

THE IMPACT OF CORONAVIRUS (COVID-19) OUTBREAK TOWARDS CONTRACTORS' PERFORMANCE IN MALAYSIA

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ABSTRACT

At the end of 2019, a new deadly virus has been found in Wuhan, China, called Coronavirus Disease 2019 (COVID-19). With how dangerous and infectious this virus can be, many places have been put in lockdown and stopping all businesses from running to prevent it from spreading including Malaysia. The economy of the construction industry in Malaysia has been greatly affected as works on-site are being stopped and looking at the situation now, the contractors are starting to fear the impact they might be facing. Hence, this research is made to study the impact of the COVID-19 outbreak to contractors in Malaysia mainly on their work performance. This research managed to identify the 3 biggest problems that contractors have faced during the outbreak which were cash flow issues, supply chain disruptions, and lastly, safety, health, and employment issues. The findings revealed several implications caused by the COVID-19 outbreak which has affected contractors' performance were time performance, quality performance, cost performance, client's satisfaction, and team satisfaction. This research focused on the views expressed by Grade 7 contractors in the Klang Valley area via pilot interviews and questionnaire surveys. This research hopes to help contractors to sustain their work performances, productivities, and businesses during the critical period of the COVID-19 outbreak and consequently be able to establish potential solutions to resolve the critical challenges that have been brought to them.

Key words: Coronavirus Disease 2019 (COVID-19), Construction Industry, Malaysia, Impact, Contractors' Performance.

INTRODUCTION

Despite being a developing or even a developed country, the construction industry has always been a major contributor to the economy even when it collaborates with other industries (Human Resource Development Fund, 2019). Ratings (2016) stated that Malaysia's fastest-growing economic sector in 2015 is the construction industry since these past few years, with an average contribution of 4.09% of Gross Domestic Product (GDP) (Khan, Liew, & Ghazali, 2014). It was even predicted that in 2020, the construction industry will not only contribute to about 3.7% of the GDP but also provide new job opportunities with several upcoming mega infrastructure projects (Chung, 2019).

However, this might be a different case as there is a major virus outbreak known as Coronavirus Disease 2019 (COVID-19) spreading around the world. The COVID-19 outbreak was announced as a pandemic on 11 March 2020 by the World Health Organization stating that it is the first pandemic that comes from the family of coronavirus ("Situation Summary. In Coronavirus

Disease 2019 (COVID-19)", 2020). The cases of COVID-19 in Malaysia started to drastically increase in March 2020 as 16,000 people from all over the World attended an international religious gathering event held in Malaysia and 14,500 of the participants are Malaysian (Ng, 2020). As the number of cases starts to rise to 3-digit, the Prime Minister, Tan Sri Muhyiddin Yassin announcing the government concerns towards the disaster that has been going on and decided to enforce a restriction of movement order also known as Movement Control Order (MCO) applied to the whole country starting from 18 March until 31 March 2020 (Prime Minister's Office of Malaysia, 2020). Even so, this MCO did not stop only there, it has been extended more than 4 times.

Due to the regulations stated in the Prevention and Control of Infectious Disease (Measures Within the Infected Areas) Regulation 2020 (PCID Regulations 2020), all businesses must be closed down during the MCO period except for activities related to essential services (Federal Government Gazette Malaysia, 2020). It is noted that the construction industry is considered as non-essential services and that any works related to construction must be stopped during the MCO period as there would be a penalty for those caught guilty of an offense refer to Section 7 of PCID Regulations 2020 (Federal Government Gazette Malaysia, 2020; Nadkarni, Iwawan, & Asmadi, 2020). This has brought a lot of concerns to the industry as the impact of the COVID-19 outbreak and implementation of MCO has made it impossible for them to fulfill their contractual obligation especially since Salim (2020) came out with an article on the latest COVID-19 cases found at the construction site. "COVID-19 and the Construction Sector: Issues to consider" (2020) stated that the construction industry all around the world is facing major issues in terms of labor shortages, financial issues, and supply chain disruptions due to COVID-19. Despite all that, it might be time-consuming to solve the problems since the construction industry is very broad and complex (Sivalingam, 2020).

In the event where the COVID-19 outbreak is getting worse, a recession is expected to happen in Malaysia and the citizens will suffer from the economic collapse especially those in the construction industry. Research on the impact is crucial especially since it is still new and on-going. Hence, this research seeks (1) to identify the problems faced by the contractors during the COVID-19 outbreak on their work progress, (2) to determine the implications of the COVID-19 outbreak towards the contractors' performances, and (3) to identify the practical solutions to address the problems faced by the contractors during COVID-19 outbreak.

CONTRACTOR'S ROLE IN THE CONSTRUCTION INDUSTRY

The construction industry is one of the industries that involves many stakeholders and one of the stakeholders that holds a big part in the industry is the contractors (Jin, Zhang, Liu, Feng, & Zuo, 2017). 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, Davidson, & Harban Singh., 2010). In other words, the contractor has an obligation in the construction industry, which is to ensure the project to be completed with any necessary means.

THE PROBLEMS FACED BY CONTRACTORS WITH REGARDS TO THEIR WORK PERFORMANCES

With the new method and technologies being introduced throughout the years, the construction industry has never stopped revolving. However, there are always problems and issues that occur in the industry that is affecting construction projects (Jaffar, Tharim, & Shuib, 2011). Even during the Movement Control Order (MCO) period, the construction industry faces difficulties that are beyond their control. According to "MCO to Slow Construction Sector Growth" (2020), contractors might be facing insolvency due to the MCO order and will lead to projects being delayed. A survey has been done on contractors during the COVID-19 outbreak and it shows that more than half of them is facing delays in their projects ("Many Contractors Concerned About Longer-Term Impacts", 2020). The survey also proved that there are many factors behind the delays such as suspension of works due to government order, economic factors, safety, and health concern, etc. This study will focus on the problems faced by the contractor that has been constantly mentioned during the COVID-19 outbreak. The problems which will be discussed below are cash flow issues, supply chain disruptions, and safety, health, and employment issues.

Cash Flow Issues

Cash flow is very important in every business. Regular cash inflow is needed for a crucial part of the business, especially in the construction industry such as paying salaries, claims, purchasing orders, etc (Payne, 2019; Samman, 2018). The cash flow of a business indicates the overall status of its business. Throughout the years, cash flow issues have been the main factor in the contractor's insolvency. As quoted in Gavin (2011), the reason being that contractors are often facing bankruptcy because "*they run out of funds and not because they run out of work*". With the COVID-19 outbreak in mind, the risk of the construction industry having cash flow issues also increases.

A recent survey by "National Construction Payments Report 2019" (2020) discovered that 61% of contractors have difficulties in getting their payment. From the survey also discovered that half of the contractor has to go through delay in payment while the others are not getting paid the right amount.

Supply Chain Disruptions

According to “Supply Chain Management” (2015), the supply chain is defined as a term where a group of companies merges to provide a finished product just from basic goods or services. Due to the nature of the construction industry, Al-Werikat (2017) stated that the construction supply chain complexity varies in terms of the size of the project.

According to Meyer (2020), supply chain disruptions can be led by these 5 reasons; (1) Pandemics – COVID-19 outbreak which has impacted the supply chain globally, (2) Natural disasters - hurricanes, tornado, earthquake, tsunami, etc, (3) Transportation failures and delays – globalization has brought in international suppliers into the supply chain, (4) Product problems – the quality of the product, and (5) Price fluctuations.

Mishra (2020) also stated that COVID-19 has brought a direct impact on the production and also to the supply chain and markets. Production could not proceed during the COVID-19 outbreak as lockdown order is being implemented in most countries around the world. The disruption of the supply chain and markets is caused by the reliance on imported products from mainly China and most importantly, due to the transportation restrictions (Bernama, 2020).

Safety Health and Employment Issues

In every construction project, safety and health are essential aspects that need to be considered before any commencement of work at a site since accidents can occur unexpectedly there. Construction activities involve a huge number of employees (Vitharana, De Silva, & De Silva, 2015). Hence, it is very important to keep the site safe from dangerous and risky incidents.

Furthermore, the reliance on foreign labor in Malaysia has been significantly huge ever since a few years back (Abdul Hamid, Singh, Wan Yusof, Md Yudof, & Mustafa, 2011). There are about 500,000 foreign laborers in the construction sector (Tay, 2019). In addition to that, Silva, Rajakaruna, & Bandara (n.d.). claimed that there are 10 challenges faced by contractors related to safety and health in which were then divided into three categories; (1) Resources – lack of labor, lack of knowledge for the job, lack of integration, (2) Social - poor health, hygienic and welfare facilities for the workers, minimum supply of facilities to their workers, high risk of getting or spreading diseases, and (3) Safety - inadequate safety precautions, lack of implementation of rules, limited fund and qualified officers, lack of awareness. Recent studies show that COVID-19 leaves severe implications for potential job loss and its consequences on the mental and physical health of workers and employees can be seen (Hussain, 2020).

THE IMPLICATIONS ON CONTRACTORS’ PERFORMANCES

Araujo, Alencar, & Mota (2016) stated that in the construction industry, evaluating the performance of the contractors is crucial as the project’s success depends on them. This is because the contractors hold the biggest responsibilities to the project completion right after the project is awarded to them. Contractors’ performances and construction projects are intertwined, meaning that if the performance is considered the best, the outcome of the projects will also be the best (Lee, Ismail, & Husaini, 2015).

A study done by Meng & Fenn (2019) has reviewed past literature related to construction project performance and has found that all the studies used different indicators to measure the performance in different views. In this study, we will focus on more on-time performance, cost performance, quality performance, client’s satisfaction, and team satisfaction.

Time Performance

In the construction industry, when time is mentioned, it is often related to the delivery duration of a project and compares it to the agreed duration in a contract. According to Lim & Mohamed (2000, as cited by Lee, Ismail, & Husaini, 2015), project completion on time is a success indicator for time performance as it is the first thing all stakeholders hope to see and achieve in a project. This is to indicate that the project is not experiencing time overrun and is running as scheduled. When problems occurred due to time, dispute and loss will also come together (Ahmad Hisham & Yahya, n.d.).

Cost Performance

The word cost performance in the construction industry is often related to the amount spent on the project and compares it to the initial cost estimated. According to Abusafiya & Suliman (2017), cost performance is very important to measure the success of a construction. However, it is still common for a project to experience cost overrun. Abusafiya & Suliman (2017) also mentioned that the estimated cost of a project cannot be less than the actual cost as it will lead to the occurrence of cost overruns. When measuring cost performance, the most crucial factor that needs to be taken into account is cost variance (Lee, Ismail, & Husaini, 2015). This is because cost variance can show whether the project is exceeding or not exceeding the required budget. Salter & Torbett (2003, as cited by Lee, Ismail, & Husaini, 2015) opined that to measure the performance of construction design, the most widely used method is cost variance.

Quality Performance

According to More, Vijay, Ashok, & Sudhakar (2017), the word quality is often associated with a lot of consequences depending on the type of business. Parfitt & Sanvido (1993, as cited by Lee, Ismail, & Husaini, 2015) defined quality performance as “the

totality of features required by a product or services to satisfy a given need or fitness for purpose". Strictly speaking, quality in a project means that the project is done in accordance with the specifications laid down by the clients. These specifications can be referred from the contract document as it has all the details on the product or services to ensure the project completion. All parties that are involved with a project have to be responsible for making sure the quality of a project can achieve with any resorted action especially the contractor (Ganaway, 2006, as cited by Lee, Ismail, & Husaini, 2015). Quality often relates to cost and time. Hence, when cost and time performances are already affected due to COVID-19, it is possible for the quality performance of construction can be jeopardized.

Client's Satisfaction

In the construction industry, client's satisfaction a.k.a. customer satisfaction is a useful tool to measure the quality performance of a project (Karna, Junnonen, & Kankainen, 2004). Rahman & Alzubi (2015) stated that in the construction industry, client's satisfaction can be seen when the contractor able to finish the project as per the client's expectations or requests. Measurement of satisfaction is assessed on how much is the client satisfied with the results of the construction project (Rahman & Alzubi, 2015), which in the end relate to quality performance (Soetanto & Proverbs, 2004, as cited by Lee, Ismail, & Husaini, 2015).

Nonetheless, the contractors' efficiency and productivity have been greatly affected due to MCO. Although the government has now allowed construction sites to reopen, several aspects in the construction site have to be adjusted accordingly and this resulted in a reduction of 85% of the efficiency level and production on-site (Royal Institution of Chartered Surveyors (RICS), 2020). Since the efficiency level has been reduced, huge concerns on quality will arise from the client-side (Walsh & Maher, 2020).

Team Satisfaction

Team satisfaction is very uncommon to be used as an indicator of performance measurement. However, the awareness of the importance of team satisfaction in this current construction industry has started to increase. Team satisfaction and job satisfaction are related to bringing the best from team effectiveness (Körner, Wirtz, Bengel, & Göritz, 2015). Since the COVID-19 outbreak and the implementation of MCO have stopped all works from operating, it has brought changes to the way some businesses operated and thus, affecting the workers' life as well. In support of that, Rajah & Tann Asia (2020) mentioned that a new term called the new norm has been frequently used globally in conjunction with the COVID-19 outbreak.

SOLUTIONS TO THE PROBLEMS FACED BY THE CONTRACTORS

Cash Flow Issues

In the literature on construction, many researchers have done on financial and cash flow difficulties. However, there are yet studies about the solution to solve these issues especially during a crisis, but more on the causes and theoretical model of it. "Managing Cash Flow in Construction" (2020) opined that to ensure the survival of the company, it is very important to keep cash in hand and manage it properly.

Supply Chain Disruptions

According to Sandanayake, Dissanayake, & Oduoza (2018), it has been seen that the construction industry nowadays has more awareness of the risks that may affect their supply chains due to unexpected events (e.g. natural disaster, economic crisis, virus outbreak, etc) and has already started to find ways in mitigating the impact. However, there are still companies that have not to find supply chain disruptions as important. It is advisable for contractors to conduct a plan should any unexpected events might occur as there are no ways to predict any disruptions (Meyer, 2020).

Safety Health and Employment Issues

Ahmad Belel & Mahmud (2012) stated a successful project does not only come from it being delivered within the specified time and money, but also with proper protection (e.g. safety and health steps). According to Charehzehi & Ahankoob (2020), it is unavoidable for the construction industry that is large and complex, to not be facing a dangerous and risky situation in their site, but it is still possible for the construction to enhance their safety performance. However, during this COVID-19 outbreak, the safety precautions are stricter than before.

RESEARCH GAP

From the reviewed literature, the gap that this study found was that not much research was being done and published regarding the construction industry and COVID-19 outbreak at the time of the study. This might be because the COVID-19 outbreak is still new and many uncertainties regarding it have brought a huge impact globally. Hence, this study has to gather more information related to the COVID-19 outbreak from the newspapers, government documents, as well as blog posts. However, all the general information regarding construction is found through the works of researchers in the past and had to relate it with the information gathered on the COVID-19 outbreak. These represent the gaps in the literature that this study aims to fill.

RESEARCH METHODOLOGY

Research Framework

Figure 1 shows the conceptual framework for this research study.

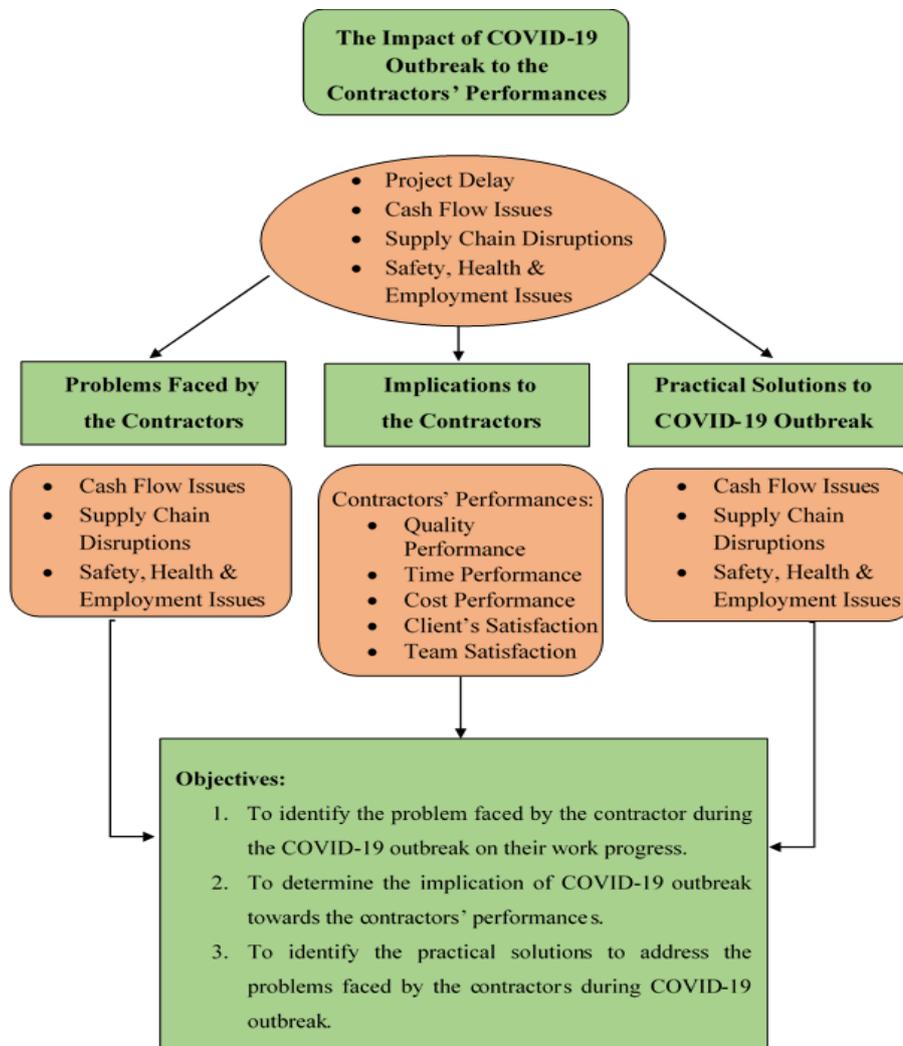


Figure 1: Conceptual Framework

Research Method

This research was done using both qualitative and quantitative methods to gather the data needed as it is descriptive research. The qualitative element can be found when gathering the data for the literature review. This research includes a semi-structured interview for its pilot test and a structured questionnaire survey as its main research instrument. The reason is that although there was a pilot interview done to confirm the reliability data collected from the secondary sources, the questionnaire still acts as the best research instrument to collect primary data which is due to the time constraint and MCO has taken place.

This research was mainly focused on the opinion of Grade 7 (G7) contractors. There are about 1500 G7 contractors registered under the Construction Industry Development Board (CIDB) Malaysia. At 95% desired confidence level and 5% desired margin of error, the sample size of the G7 contractors is 306. Before doing the pilot interview, an invitation letter was sent out to several contractors in Klang Valley. The semi-structured interview was made using a combination of the structured questionnaire survey questions and also a few unstructured questions. As for the quantitative data gathering, a set of completed structured questionnaires using a five-point Likert scale method were distributed to the respondents via email, Facebook platform, or even WhatsApp.

The data gathered were then analyzed using 2 methods; (1) content analysis and (2) multi-attribute analysis which involves a combination of mean rating (MR) and relative importance index (RII). This method can be used to calculate each variable in this research.

Content Analysis

Since this is descriptive research, it is recommended by Kamarazaly (2007) stating that the content analysis was used to filter the data received, mainly for cross-tabulation and counting the frequencies which will be useful when carrying out the multi-attribute analytical methods.

Mean Rating (MR) and Relative Importance Index (RII)

It is also understood that opinions from the respondents are very important in meeting the research objectives and each of them has their own opinions regarding the matter. Hence, this is where the purpose of using multi-attribute analytical methods takes place. There are different types of multi-attribute methods since it was introduced in the 20th Century, and they are used to achieve and suit the respective research objectives (Poorzahedy & Rezaei, 2013). The analysis used for this research drew from Chang & Ive’s (2002) as cited by Kamarazaly (2007). Multi-attribute Utility approach which involves the computations of Mean Rating (MR) and Relative Importance Index (RII) for each criterion. The MR was used to get the value of each attribute while the RII was used to rank the attributes depending on their value. The equation used for both MR and RII can be seen below.

(1) Mean Rating (MR)

$$MR = \sum_{i=1}^5 Rpi \times Ri\%$$

Where:

Rpi = Rating point I (ranging from 1 – 5)

Ri% = Percentage response to rating point i

(2) Relative Importance Index (RII)

$$RII = MR / (\sum MR)$$

Where:

MR = Mean Rating value

$\sum MR$ = Sum of all Mean Rating Values

To enable the mapping of prioritization of attributes into a continuum, the 5-point Likert Scale was transformed into the following band:

5-point rating scale		Re-scaled 5-band rating	
		Min	Max
5	Very High	4.2	5
4	High	3.3999	4.1999
3	Moderate	2.5998	3.3998
2	Low	1.7997	2.5997
1	Very low	0.9996	1.7996

FINDINGS

Key Findings for Objective 1 - To identify the problems faced by the contractors during the COVID-19 outbreak on their work progress

Table 1: Summary of Problems Faced by The Contractors During COVID-19 Outbreak

Potential factors leading to the problems faced by the contractors during the COVID-19 virus outbreak on their work progress				
	MR	Remark	RII	Rank
CASH FLOW ISSUES - Financial health of clients and contractors	4.22	Very High	0.34	1
SUPPLY CHAIN DISRUPTIONS - Delay payment to suppliers or subcontractors	4.14	High	0.34	2
SAFETY, HEALTH AND EMPLOYMENT ISSUES - High risk of getting or spreading diseases (eg: COVID-19)	3.95	High	0.32	3

Overall results showed the first in rank for highest impact on problems faced by contractors is the financial health of clients and contractor under cash flow issues with a MR value of 4.22 and RII of 0.34 (refer to Table 1). This is aligned with the findings of Silva, Rajakaruna & Bandara (n.d) who mentioned that financial health is the first critical industry challenger in the financial area. The financial health of clients and contractors is very crucial because it can even affect the delayed payment to suppliers or subcontractors leading to supply chain disruptions. The reason being is that when there are insufficient raw materials, the production process will have to be put on hold.

However, delay payment to suppliers or subcontractors under supply chain disruption should not be overlooked since the study of Khan, Gazder, & Qayoom (2017) stated that although this is a common issue in construction, it has a high tendency to prolong the duration of completion. This problem also receives a MR value of 4.14 and a similar RII value as cash flow issues.

Besides, the construction industry is also known to have a high risk for diseases to spread. This is relevant to the study of Silva, Rajakaruna & Bandara (n.d) mentioned that this issue is previously not the main concern for contractors and often gets neglected. Although this attribute receives a MR value of 3.95, it is still a remark as a high impact on the contractors' progress during the COVID-19 outbreak.

Key Findings for Objective 2 - To determine the implications of COVID-19 outbreak towards the contractors' performances

Table 2. Summary of The Implications of COVID-19 Outbreaks

Potential implications leading to contractors' performances during the COVID-19 virus outbreak on their work progress				
	MR	Remark	RII	Rank
COST PERFORMANCE - Poor cash flow	4.29	Very High	0.20	1
CLIENTS SATISFACTION - Increase in delay in the overall completion of construction	4.26	Very High	0.20	2
TIME PERFORMANCE - Increase in average delay in regular payments	4.25	Very High	0.20	3
QUALITY PERFORMANCE - Unable in completing the project on schedule	4.22	Very High	0.20	4
TEAM SATISFACTION - Increase in labor stress	4.03	High	0.19	5

Surprisingly, the results from Table 2 showed that poor cash flow under cost performance was the first in rank to consider as very high implications for contractors' performance. This is supported by the findings of Yang, Yeung, Chan, Chiang & Chan (2010) where having a poor cash flow is the biggest drawback to contractors. This is followed by an increase in delay in the overall completion which affected the client's satisfaction. Soewin & Chinda (2018) stated that if the project is being delayed, the client will tend to push the full responsibility to the contractor. This is somehow also related to the increase in delay in getting payments. The study of Yang, Yeung, Chan, Chiang & Chan (2010) found that when contractors do not receive payment on time, the contractors' time performance will be affected greatly. Hence, contractors unable to complete the project as promised, which will jeopardize the quality performance of contractors. This was supported by "Building 101" (2018) where it stated a project that is completed on-time will improve the quality performance. Lastly, the COVID-19 outbreak has led to an increase in labor stress for the contractors which affected their team satisfaction. The findings of Omopariola, Windapo & Ilori (2019) stated that labor stress can cause damage to contractors' team satisfaction. Labor stress during COVID-19 means that there is an increase in work scope but with insufficient working hours and payment given to the employees.

Key Findings for Objective 3 - To identify the practical solutions to address the problems faced by the contractors during the COVID-19 outbreak

Table 3: Summary of The Practical Solutions to The Problems Faced

Potential practical solutions to the problems faced by the contractors during the COVID-19 virus outbreak on their work progress				
	MR	Remark	RII	Rank
SAFETY, HEALTH AND EMPLOYMENT ISSUES - Ensuring compliance with all SOPs at workplaces	4.31	Very High	0.35	1
SUPPLY CHAIN DISRUPTIONS - Manage good communication and relationship with parties involved	4.16	High	0.33	2
CASH FLOW ISSUES - Process change/variations orders as soon as possible	3.98	High	0.32	3

Although cash flow issues were ranked first for objective 1, it is the opposite in the findings of objective 3. The overall outcome for this objective shows that tackling the safety, health, and employment issues first will be the best practical solution to address the problems faced by the contractors during the COVID-19 outbreak (refer to Table 3). Having to ensure that all works are done complies with the SOPS is very important to tackle the problems faced by the contractors and must be taken seriously by the contractors especially during the COVID-19 outbreak. This is endorsed by “5 Steps For Workplace Safety” (2020) which mentioned that penalty will be given to those who do not follow the SOPs and any activities related on-site will be put on hold.

Furthermore, the contractors should manage good communication and relationship with all the parties involved in the project to solve the supply chain disruptions which is in alignment with the findings of Smith (2019). This can eradicate any issues related to information not being delivered and miscommunication from happening especially during the COVID-19 outbreak where everyone has to work from home and meetings are done virtually.

Lastly, tackling the most significant problems faced by the contractors – cash flow issues. Although processing change/variation orders as quickly as possible has been the practice in the construction industry for quite some time, it is still the most effective way to generate cash flow (“National Construction Payments Report 2019”, 2020).

CONCLUSION

In conclusion, the COVID-19 outbreak has greatly affected negatively to the construction industry in Malaysia. As a country where the economy relies mostly on its construction sector, this can be very difficult for Malaysia to generate income in the future if it is not being resolved as soon as possible. This research managed to achieve all the intended aims and objectives successfully. Through this research study, it has been understood that all the problems faced by contractors during the COVID-19 outbreak will eventually lead to delay in the projects.

Few limitations were faced throughout this research. First and foremost, this research can only focus on Grade 7 (G7) building contractors and excludes other grades as well as other categories of contractors due to the COVID-19 outbreak. The reason being is that all of them will have different opinions and impacts as they are facing this outbreak. The result of this research might not be the same as the other grades and categories of contractors. In addition to that, there were difficulties faced in contacting the contractors involved in this research. Some of the contractors were too busy to participate in this research and some are currently temporarily closed.

Furthermore, there was a lack of resources and information regarding the COVID-19 outbreak as it is still new globally. Hence the survey questionnaire had to rely on mainly the information gathered through the literature review and was only able to confirm the reliability of the data through the pilot interviews. Last but not least, with the time constraint, this research was only able to capture the details of the COVID-19 starting from early March 2020 until the end of August 2020. Any data that comes later than the period mentioned are not captured in this research.

This paper had specifically identified that cash flow issues are the main culprit to all the problems faced by contractors in conjunction with the first objective. This is similarly related to the second objective where the results showed cost performance as the highest implication. During this COVID-19 outbreak, some of the contractors had to temporarily shut down their operations or even experiencing bankruptcy since their financial health has gone bad. Having cash in hand is needed to operate a business - to pay the workers' salary, electric bills and some even have to pay rent for their offices. Nevertheless, discussions from the findings have concluded that the problems faced by the contractors during the COVID-19 outbreak can still be overcome with the implementation of practical solutions. Results from objective 3 prove that to solve the main problem, it has to start from the lowest problem only then can the bigger problems be solved.

Hence, this research hopes that construction players can find it as guideline to prepare themselves with future plans. COVID-19 outbreak surely is an unpredictable event but policy makers can make use of this research as reference to allocate enough budget to the construction industry. Many companies in the industry are struggling hard to earn money and this shows the importance of having a proper financial planning. The reason is because construction industry is one of the industries that must be done physically. Ultimately, there is still hope for the contractors to face the problems and improve their work performances even in this challenging time. They could use this challenging time as an opportunity to actively changed the way construction industry works – by adopting IBS, focuses on Industry Revolution 4.0 and etc.

From the findings of this research, several recommendations were found to be conducted for further research. First and foremost, it is recommended that future researchers focus on other grades such as Grade 1 (G1) and Grade 2 (G2) contractors that receive financial aids from the government under PRIHATIN Package. By doing so, it is possible to identify and differentiate the impact of the COVID-19 outbreak with and without financial aid support. The future researcher can also conduct similar research that focuses on G7 contractors but with an in-depth view of the impact of the COVID-19 outbreak. This will give a more detailed elaboration on the research in which will be helpful to the construction industry in the future. Lastly, the future researcher may focus on the developers' and consultants' points of view since the construction industry is not mainly involved with contractors only, but also them.

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