

DELAYS IN MALAYSIAN GOVERNMENT PROJECTS: LEARNING FROM PROJECT MANAGEMENT FAILURE



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The Malaysian government is the largest client in the local construction industry, focusing mainly on the building of public infrastructures. It has a development expenditure allocation of RM260 billion under the 11th Malaysia Plan with the total commitment of RM875.2 billion from the 1st Malaysia Plan to the 10th Malaysia Plan.

Despite the huge allocation, delays in government projects due to poor project management are serious problems that contribute to 10.3 per cent of project costs; 89% of construction projects in south/central Peninsular Malaysia claimed that government projects are facing cost overrun at 5-10% of the contract price, which is acceptable since a maximum 15% is normally allocated in the variation clause by the clients.

On the contractor's side, delays in projects completion entail additional cost from extended insurances, extended use of site office overheads, labour and equipment, standby costs and other intangible costs, namely opportunity cost, which are claimable from the clients.

So, aimed at investigating causes of delay, questionnaire surveys have been carried out on 100 clients, monitoring agencies, consultants and contractors in delayed government projects, where the findings are validated by 5 subject matter experts (SMEs) in the area of delay and government projects. This article is timely in not only assessing the causes of delayed government projects but also in offering recommendations for improving project management practices towards on-time government project delivery.

DELAYS IN GOVERNMENT PROJECTS

Delay is time overrun or extension of time to complete a construction project beyond the date agreed upon by the contract parties because actual progress is slower than planned. The Malaysian government defines delays as exceeding one month or 10% late from the expected schedule.

The number of government projects experiencing delay in the 11MP are significantly increasing due to weaknesses in project management during planning

and implementation phases. In 2018, ICU reported that 61 government projects were delayed due to project management failure in planning and implementation phases and 87% in the construction phase.

THE CAUSES

Delays in government projects is common in many countries worldwide. Researchers in Malaysia, Slovenia, Jordan and Norway studied the causes of such delays in their respective countries and found 26 causes which they grouped into three key causes: Due to contractors (9), due to clients (5) and due to consultants (12). These 26 causes were transformed into questionnaires for data collection.

FINDINGS & DISCUSSIONS

The questionnaire analysis (see Table 1) showed an increase in the number of causes of delay, with the additional causes indicated by the asterisk symbol (*). The increase was from 9 to 13 causes due to contractors, from 5 to 6 causes due to clients and from 12 to 16 causes due to consultants. For causes due to contractors, "financial difficulties" was marked most important, followed by "problem of subcontractor" and "shortage of labour".

Delays due to contractors' financial difficulties were caused by the inability to secure and/or sustain operational cashflow for the project. This was attributable to the tender evaluation process flaw by the client. On the contrary, "construction mistakes" was considered the least important, followed by "shortage of materials" and "construction defective works". Since "construction mistakes" – these ranged from bad construction sequence planning to making good of defective works or off-specification works stemming from poor management and/or skilled workmanship – were claimed as the least important, it was suggested that the contractor's competency in the construction of Malaysian government projects, that was associated with minimal "construction mistakes", was not an issue that caused delay. This suggestion was also in line with the results of least important "construction defective works", which demonstrated that repetitive works due

to these construction mistakes were claimed to be not important but if these happened, it would eventually affect the project schedule especially if the works are on the critical path or near critical path.

For causes due to clients, "financial difficulties" remained the most important, leading to late payments and impacting the contractor's work progress, followed by "changes in design" and "slowness in decision making". "Failure to provide required construction site" and "improper scheduling" were chosen as the least important.

However, the causes due to consultants showed an interesting outcome. These causes were put into 3 groups after the Exploratory Factor Analysis (EFA) using the Principal Component Analysis (PCA) extraction method combined with Oblimin with Kaiser Normalisation rotation: Sub-factor 1 (planning and coordination issues) with 6 causes, sub-factor 2 (productivity issues) with 6 causes and sub-factor 3 (knowledge and expertise issues) with 4 causes.

The results showed that for sub-factor 1, the most important was "poor communication with other stakeholders", followed by "poor coordination with other stakeholders" and "poor site management". "Poor communication" was expected as the most frequent problem in construction was referred to as communication problems (Emmerson, 1962; Higgin and Jessop, 1965; Latham, 1994 and DETR, 1998) due to the specific characteristic of the construction industry that formed a complex communication environment (Hoezen *et al.*, 2006).

For sub-factor 2, "slow approval of shop drawings", "consultant team non-productivity" and "inadequate experience of consultant" were selected as the top 3 most important.

In addition, sub-factor 3 demonstrated that the most important was "changes in designs", followed by "changes in specifications" and "slowness in approving major changes in scope of work". "Changes in designs" was in line with Hamzah *et al.*, (2017), which indicated that design changes not only caused project delay but also cost overruns. See Table 1 for the results.

Table 1: Results of data analysis on the causes of delayed government projects in Malaysia due to contractors, clients and consultants

PRIORITY	CAUSES OF DELAY	VARIABLE	RII (%)
1	Financial difficulties		88.20
2	Problem of subcontractor		80.40
3	Shortage of labours		79.80
4	Poor site management*		79.40
5	Inadequate experience		78.80
6	Poor coordination with other stakeholder*		78.60
7	Poor communication with other stakeholder*		78.40
8	Poor project management practices*		78.00
9	Delay of delivery materials on site		75.80
10	Labour non-productivity		73.60
11	Construction defective works		73.40
12	Shortage of materials		70.60
13	Construction mistakes		69.00

Table 1: Results of data analysis on the causes of delayed government projects in Malaysia due to contractors, clients and consultants

PRIORITY	CAUSES OF DELAY	VARIABLE	RII (%)
Due to Clients			
1	Financial difficulties		75.00
2	Changes in design		75.00
3	Slowness in making decision		74.80
4	Improper scheduling*		74.40
5	Failure to provide required construction site		69.80
6	Slowness in progress payment		69.40
Due to Consultants			
1	Poor communication with other stakeholders	Sub-factor 1	81.00
2	Poor coordination with other stakeholders	Sub-factor 1	81.00
3	Poor site management	Sub-factor 1	80.60
4	Improper scheduling	Sub-factor 1	80.00
5	Improper planning	Sub-factor 1	79.60
6	Poor project management practices*	Sub-factor 1	77.60
7	Changes in designs	Sub-factor 3	77.20
8	Changes in specifications	Sub-factor 3	77.00
9	Slowness in approving major changes in scope of work	Sub-factor 3	74.40
10	Slow approval of shop drawings	Sub-factor 2	72.00
11	Consultant team non-productivity	Sub-factor 2	71.80
12	Inaccurate estimated project cost*	Sub-factor 3	71.80
13	Inadequate experience of consultant*	Sub-factor 2	71.40
14	Incomplete document	Sub-factor 2	71.20
15	Slow preparation of shop drawings	Sub-factor 2	70.80
16	Shortage in consultant team*	Sub-factor 2	64.20

* Newly added causes; ** Sub-factor 1 = Planning and coordination; Sub-factor 2 = Productivity issues; Sub-factor 3 = Knowledge and expertise issues

Based on these 35 causes, the five SMEs have suggested the following improvement measures (Table 2).

Table 2: Overall results of improvement plans in managing government project delays

PRIORITY	IMPROVEMENT PLANS
1	Contractor should have strong financial resources
2	Contractor should have good skills in project management
3	Contractor should appoint a capable subcontractor
4	Consultant should have good coordination
5	Contractor should provide sufficient workers on-site
6	Client should appoint a capable contractor
7	Client should have a good project financial plan
8	Consultant should have good communication
9	Contractor should have a proactive materials delivery approach
10	Consultant should identify the possible risks in the early phases as part of risk management practices
11	Contractor should provide adequate trainings to the workers
12	Payment made by client should be on-time within the contractual provisions
13	Client should ensure construction site is ready and accessible before project starts
14	Consultant should have good skills in project management
15	Contract awarding mechanism should be made transparent
16	Client should not impose major changes during construction
17	Consultant should clearly define the scope in the design brief.
18	Contractor should have good estimation of materials quantity
19	Consultant should produce complete document in planning stage.
20	Consultant should do site inspection on time
21	Consultant should have site management plan schedule
22	Consultant should appoint staff members with adequate technical knowledge and expertise
23	Consultant should provide a reasonable project schedule duration
24	Administrative decisions by client should be effective
25	Contractor should have skilled workers
26	Consultant should have sufficient team members
27	Government shall promote contractor to use modern technology
28	Consultant should approve shop drawings based on project schedule
29	Consultant should prepare shop drawings based on project schedule
30	Consultant should approve major changes in scope of work on time
31	Consultant should not impose major changes in specification during construction
32	Consultant should not impose major changes in design during construction

In general, the improvement plans suggested are aligned to the need for a rigorous evaluation exercise to select and appoint highly competent contractors and an effective coordination role to be undertaken by consultants in ensuring effective and efficient project management practices in the government projects in Malaysia towards on-time project delivery.

CONCLUSION

Causes due to contractors, clients and consultants are the main causes of government projects delays in the country, where the consultant and client are ranked first and second respectively as they are involved in all phases of the project life-cycle, whereas the contractor comes in later at the implementation phase.

There are also 32 improvement plans which can be translated into specific strategies towards on-time projects delivery via effective and efficient project management practices. Based on these improvement plans, this article suggests that the implementation of good project management involves a combination of competent people who are knowledgeable and have practised such knowledge successfully and having a set of project management tools and techniques (e.g. the assorted Information Communication Technology or ICT applications) in place, which is operating within a conducive culture that fosters the inclusiveness of project management values within the government project environment.

While it may be a challenge to have people at all levels who utilise project management knowledge, skills, tools and techniques, it may be sufficient as a start to initialise this work culture at the top echelons of the construction organisation with external augmentation under a structured plan to successfully integrate the said values.

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REFERENCES

- [1] Alias, I. (2006) Faktor-faktor kelewatan dalam projek pembinaan bangunan pendidikan MARA. Masters thesis, Universiti Teknologi Malaysia, Faculty of Civil Engineering.
- [2] Cantarelli, C. C. (2009). Cost overruns in Dutch transportation infrastructure projects. In Delft University of Technology.
- [3] DETR (1998). The report of the Construction Industry Task Force: Rethinking construction (The Egan Report), HMSO.
- [4] EPU (2016). 11th Malaysia Plan Strategy Paper.
- [5] Emmerson, H. (1962). Survey of problems before the construction industries: A report prepared for the Minister of Works, HMSO.
- [6] Hamzah, N., Khoiry, M. A., Arshad, I., Badaruzzaman, W. H. W., & Tawil, N. M. (2012). Identification of the causes of construction delay in Malaysia. In Proceedings of World Academy of Science, Engineering and Technology (No. 72, p. 614). World Academy of Science, Engineering and Technology (WASET).
- [7] Hamzah, A., Jeffrey Boon, H. Y. & Chen Wang (2017). Impacts of design changes on construction project performance: Insights from literature review.

- [8] Higgin, G. & Jessop, N. (1965). Communication in the building industry: The report of a pilot study, Tavistock.
- [9] Hoezen, M., Reymen, I. & Dewulf, G (2006). The problem of communication in construction. January 2006.
- [10] Implementation Coordination Unit (ICU) (2015). Pengurusan projek awam: Konsep, praktikal dan realiti. Putrajaya: Unit Penyelarasan Pelaksanaan Jabatan Perdana Menteri.
- [11] Implementation Coordination Unit (ICU) (2018). Project development performance report of RP3-RMK11.
- [12] Kaliba, C., Muya, M., & Mumba, K. (2009). Cost escalation and schedule delays in road construction projects in Zambia. International journal of project management, 27(5), 522-531.
- [13] Latham, M. (1994). Constructing the team, HMSO.
- [14] Memon, A. H., Rahman, I. A., & Azis, A. A. A. (2012). Time and cost performance in construction projects in Southern and Central regions of Peninsular Malaysia. International Journal of advances in applied sciences, 1(1), 45-52.
- [15] Nor Aida, I. (2019) Government physical project delays in Prime Minister's Department, Malaysia. Masters thesis, Universiti Teknologi Malaysia, Razak Faculty of Technology and Informatics.
- [16] Othman, A. & Ismail, S. (2014). Delay in government project delivery in Kedah, Malaysia. Recent Advances in Civil Engineering and Mechanics, 248-254.
- [17] Samarah, A., & Bekr, G. A. (2016). Causes and effects of delay in public construction projects in Jordan. American Journal of Engineering Research (AJER), 87-94.
- [18] Serrador, P., & Turner, R. (2015). The relationship between project success and project efficiency. Project Management Journal, 46(1), 30-39. <http://doi.org/10.1002/pmj.21468>
- [19] Srdić, A., & Šelih, J. (2015). Delays in construction projects: causes and mitigation. Organization, technology & management in construction: an international journal, 7(3), 1383-1389.
- [20] Yusof, M. A., Mohammad, N., & Mat Derus, Z. (2007). Excusable and compensable delays in the construction of building project—A study in the states of Selangor and Wilayah Persekutuan Kuala Lumpur, Malaysia. Change, 49(40), 71.
- [21] Zidane, Y. J. T., & Andersen, B. (2018). The top 10 universal delay factors in construction projects. International Journal of Managing Projects in Business, 11(3), 650-672.

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