experienced a huge decline of RM18.5 billion in a short period of time during MCO 1.0 between March and April 2020 (Ayob, 2021). Ayob (2021) and Liew (2021) report that even after the pandemic or post-pandemic, contractors continue to experience challenges and difficulties, such as the need to comply with the addition of SOPs regarding health and safety measures for construction sites. Due to this compliance has prevented contractors from proceeding with their projects conventionally.

Other issues are financial constraints, project delivery issues, difficulty in meeting various contracts, shortage of workers, restricted working hours, delay in supply chains management, rework after the long suspension, disruption due to limits on the number of workers by having to comply with social distancing requirements at the workplace, companies facing economic downturn, poor quality project results due to old building materials being abandoned, late from the completion date and thus causing additional costs to be borne by the contractor.

FINDINGS OF RESEARCH

First section of the questionnaire contains the relevant background of respondents who numbered 21. The selection of respondents was from among staff working in contractor firms Grade G1 to G4 and operating around Putrajaya. The selected respondents ranged from the head of department (HOD) to the firm's staff working on the construction site. Apart from that, the selection of contractor firms is also based on the type of their clients or stakeholders, where this research only considers two types of clients that are (i) buyer/end users and (ii) the government. The pie chart below, Figure 1 shows the percentage of clients to respondent firms.

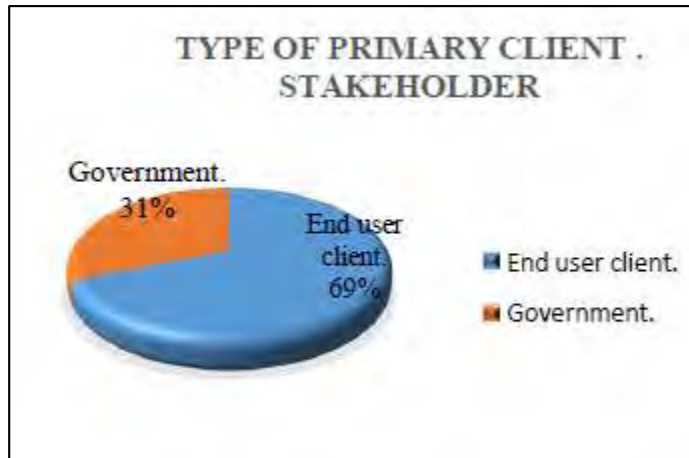


Figure 1: The percentage of clients / stakeholders

Objective 1 – To investigate the challenges affecting contractor firms during and after facing the COVID-19 pandemic

Findings from Table 1 show that the project status does experience constraints to continue construction work at the construction site, including facing delays in receiving project progress payments. However, from the point of view of communication, team members do not face problems due to being provided with a good line system. In fact, the access system to products and companies is also good because it can be contacted from all lines whether website (48%), email (33%), call (14%), and advertisement (5%).

Next, in understanding and deepening the challenges that plagued contractor firms during and after the pandemic, three issues were asked, namely (i) What is the company's current situation and response to overcome the impact; (ii) What opportunities may be taken due to this pandemic; (iii) What are the critical priorities that need immediate attention.

The findings list 18 answers from these three situations, as shown in Table 3. The highest ranking of two answers proves that safety and health issues (33%) are the main agenda to comply with the new procedures that have been tightened by the government due to the Covid-19 virus. While to answer the critical needs of the present that want to be focused on, 27% of respondents highlighted the desire to hit technological advancement where currently the firms focusing to keep up with the rapid development of software.

Table 1: Status of Project during Pandemic

	Status	Answer	
1	Impact on the progress of the project:	Yes	No
	Is the project delayed or closed?	86%	14%
2	Impact on Progress Payments:	Yes	No
	Are payments coming in at a slower rate?	86%	14%
3	Effects on the Site's Communication System:	Yes	No
	Do project team members have good lines of communication when working on-site?	96%	4%
4	Access to The Company Information	Yes	
	Clients can contact the firm and can access your products.	Website	48%
		Email	33%
		phone call	14%
		Advertisement	5%

Table 2: Dealing with Critical Issues that Affect the Contractor's Firm

	Critical Affects	Task Taken	Frequency
1	The current state of the company and its response to the pandemic.	1 Enhanced hygiene practices.	33%
		2 Tightening the safety protocol.	19%
		3 Adjust work schedule on site.	14%
		4 Firms need advice and cooperation from the authorities to comply with new Covid-19 procedures from time to time.	14%
		5 Remote works & virtual meetings.	10%
		6 Project monitoring & screening.	10%
2	Opportunities that are still available even facing a pandemic.	7 Can continue to work at the site, but must comply with strict safety & health procedures.	30%
		8 Allowed to have flexible working hours and have a temporary schedule adjustment.	19%
		9 Improving the work accuracy of the project by using the advanced technological system.	19%
		10 Clear and proper development with having an initiative by the local authorities.	14%
		11 Enhance the project management procedures through virtual inspection.	10%
		12 Adaptation to touchless technology and sanitation.	5%
3	What are the critical priorities to focus on right now?	13 To hit technological advancement – currently, the firms focusing to keep up with the rapid development of software.	27%
		14 to prioritize the safety and well-being of workers in the endemic situation.	19%
		15 the effectiveness of the project management.	14%
		16 focusing on delivering high-quality work and exceptional customer service.	14%
		17 investing in employees' benefits by providing ongoing training and professional development.	14%
		18 to maintain strong financial control and to monitor the financial health of the company.	10%

Objective 2 – Build resilience strategies for contractor firms in adapting to the post-pandemic environment

Five strategies as suggested by some previous researchers (Muhammad Riza et al., 2022; Liew, 2021; Ayob, 2021; Mohsen et al., 2020) are introduced and listed. The results of the study have been ranked in Table 3.

Table 3: List Strategies in dealing with Post Pandemic Challenges and Difficulties

Strategy		Answer	Frequency
1	Renewing the Project Coordination System by appointing a truly competent person to give clear and precise instructions/messages in	1 Project Manager	43%
		2 CEO	29%
		3 Main Contractor Team	13%
		4 Site Supervisor	10%
		5 Project Secretary	5%
2	Minimize the elements that can influence or slow down the work flow on the construction site.	1 Improve the way of explanation to understand the project content faster.	38
		2 Improving the communication system among staff and the top management.	24
		3 Always update the current standards.	14
		4 Utilize virtual storage called 'cloud-based platforms' for file sharing, document collaboration, and project management to facilitate communication.	14
		5 Projek team should improve their communication skills from time to time, especially using the latest software.	10
3	Strategy ensures employees are safe at work.	1 Foster a safety-conscious work environment.	19
		2 Develop a comprehensive safety programme.	14
		3 Conduct regular safety meetings.	14
		4 Regularly assess worksites for potential hazards and develop strategies, provide and enforce the use of personal protective equipment (PPE).	14
		5 Schedule regular inspections of construction sites to identify potential hazards.	10
		6 Stay updated on regulations and industry best practices.	10
		7 Offer thorough safety training for all employees.	10
		8 Regularly inspect and maintain all construction equipment and machinery.	5
		9 stay updated on regulations and industry best practises.	5

4	Distribution of allocations to improve and re-increase the firm's resilience.	1	Invest in the construction latest software, project management tools, or advanced machinery.	29
		2	Allocate the resources to research and development initiatives.	14
		3	Invest in training and development programs to upskill employees.	10
		4	Re-build the workforce and set new skilled team.	10
		5	Evaluate the existing inventory and determine if any is underutilized	10
		6	Allocate resources to robust risk management practices.	10
		7	Allocate the resources to projects with higher priority, critical deadlines, or higher profitability potential.	10
		8	Consider renegotiating contracts, exploring new partnerships, or consolidating suppliers to optimize costs	10
5	Measures to Reduce Firm Overhead	1	Implement budgeting and forecasting processes to ensure better financial management.	19
		2	To implement comprehensive safety programs.	14
		3	Collaborate with subcontractors, suppliers and vendors to negotiate better pricing.	14
		4	Implement Energy-efficiency technology.	15
		5	Streamline workflow, improve communication and reduce waste.	10
		6	Ensure the project well planned	10
		7	Explore technological solution	10
		8	Avoid overstaffing or underutilizing equipment and negotiate favorable pricing with suppliers.	5

In order to rebuild internal resilience in a firm, the total highest frequency recorded 43% suggested that a Project Manager should lead a project on a construction site. While for Strategy No. 2, minimizing the elements that can influence or slow down the workflow on the construction site - a total of 38% of respondents agreed that 'improving the way of explanation to understand the project content faster' is the first step in the project's success factor. Followed by a 24% response stating that improving the communication system among staff and the top management is also very important.

To build a strategy networking, the safety aspects of the workers on the site must also be emphasized. A total of 19% of respondents commented that fostering a safety-conscious work environment is crucial now and even needs to be a culture at the construction site. At the same time, the distribution of the annual allocation

provided by the firm should also be channelled to improve and re-increase the resilience of the firm. A total of 29% of respondents suggested that firms should invest in the latest construction software, project management tools, or advanced machinery in an effort to maintain the organization in the current business competition.

Next, as the 5th strategy - Measures to Reduce Firm Overhead where the HOD needs to take drastic and comprehensive measures to monitor and control overhead expenses. A total of 19% of respondents agreed that there should be a formula to implement budgeting and forecasting processes to ensure better financial management periodically or annually.

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Setuju.

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