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## Root Causes of The Project Postponement in Malaysia: Developers' Perspectives

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### Abstract

The construction sector in Malaysia is one of the key sectors contributing to Malaysia's economic development. In the construction industry, a lot of issues arise before the completion of the project, some of the projects will be postponed, delayed or abandoned. Although past studies have examined the postpone, abandoned, delay and the phenomenon of projects postponement still occurring in Malaysia. Therefore, the aim of this study is to investigate undiscovered causes of the phenomenon of the project postponement in Malaysia. Three objectives have been formulated, namely, to identify the root causes of the postpone project occurs in Malaysia, to determine the impact of the root causes to the project completion period, and to recommend solutions to mitigate the postponement of projects in Malaysia. In order to achieve the aim of this study, questionnaires have been distributed to developer companies in Perak. The collected data were analyzed in descriptive analysis by using Statistical Package for the Social Science (SPSS). There are four factors that contributed to the root causes of project postponement identified, namely client, contractor, consultant, and external factor. The findings identified sixteen solutions to mitigate the postponement of project in Malaysia. This study reveals three new findings which are accurate cost and initial time estimates, preparing SOP for unpredictable external factors and the most period project postpones less than one year and more than one year caused by the contractor. Last but not least, the major finding are contractors contributed to the highest impact of the project postponement. As a result, the study findings contribution could assist construction stake players in achieving project success in Malaysia. Limited time and the pandemic have been the biggest constraints in conducting the research. It is suggested that future researchers broaden their target population to consulting firms, construction organisations, and government sectors.

**Keywords:** Root Causes of Postponement, Developers Perspective's, Abandoned, Delay

### **Research Background**

In construction industry, a lot of problem occurs before the completion of the project, some of the project will be delayed, postponed and abandoned. In construction projects, delay may be defined as the extension of time beyond the date for completion as stated in the contract. In other words, delay means failure to complete the project within targeted timeline. Then, when it comes to the word postponed, it means the project totally stopped and will be continued later on. Several researchers found that, abandoned in construction industry is when the project is totally stopped and the project cannot be continued. According to Shah Ali et al (2010); Goh and Michael (2010); Aminah et al (2015) who found out that delay is actually a postponement of time from the original estimated completion time and postpone is abandoned. As a result, it is possible to assume that the words delay, postpone, and abandoned all have the same significance.

According to Jabatan Perumahan Negara (2018), the number of abandoned projects still increase year by year. In 2016 the number of abandoned projects were only 74 and in 2018 the abandoned project increases to 254 cases. Although a lot of studies have been carried out to find the causes of project postponement, delay or abandoned but this problem still occurs in Malaysian. Although construction industry has techniques to analyse delays in building processes, for example CPM (Critical Path Method) but it is evident that there is a lack of management within the construction project that the project is still being postponed (Meszek et al., 2019). Even with today's advanced technologies and knowledge of project management methods, construction project still continues to suffer delays and project completion deadlines are still being pushed back (Vasugi, 2018).

### **Literature Review**

#### *Root causes of project postponement*

A construction project is commonly admitted as successful when it completes on time. Nonetheless, the majority of the projects didn't complete as the original timetable (Gebrehiwet and Luo, 2017). There are many factors that contributed to causes of postponement in construction projects which are, client, contractor, consultant and external factors, this is supported by (Hamzah et al., 2011; Murali and Yau, 2007). Figure 1 summaries the root causes of the project postponement from previous researchers.

#### *a) Root Causes by Client*

Venkatesan (2019) state that, changes of scope by owner during construction, changes in design by owner, failure to provide construction site by owner, delay by owner in revision and approval of design documents and owner's slow decision making process are found to be the causes of project postponement. Late release budget or funds is one of the most important cause of project delay. One of the reasons is lack of funds to pay the contractors as contractors are usually not in a position to continue working without any payment (Khoori, 2012). Communication issues or lack of communication also can contribute to project postponement. Any misunderstanding or deviation of information relayed from the client to the design team may cause rework and trigger unnecessary cost and schedule overruns to construction projects. According to Jeffrey et al (2017) the major factors that cause rework are re-design arising from inadequate client's brief.

*b) Root causes by Contractor*

Weak site management and contractor efficiency have also been reported as one of the major causes of project delays. According to Gebrehiwet and Luo (2017) poor site management can cause not only delays, but also defects, disputes, and cost overruns (Shah, 2016; Soomro et al., 2019). Also said poor site management is the primary reason of project delay. Ineffective planning and scheduling of projects by contractors as one of the most important causes of project delay (Gebrehiwet and Luo, 2017). Inexperienced and incompetent contractor can cause time overrun and selection of contractor on favouritism causes time overrun in construction projects (Soomro et al., 2019). According to Singh et al (2018) contractor tried to complete the work within the time given by not following the SOP of the work which is resulting to a terrible work done as they do not want to be penalised by paying the LAD.

*c) Root Causes by Consultant*

Delays related to consultants includes errors and contradictions in design documents, inflexibility (rigidity) of consultants, late reviewing and acceptance of documents, and delays in the producing design documents (Azlan, 2018). Inexperienced and lack of staff in the consultants office for design documents review, complexity in project design, scope changes approval delay by consultant, low level of modern design software usage, incomplete and defective designs, and client’s requirements misunderstanding by design team (Atout, 2016; Ansah et al., 2018).

*d) Root Causes by External Factors*

External causes such as weather is the one that contribute to project delay. Most buildings constructed in tropical regions face chances of heavy rains, floods and earthquakes which affect construction activities causing delays on building projects (Soomro et al., 2019; Venkatesan, 2019; Hasmori et al., 2018). Inflation or price increases in material also has been identified as a major cause of project postpone (Ramli et al., 2018).

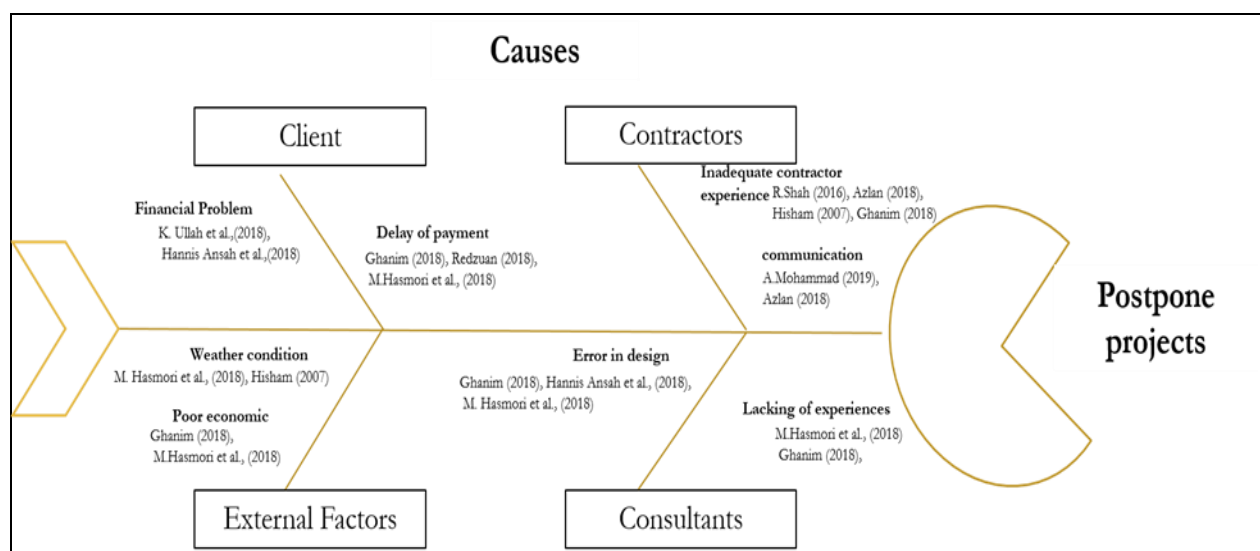


Figure 1: Root causes of the postponement project (Author’s compilation)

*The Impact of The Root Causes of The Postponed Project in Malaysia*

According to Azlan (2018) only 46.8% and 37.2% of public sector and private sector projects out of 259 projects in Malaysia have been completed within the budget, with an average cost

deviation of 2.08% respectively. It is also revealed that 90 percent of MARA large project experienced delay since 1984 due to time and cost overrun. If the delay stretches beyond 10 % to 30 %, then it is considered 'sick'; and finally, if no work has been carried out or no workers are on the project site for up to six months, it is deemed abandoned forever (Ariffin et al., 2018). Another impact of the root causes are time and cost overrun. Time overruns can be characterised as delaying the project completion date due to the expected and unexpected causes. It likewise should be characterised as the inability to finish the project within time (Ahmad et al., 2012). According to Mohamed (2015), cost overrun can be well-defined as an extra of the real cost that was planned or budgeted for the project from the beginning phase to the construction until the finishing stage. The overall cost will be increased once the construction projects are delay due to the price inflation and labour price.

#### *The Solution to Mitigate the Postponement of Projects in Malaysia*

The ways to overcome the project postponement in construction project by client is divided into five ways which are suitable design process organisation and on time result making (Dayang, 2009). Other ways to prevent postpone by client is during the payment process. The client has to pay progress payment on time (Ghulam et al., 2012). According to Mohamed (2015), awarding bids to the right or experience consultant and contractor is one of the ways to prevent the time and cost overrun in construction project. Moreover, Ghulam et al (2012) also said that speed up reviewing and approving of design document are the ways to prevent from project postpone.

The ways to overcome the project postpone by contractor is divided into four ways which are improving site management and supervision to reach completion of work within specific time (Ghulam et al., 2012). According to Mohamed (2015), the ways to prevent project postpone is to ensure timely delivery of materials equipment and the effective strategic planning. Other than that, Ghulam et al (2012) also identified that planning and arranging the work from start of project and during the work to match with the resources and time develop the work to avoid delay are the other ways to prevent project postpone in construction project. The ways to prevent project postpone in construction project by consultant is divided into three. According to Ghulam et al (2012), build up the knowledge and skill of technical staff is one of the effective ways to prevent project postpone. Furthermore, accurate initial cost estimate and initial time estimates is another way that has been identified by (Mohamed, 2015).

The other ways are avoiding delay in reviewing and approving design document (Ghulam et al., 2012).

#### **Research Methodology**

This research is using quantitative method and simple random sampling. The distribution of the questionnaires will take place in Perak due to data accessibility and Perak has been top five states of postponed projects recorded in Malaysia except Sabah and Sarawak (Jabatan Perumahan Negara, 2018). The respondents will be the developers that are involve directly with construction projects no matter what their age and how many years of experience they have. According to Krejcie and Morgan (1970), the sample size for the population of 118 is 92. The sample size is determined as shown in the figure above. However, based on Nulty (2008), the acceptable online respond rate is 20% which means that in order to reach adequate data collection, the research must reach the minimum of 20% of the respond rate. Therefore, this research minimum of 20% respond rate is compulsory to reach

adequate data collection as in Table 1. The data were analysed using the Statistical Package for Social Sciences (SPSS) software.

Table 1

*Sample size of this research*

| Sample Size | Percentage (%) | Expected Return | Respondents return for this research |
|-------------|----------------|-----------------|--------------------------------------|
| 92          | 20%            | 19              | 36                                   |

### Analysis and Discussion

The analysis of the root causes of the postpone project occurs in Malaysian divided into four categories. The findings, as illustrated in Table 2, show that the root causes of project postponement in Malaysia are categorised into four groups of causes by client, contractor, consultant and external factors. Developer's perspectives have evaluated root causes of project postpone under those four groups. In addition, the top 3 of causes was dominated by contractor which is common in construction industry elsewhere that is due to rework, financial problem and poor site management. Financial problem and delay in payment of progress by client are also in the top list with ranking number 4 and 5. Other causes contributing to the project postpone are shown in Table 2.

Table 2

*Ranking of root causes*

| Causes by consultant                                 | Category        | Frequency |
|--|-----------------|-----------|
| Rework due to errors during construction             | Contractor      | 1         |
| Financial problem                                    | Contractor      | 2         |
| Poor site management and supervision                 | Contractor      | 3         |
| Financial problem                                    | Client          | 4         |
| Delay in payment of progress                         | Client          | 5         |
| Poor communication                                   | Consultant      | 6         |
| Inadequate consultant                                | Consultant      | 7         |
| Accident cases during construction                   | External factor | 8         |
| Suspension of work and slow decision making          | Client          | 9         |
| Poor communication                                   | Contractor      | 10        |
| Delay the approval of major changes                  | Consultant      | 11        |
| Conflict with sub-contractors                        | Contractor      | 12        |
| Late in revising and approval of the design document | Client          | 13        |
| Poor communication                                   | Client          | 14        |
| Poor weather conditions                              | External factor | 15        |
| Price fluctuation                                    | External factor | 16        |

The impact of the root causes to the postponed project was illustrated in Table 3. As the result from the research, the findings of research questionnaire identified that time overruns give

the highest percentage that impact of the postponement project. Majority of respondent with 66.7% said that time overrun are crucial in affecting of project postpone. When the project facing time overrun, it will disturb the progress of work and cannot finish the work on time. The next highest percentage after time overruns is cost overruns. Once the project cannot be completed on time, it also will disturb the cost of the project. It will be project with over budget.

Table 3  
*Impact of Root Causes*

| Impact       | Rank |
|--------------|------|
| Time overrun | 1    |
| Cost overrun | 2    |
| Conflict     | 3    |

In addition, because the time overrun found as the first rank of impact to the postponement project. This study digs deeper on how many durations impact to completion period. The result shown in Table 4 that the highest impact for one-year project postpones because of root causes by contractors. This finding offers a significant point of that contractor become the main reason to causes the project postponement. However, the results are inconsistent with previous researchers who concluded that the project was postponed due to a problem with the client (JBH Yap, 2020; Abdul-Rahman et al., 2016; Murali and Yau, 2006).

Table 4  
*Impact Completion Period*

| Impact                                   | Respondent |
|--|------------|
| Postpone more than 1 year by clients     | 16.7%      |
| Postpone more than 1 year by contractors | 66.7%      |
| Postpone more than 1 year by consultants | 30.6%      |

The solution to mitigate the postpone project in Malaysia, most of the respondent strongly agreed that granting contracts to the right consultant and contractor is the most appropriate way to reduce the postponement of the project but it inconsistent with past researcher, according to Ghulam et al (2012) who showed that paying progress payment on time is the most effective ways to prevent postpone in construction progress. This is because, contractors are highly dependent on regular payment progress from client during the construction project. Therefore, when the contractor receives the payment on time or in accordance with term and in a proper amount, the contractors can buy material and plant and machinery to use in the construction project. Other than that, from observation, pay the progress payment on time will also affect the contractor’s performance. The workers will have motivation to do their work because of the contractor pay the salary on time.

Most of the respondent strongly agreed that ensure timely delivery of materials equipment will mitigate project postponement. It is supported by Mohamed (2015), the ways to prevent project postponement is to ensure timely delivery of materials equipment and the effective strategic planning. All findings consistent from existing literatures, according to Shah (2016); Ansah et al (2018), contractor need to have reasonable planning and scheduling where an adequate preparation schedule will minimise a large number of possible reasons

for delaying the project, as scheduling gives a clear indication of how the project and the people are doing.

Most of the respondent believe that accurate cost estimate and initial time estimate during pre-stage will reduce project postponement. It is inconsistent with Ghulam et al (2012), agreed that build up the expertise and skill of technical staff is one of the effective ways to prevent cost and time overrun. In my opinion, this is because consultants are advised to hire a qualified technical staff to manage the project in a proper way, so the technical staff will be able to overcome the problem that happen before proceeding to another work. This study reveals new finding that accurate initial cost and initial time estimate is the one of the solutions that can avoid root causes of postponed project.

Based on the finding, most of the respondent strongly agreed prepare SOP (standard operating procedure) for unpredictable external factors and increase motivation among the workers can overcome the project postpone. This study reveals new finding that prepare SOP for unpredictable external factors is the solution for root causes postpone project. It contradicts with past researcher; contingencies cost is more important (Traynor & Mahmoodian, 2019). According to Andi (2004), contractors often make the mistake of simply underestimating contingencies cost in order that their bids become more competitive. To effectively reduce contingency, contractors should know first the risk exposure in the project, and then decide the appropriate contingency based on it.

## Conclusion

There are sixteen root causes that contribute towards the postponement of projects. All of the root causes are grouped into four parties involved in the postponement project which are client, contractor, consultant and external factor. The study reveals new contribution findings that the most important root causes of postponed project by the client is the financial problem. The first ranked root causes of postponed project by contractor is because of rework due to errors during construction. The first ranked root causes postponed project by consultant is poor communication or collaboration between consultants and the most important root causes by external factor because of accident cases during construction will postpone the project. Overall, it can be concluded that all causes had a potential in contributing to project postponement. To mitigate action to avoid the postpone project in Malaysia, which are granting contract to the right consultant and contractor is the most appropriate way to reduce the postponement of the project.

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