Expert Perspective on Time Overrun in the Malaysian Construction Industry

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ABSTRACT

Time overrun is an incessant problem surrounding construction industry everywhere and Malaysia is of no exception. In fact, the problem has hit an astounding point with delay rates reaching a record high, including many past Malaysia Plans and these include projects profiled as being "sick" (delayed by three months and beyond). The devastating scenario has been alarming and ought to be scrutinized deeply as to what are the contributors. While there have been few studies in the past, rarely studies investigated the perspective of highly experienced experts of the industry thus, this research aimed to fill this gap by performing semi-structured interviews on industry experts with a minimum of ten (10) years of experience. Their experiences ranged from fourteen (14) years to more than thirty (30) years, averaging close to twenty-two (22) years. In reaching target groups, purposive sampling was adopted, which resulted in eleven (11) semi-structured interviews being conducted. Subsequently, interview data were analyzed using content analysis to ensure thorough examination of responses and present them in a meaningful manner. Findings indicated that there were five (5) most significant aspects that cause time overrun, namely project variations, lack of experience among project parties, late/slow decision making, poor project planning and late payment of completed works. The outcome of this research is expected to benefit the overall industry players in better identifying delay contributors and strategizing mitigations. The Malaysian government could also use the findings to improve delay rates of future Malaysia Plans while with some filtration, other developing countries may also benefit from this research.

Keywords: Construction Industry, Construction Projects, Expert, Malaysia, Time Overrun.

INTRODUCTION

Regardless of country worldwide, the construction industry has always tried to achieve the best success to deliver to their clients and end users the promised outcomes. Of course, there are many dimensions that define a successful project as the criteria changes depending on variety of factors; as such, Sanvido et al. (1992) stated that they depend on aspects such as who are the participants, the project coverage, size, stakeholder expectations and so on. Also, different projects and people may have different aims in a project and thus affect the measure used to define how the project is doing and whether it has achieved their expectations. Nevertheless, one cannot deny that the ability to deliver projects according to the promised time comes up as among the most important ones. In fact, it has been long recognized by many as among the top success criteria (e.g., Tuman, 1986; Navarre & Schaan, 1990; Hatush & Skitmore, 1997; Chua et al., 1999; Chan & Chan, 2004).

However, with the growing expectations and technological advancements, projects are getting more and more complex which have subsequently caused hardship in consistently delivering projects on time. Project time overrun has now become a common scenery of the construction industry worldwide including Malaysia. Being a major sector (Riazi et al., 2018) as well as among key economic contributor (Razak Bin Ibrahim et al., 2010; CIDB, 2012), Malaysia has been consistently doing very poor in term of timely delivery evident from the consistent findings and/or claims made in past studies (see Sambasiva & Soon, 2007; Abd. Karim, 2008; Joshi,

2009; Shehu et al., 2014; Jatarona et al., 2016; Olanrewaju, 2017; Riazi & Nawi, 2018; Aminorlah et al., 2023; Ikram, 2024). Realizing this, even the Tenth Malaysia Plan (2010 to 2015) aimed upon accomplishing "Zero Delay" (see Abu Mansor, 2010) which was far from the reality (see Jatarona et al., 2016). In fact, a major issue in many of the Malaysia Plans were project delays (Riazi et al., 2020) thus leaving a question of where things have gone wrong. This incessant scenario therefore calls for serious scrutiny of the reason behind them to allow for effective measures to be taken. While past studies have investigated the Malaysian environment, very little had focused on the insights of industry experts, which is the approach of the present study. A cohort of well experienced practitioners of the industry with an average of approximately twenty-two (22) years of experience among them were approached to dig into the causes of time overrun in Malaysian construction. It is expected that their views would provide a good generalization of the industry scenario since they have been involved in the sector for a significant amount of time. Malaysian construction industry has been continuously experiencing delays and thus, targeting respondents that have probably been through all those times is expected to generate meaningful outcomes that could benefit improved delay mitigation steps in future projects.

LITERATURE REVIEWS

The Malaysian Construction Industry

In the aim of being a world class industry, the Malaysian construction industry, especially the main client of the industry which is the public sector has embarked into many initiatives to push forward. The main drive of the nation development has been through periodic Malaysia Plans that which the first one dated back to year 1956 (Riazi & Nawi, 2018) until the most recent one being the Twelve Malaysia Plan. Each of these Malaysia Plan covers a five-year period whereby economic blueprints are announced with divided budgets among all sectors of the country, one of them being the construction industry. Nevertheless, many of these plans have been experiencing major delay rates (Riazi et al., 2020) which the government tried to address via other additional initiatives between the plans. Among schemes that were embarked were the National Privatization Plan, Roadmap IBS (2003 – 2010), Roadmap IBS (2011 – 2015), Construction Industry Master Plan (CIMP) (2006 – 2015) and Construction Industry Transformation Plan (CITP) (2016 – 2020) to name a few. Nevertheless, even these plans were short of achieving their desired outcomes partly due to them being poorly performed. For instance, Private Finance Initiatives were not in accordance with international frameworks (see Jayaseelan & Tan, 2006) while CIMP lacked modern approaches (see Hamid & Kamar, 2010). The local industry also was not very receptive of contemporary good practices such as Knowledge Management (e.g., Abdul Rahman & Wang, 2010), Industrialized Building System (e.g., Mohd Nawi et al., 2019) and Supply Chain Management (e.g., Mehdi Riazi & Lamari, 2013).

Construction Project Delay

"Time is Money" has been a common saying in the business world which relates time with monetary gains or lost. With time, businesses can gain opportunity to venture into other businesses while a waste of time leads to loss of potential business gains. Just like any other business, construction industry is also a business. In fact, it is among the biggest businesses in a country due to the multiplier effect it has on other businesses that directly or indirectly deal with it. Not achieving the time target of projects could lead to fiscal losses such as having to pay for Liquidated Ascertained Damages (LAD), loss of income from the expected facility, loss of rental for commercial developments, budget deficit, having to pay for lost and expenses claims and many more.

Be it a construction project or other types of projects, time has always been of the essence, because late delivery is generally understood as a failure is one or more aspect of project management, thus it is a negative perception. Time has many times been placed along with cost and quality as the main success criteria of projects (e.g., Atkinson, 1999; Newcombe, 2000; Chan & Chan, 2004). Time overrun has been defined differently by many researchers however, this paper adopts the simple and direct definition by Riazi et al. (2020; p. 33) which is "*circumstances that involve additional time to complete projects regardless of who is to be blamed for it*". This is because, time overrun is a time overrun, and when that happens, to the end user, it does not really matter who is at fault. The course of action would differ depending on who is to be blamed,

however, the project has still failed to be completed within the contractually agreed period and thus, it is still a delay.

Worldwide

Whenever one speaks about the problem in construction industry, time overrun has time and time again being mentioned as one of them, which is why the research on this topic has been never ending since the past decades (e.g., Mansfield, 1994; Assaf et al., 1995; Chan & kumaraswamy, 1997; Mezher & Tawil, 1998; Al-Moumani, 2000; Odeh & Battaineh, 2002; Frimpong et al., 2003; Assaf & Al-Hejji, 2006; Sambasivan & Soon, 2007; Al-Kharashi & Skitmore, 2009) and up until recent times (e.g, Amoatey et al., 2015; Aziz & Abdel-Hakam, 2016; Durdyev et al., 2017; Batool & Abbas, 2017; Sanyal & Bhattacharya, 2018; Chen et al., 2019; Riazi et al., 2020; Sanni-Anibire et al., 2022). Past studies on time overrun have covered many aspects such as looking at a nation's perspective, different types of projects, different types of procurement, different sectors, different project phases, etc.).

Masfield et al. (1994) studied the Nigeria perspective and identified that delays were mainly attributed by poor payment, contract management, material deficiency, inaccurate estimation, and fluctuations of the resources of the project. Chan & Kumarasway (1997) on the other hand, looked into the Hong Kong perspective and pointed out the five most significant contributors. Mezher & Tawil (1998) studied Lebanon and pointed out the main time overrun factors from the eye of owner, contractor, and architect/engineer. In year 2003, Frimpong et al. who did a study on delays in Ghana focused only on groundwater constructions and found that the reasons were mainly contributed by poor payment, contract management, material procurement practices, technical accomplishments as well as rising of material prices. Assaf & Al-Hejji (2006) studied large projects in Saudi Arabia and found that all main project supply chains namely the client, consultants and contractor had a mutual agreement on client-initiated variations as the main time overrun contributor.

On top of that, Al-Moumani (2000) investigated 130 public sector projects in Jordan and pointed out that the majority of issues were pertaining to designers, client-initiated variations, weather, delayed deliveries, and economic circumstances while Al-Kharashi & Skitmore (2009) studied in Saudi Arabia but from the perspective of their public sector projects obtained a consensus from all respondent groups that delays were mainly due to late payments by client due to their financial problem. Additionally, an Indian study focusing on high-rise building projects in India by Sanyal & Bhattacharya (2018) found that most time overruns were attributed to issues related to the country's local industry, socio-economics, cultures and project features whereas Chen et al. (2019) identified inadequate equipment, communication weakness between project parties, inexperienced design team, sub-contractor issues and client-initiated variations as being the top culprits of delay in China's grain bin projects. Furthermore, a recent meta-analysis review involving articles from the past 15 years revealed that, globally, delays were primarily due to financial problems by the contractor, late approval of work done and late material delivery to project site while among all groups, finance-related causes had the greatest impact on delay (Sanni-Anibire et al., 2022).

Malaysia

Malaysia has been continuously suffering from time overrun in projects (Aminorlah et al., 2023) and at an astonishing rate which comes to no surprise since delay has been a rather incessant dilemma within the country's industry. According to Chew (2020), delays continue to haunt the local industry and remain among the main culprits of poor performance despite advancements in project management worldwide. Delay rates of public sector projects has been showing a steady increase since the Eighth Malaysia Plan (2000 to 2005) whereby Abd. Karim (2008) reported 78% of projects being delayed followed by Joshi (2009)'s finding of a worsening time performance of projects in the following Malaysia Plan – at 80% delay rate by 2009 - which was almost the end of the plan. The tenth Malaysia Plan (2011 to 2015) did not do any much either with more than 400 sick projects between years 2011 and 2013 (see Jatarona et al., 2016) while the Malaysian Government MyProjek Monitoring system further exposed the never-ending delay dilemma with 202 sick projects by October 2024 and 107 delayed in year 2024 alone (see Ikram, 2024). Sick projects refer to projects that are delayed by three (3) months or more which further hence signifies the devastating state of the local construction industry.

This has led to a number of studies scrutinizing this issue based on the Malaysian perspective. One of them is the study Anuar Othman et al. (2006) who found that many of the delay variables in Malaysian public civil engineering projects had to do with the characteristics of project as well as excusable delays. Later, research by Sambasivan & Soon (2007) identified that those delays were mainly contributed by the contractors' deficiency whereby three (3) of five (5) main factors were related to them i.e., deficiency in term of experience, site management and planning. The other two (2) were financial and payment issues of the client and also issues to do with subcontractors. The next year, in 2008, the Director General of Malaysia Public Works Department gave a highlight on issues that led to massive delays during the Eighth Malaysia Plan (2001 to 2005) as well as lesson learnt on the Ninth Malaysia Plan (2006 to 2010). According to him, the 78% of projects that were delayed during the Eighth Malaysia Plan were mainly attributed by issues to do with coordination causing projects to be approved or awarded with half-cooked briefs, poor competency of project entities, and inappropriate project implementation method (Abd. Karim, 2008). On top of that, Abd. Karim (2008) also underlined problems to do with getting project lists from relevant ministries, resource and master plan preparations, and late project start-up as among the lesson learned during the Ninth Malaysia Plan; that led to 90% delay rate recorded in 2009 (see Joshi, 2009). In year 2014, Shehu et al. went further to gain insight into the delay dilemma by comparing factors gathered from public sectors, private sectors, contractors, clients, and consultants' perception with those from past literatures. Later, Riazi & Nawi (2018) looked into the delay factors in Malaysian public sector projects and concluded that a vast majority of delay had to do with the party's deliberate practices such as procedural delays, unrealistic project allocations, payment delays, etc. Yap et al. (2021) did a survey to identify the critical delay factors in Malaysian construction projects and determined poor planning and scheduling, excessive client initiated changes, poor management and supervision of project sites, sub-competent sub-contractors and contractor's financial difficulties as the most critical grounds while Riduwan (2024) found design changes as the biggest contributor to delay in his more localized study on residential developments in Selangor, Malaysia.

RESEARCH METHOD

The aim of this research was to establish the main delay factors in Malaysian construction industry based upon the expert perspectives. Expert interviews were selected as means gathering data due to the incessant delay scenario which has yet to resolve despite few studies in the past. The fact that many of them did not get the experts' thoughts could explain the possible lack of outcome. Considering experts as being knowledgeable, experienced and very much aware of the industry, their point of view should not be discounted. Experts are able to provide a broad range of responses or information (see Delbecg et al., 1975) which is important to obtain thorough information on the delay dilemma. Besides, this method enables this research to capture not only the most recent factors but also the ones that are Malaysia-specific and can only be attained via direct communication. Other than that, being a face-to-face data collection approach, interviews offer other advantages. Past research has associated face-to-face data collection with the ability to use physical stimuli and to observe participants (see Holbrook et al., 2003; Alreck & Settle, 2004), tighter control over the respondents' criteria and the introduction of trigger questions for clarification and avoiding misunderstanding (see Riazi et al., 2020). All these advantages support the effectiveness of this method to provide valid results.

Utilizing purposive sampling as suggested suitable by Chein (1981), Patton (2014) and Byrman (2016) when targeting groups with distinctive criteria, a total of eleven (11) experts were interviewed, hence also meeting the minimum of five (5) respondents considered sufficient for similar data collection method (see Ismail et al., 2013; Mehdi Riazi, 2014; Riazi & Nawi, 2018). These experts were also required to have a minimum of ten (10) years continuous experience – staying in line with the minimum of five (5) years recommended by Berliner (2004) and ten (10) years by Ismail et al. (2013) and Riazi et al. (2010). This was important to meet the expert criteria described by Phil (1971) and Delbecg et al. (1975) where they should pose relevant experience in the subject matter and are able to provide a broad range of responses / information respectively. These experts were also selected from a variety of backgrounds respectively for diverse opinions with regard to the topic since different professional backgrounds are exposed to different difficulties, risks and experiences which would highly contribute to the thoroughness in terms of coverage.

Semi-structured interviews were used as instruments for data collection. They were divided into two (2) sections – section 1 focused on the demographic details of the respondents while section 2 asked on the factors

causing time overrun. To meet the interviewees' preferences, interviews were conducted using both face-to-face and email approaches, which have proven effective to gain meaningful interview data. The benefits of face-to-face interviews have been pointed out by researchers such as Holbrook et al. (2003), Alreck & Settle (2004) and Riazi et al. (2020) while the validity of email interviews was endorsed by Fritz & Vandermause (2018) provided that same methodological approach as face-to-face interviews are used. In fact, in-depth email interviewing has been accepted as a trustworthy data collection method (see Meho, 2006; James & Busher, 2006; Cresswell, 2007; Kazmer & Xie, 2008; Wertz, 2011; Fritz & Vandermause, 2018). All these advantages support the effectiveness of this method to provide valid results. Content analysis was used as means for data analysis, replicating similar approaches used by Mehdi Riazi (2014), Riazi & Nawi (2018) and Riazi et al. (2020) in their research involving expert interviews.

INTERVIEW RESULTS AND FINDINGS

Respondent Characteristics

Table 1 presents the demographic details of experts taking part in the interview. Based on Table 1, there was also a balanced distribution in terms of their nature of organization whereby there were three (3) Developer companies as well as four (4) Consultant and Construction firms, respectively. In terms of the expert position in their organization, almost a third of them held top directorship posts (i.e., Director and CEO) followed by three (3) Top-level Managers (i.e., Project Manager and Contract Manager), two (2) Mid-level Managers (i.e., Manager and Site Manager) and one (1) normal position (i.e., Site Supervisor). Experience-wise, it was evident that many were very experienced. The lowest among them was fourteen (14) years of experience while the highest was more than thirty (30). Overall, most experts, approximately 45% of them, possessed between twenty

Table 1: Demographic Detail of Experts Interviewed

No.	Nature of Organization	Current Position	Years of Experience
1	Consultant	Director	23
2	Developer	CEO	30
3	Developer	Project Manager	29
4	Consultant	Director	21
5	Consultant	Director	24
6	Construction	Site Supervisor	20
7	Construction	Site Manager	15
8	Consultant	Quantity Surveyor	20
9	Construction	Contract Manager	14
10	Construction	Project Manager	15
11	Developer	Manager	> 30

(20) to twenty-five (25) years of experience followed by those with ten (10) to fifteen (15) years at about 27%. Another two (2) or about 18% had between twenty-six (26) to thirty (30) years of experience and only one (1) had more than thirty (30). In overall, the respondents averaged at approximately twenty-two (22) years of experience which is a vast number.

Factors Causing Time Overrun

Table 2 presents the interview responses extracted out from all eleven (11) experts.

Table 2: Expert Interview Responses

Experts	Experience	Extent of Delay	Factors Causing Time Overrun
R1 Director (Consultant)	23 Years	High	(1) Poor capability of contractor (2) Poor contractor track record / performance (3) Inexperienced S.O. (4) Scope change by client
R2 CEO (Developer)	30 Years	Very High	(1) Poor planning (2) Slow decision making by project parties (3) Conflicting objectives (4) Lack of courage to be responsible with decision making (5) Late payment by client (6) Inexperienced consultants (7) Consultants sending out junior staff to manage projects (8) Lack of concern with regard to the effects of delay at many levels (9) Project variations (10) Obstruction from the Nominated sub-contractor (11) Delay in granting site possession (12) Suspension of works
R3 Project Manager (Developer)	29 Years	High	(1) Poor early planning (2) Lack of experience by project parties (3) Financial problem by the main contractor (4) Financial problem by the sub-contractor (5) Late reviewing of drawings by consultants
R4 Director (Consultant)	21 Years	High	(1) Not adhering to work plan (2) Additional requirements by client (3) Authority compliance requirements (4) Delay in decision making at site (5) Changing weather
R5 Director (consultant)	24 Years	High	(1) Late payment by contractor to sub-contractor (2) Lack of skilled worker (3) Lack of awareness by main contractor's company director on things occurring on site
R6 Site Supervisor (Construction)	20 Years	Moderate	(1) Changing weather (2) Poor management of project (3) Economic changes (4) Changes in scope of work
R7 Site Manager (Construction)	15 Years	High	(1) Obtaining confirmation on material and scope of work (2) Late payment to contractor (3) Inexperienced labour (4) Low quality material (5) Poor schedule management (6) Discrepancies in contract document
R8 Quantity Surveyor (Consultant)	20 Years	Low	(1) Design changes (2) Shortage of resources (3) Delay of sub-contractors (4) Late payment by client
R9 Contract Manager (Construction)	14 Years	High	(1) Late in revising and approving design document by client (2) Client changes during construction (3) Conflict between contractor and project team member(s)
R10 Project Management (Construction)	15 Years	High	(1) Late payment (2) Frequent changes from client (3) Changing weather (4) Late approval

R11 Manager (Developer)	More than 30 Years	High	Client: (1) Changes in project scope (2) Late payment (3) Slow decision making (4) Unrealistic timeline (5) Awarding project not based on best value for money Consultant: (6) Misinterpretation of clients requirement (7) Lack of coordination between team member (8) Lack of detail (9) Slow response on Request for Information (RFI) (10) Lack of early consultation with client (11) Lack of early consultation with authorities Authorities: (12) Strict procedure and plan approval (13) New guidelines (14) Delay in relocating services Contractor: (15) Financial problems (16) Poor material management (17) Poor equipment management (18) Poor site management (19) Incompetent staff (20) Shortage of worker (21) Site safety issues

**R = Respondent*

Based on Table 2, firstly, it was notable that the extent of delay in Malaysian construction industry was high with eight (8) out of eleven (11) respondents mentioning so. This represents a whopping 72% response rate approximately. On the other hand, there was only one (1) person respectively that rated delays as being very high (R2), moderate (R6) and low (R8). Two (2) of the most experienced respondents of the interview (R2) and (R11) rated delays as being "very high" and "high" respectively. Nevertheless, in overall, nine (9) out of eleven (11) experts (about 82%) generally perceived delays in Malaysian construction projects as being at a high rate and above.

In terms of the factors leading to time overrun, Table 2 expressed that there was a balanced number of factors pointed out by each expert, which were between three (3) to six (6) factors. Only two (2) of the most experienced experts did point out significantly more factors – twelve (12) factors by R2 and twenty-one (21) factors by R11. In overall, although the experts seem to have quite different opinion regarding specific delay factors there were some that coincided with others. As such, responses implying client-initiated variances were the most frequently mentioned, by six (6) respondents. They were - scope change by client (R1), additional requirement by client (R4), changes in scope of work (R6), client changes during construction (R9), frequent changes from client (R10) and changes in project scope by client (R11). The second most mentioned factor were related to late progress payment by the client to the main-contractor, mentioned five (5) times, they were – late payment by client (R2, R8, R11), late payment (R10) and late payment to contractor (R7). Next, three (3) experts pointed out changing weather as among the factors (R4, R6 and R10) while two (2) interviewees respectively denoted that poor project planning (i.e., poor planning (R2) and poor early planning (R3)) and financial problems of the main contractor (i.e., financial problem by the main contractor (R3) and financial problems by contractor (R11)) as among contributing factors. The rest of the factors were only mentioned once by the respondents. After considering the factors that were mentioned repeatedly by few respondents, out of the initial seventy-one (71) factors, the exact total number of factors causing time overrun identified were only fifty-eight (58).

DISCUSSION

Firstly, it is rather obvious that the extent of delay in Malaysian construction industry is at a notably worrying state with a vast majority of the experts (approximately 82% of them) rating the extent of delay as being high and above. This comes to no surprise since delay has been a rather incessant dilemma within the Malaysian construction industry (see Sambasiva & Soon, 2007; Abd. Karim, 2008; Joshi, 2009; Shehu et al., 2014; Jatarona et al., 2016; Olanrewaju, 2017; Riazi & Nawi, 2018) especially those with respect to public sector project and had been stretching from the year 2000 to 2024 (see Abd. Karim, 2008; Joshi, 2009; Jatarona et al.,

2016; Ikram, 2024). While these data referred to public sector projects, but it can be made a reflection of general overview of the nation's industry performance since in Malaysia, the public sector is the main client of construction industry and that a vast majority of projects worth Billions are launched in each Malaysia Plans. Besides, the players of public sector projects are generally the same players in many private funded projects thus, their performances in public sector projects can be reflected as their general performance in project delivery. On top of that, the fact that the Malaysian construction industry has been continuously haunted by delay as the main culprits of poor performance despite advancements in project management worldwide (see Chew, 2020) further supports the notion that in general, both public and private projects are suffering delays in their projects. The major inefficiencies of the industry have also led to past calls for vast productivity improvement in the sector (e.g., Riazi & Nawi, 2018).

Next, regarding the factors causing time overrun in Table 2, there were several evident trends whereby many of the factors were somewhat related to a common set of problems, only that they were mentioned differently by different experts. In overall, five (5) aspects were identified as being the most significant contributor to delay namely project variations, lack of experience among project parties, late/slow decision making, poor project planning and late payment of completed works. These were determined based upon the common theme of the issues pointed out by the experts.

The most significant aspect of time overrun were found to be due to project variations, mentioned eight (8) times, they were - Scope change by client (R1); Project variations (R2); Additional requirements by client (R4); Changes in scope of work (R6); Design changes (R8); Client changes during construction (R9); Frequent changes from client (R10); and Changes in project scope by client (R11). This comes to no surprise as change orders / variation matters has in the past been found to contribute to time overrun by many researchers such as Chan & Kumaraswamy (1997), Mezher & Tawil (1998), Assaf & Al-Hejji (2006), Kazaz et al. (2012), Patil et al. (2013), Tarhini et al. (2015), Niazi & Painting (2017) and Wuala & Rarasati (2020). Variation and change orders are known to affect project time in the sense that it interferes with the original project planning due to the need to either perform additional works, amendment to original design or the need to do reworks. All these actions lead to the need for additional time to get the changes done. On top of that, the disjointed environment due to traditional practice domination in Malaysia (Abd Shukor et al., 2011) has also led to work deficiencies which further contributed to delay (Mehdi Riazi, 2014). The act of working in isolation with little or no communication between project parties leads to missed information, lacking detail, etc. Mistakes, if left unidentified, would require rectification later and that adds onto the variations in projects which interfere with the fluidity of work progress.

The second most significant cause of time overrun was related to the lack of experience among project parties, mentioned seven (7) times. For factors related to the lack of experience among project parties, they were - Poor contractor track record / performance (R1); Inexperienced Superintendent Officer (SO) (R1); Inexperienced consultants (R2); Consultants sending out junior staff to manage projects (R2); Lack of experience by project parties (R3); Lack of skilled worker (R5); and Inexperienced labour (R7). The impact of not having the properly experienced project parties/individuals in projects has in the past linked to project delays by Odeh & Battaineh (2002), Sambasivan & Soon (2007), Patil et al. (2013), Niazi & Painting (2017) and Wuala & Rarasati (2020). The construction industry is very complex thus, experiences are important to enable effective execution of related tasks such as identifying project risks, making decisions on material procurement, project scheduling, procurement decisions, etc., all of which are vital to ensure smooth project progress. As such, uncertainties are common in construction industry and lead to unexpected events (Mehdi Riazi, 2014) and require experience to cater for them early. Other than that, Jaafar & Radzi (2013) also pointed out that poor capabilities of parties regarding procurement practices could also expose projects to delay. Rework is another issue that arises due to errors (Al-Kharashi & Skitmore, 2009) and errors commonly lead to delay (Busby & Hughes, 2004). These risks increase in odds when involving people of insufficient experience; due to the use of inappropriate practices which are also linked to failures and time overrun (Mehdi Riazi, 2014). Proper selection of project teams is vital for success (Kumaraswamy et al., 2007) and timely completion (Mehdi Riazi, 2014) thus, having people with relevant and sufficient experience is necessary to achieve the best outcomes. Construction projects typically involve a set of highly specialized works which require a certain degree of experience to assist good decision making as well as the management of the variety inter-connected activities that takes place from the start to finish.

The third most significant contributors for time overrun were related to late/slow decision making, poor project planning and late payment of completed works, all of which were mentioned six (6) time, respectively. For late/slow decision making, they were - Slow decision making by project parties (R2); Lack of courage to be responsible with decision making (R2); Delay in decision making at site (R4); Obtaining confirmation on material and scope of work (R7); Slow decision making by client (R11); and Slow response on Request for Information (RFI) (R11). Poor project planning on the other hand was - Poor planning (R2); Delay in granting site possession (R2); Poor early planning (R3); Lack of early consultation between consultant & client (R11); Lack of early consultation between consultant & authorities (R11); and Unrealistic timeline (R11). Next, factors related to late payment of completed works were - Late payment by client (R2, R8, R11); Late payment by contractor to sub-contractor (R5); Late payment to contractor (R7); and Late Payment (R10).

Late/slow decision making had been consistently linked to project delay (see Assaf et al., 1995; Chan & Kumaraswamy, 1997; Odeh & Battaineh, 2002; Tarhini et al., 2015; Wuala & Rarasati, 2020). Construction projects are complex and those decisions should consider a variety of aspects, situation as well as risks to come up with a good solution. However, time is also of an essence in projects thus, decision making should balance between making proper considerations and also meeting the time constraints. Modern managerial theory stresses the need to eliminate wasting bureaucracies (Daniel & Arthur, 2009) as it leads to delay (see Mehdi Riazi, 2014). Prolonged processes lead to time wasting (Ofori, 2007) and if decisions involve work that are on project critical path, it will force work progress to be placed on hold and thus, extend the whole project's completion date. Also, if special materials are involved, deciding early on specifications ensures timely order and delivery (see Mehdi Riazi, 2014). Late/slow decision making has also been highlighted by the "Malaysia Report" but from the context of local authorities whereby the long time needed for decisions on approvals have caused massive complaints by industry players (CIDB, 2008). On the other hand, when projects involved the public sector, corruption activities (Toor & Ogunlana, 2008) as well as political interruption (Jaafar & Radzi, 2013) have also been linked to lengthy decision-making periods.

Project planning typically involves activities at the earlier phase of project and are very important towards the proper completion of projects. Poor project planning was also regarded as among significant aspects causing delay in Malaysian construction industry. Similar connection has also been found between poor project planning and time overrun by Odeh & Battaineh (2002), Sambasivan & Soon (2007), Doloi et al. (2012), Patil et al. (2013), Tarhini et al. (2015), Niazi & Painting (2017) and Wuala & Rarasati (2020). This comes to no surprise as the design stage, which is also within the planning stage, has been regarded by Mendelsohn (1997) as being the contributor to three quarters of problems at site. As with any project (even those other than construction), planning is the utmost vital stage as at this stage all aspects are considered and planned. Any changes after this stage would severely affect targeted cost and time. Other than that, the Malaysian public sector projects have also been poor in term of properly identifying the needs of the client (Hassan et al., 2009) which prevented success (Judin, 2008). Poor briefing practices, also among activities during planning phase, could lead to many disasters including time overrun (see Jaafar & Aziz, 2009)

Lastly, late payment of completed works was also among the main aspects that caused delays. Timely progress payments are vital since contractors highly depend on consistent cash flow to continue their work at a consistent rate, thus, it comes to no surprise that they have repeatedly appeared as among causes of delay in past studies (e.g., Mansfield et al., 1994; Assaf et al., 1995; Sambasivan & Soon, 2007; Al-Kharashi & Skitmore, 2009; Kazaz et al., 2012; Patil et al., 2013; Tarhini et al., 2015; Niazi & Painting, 2017; Wuala & Rarasati, 2020). This problem has been haunting the Malaysian construction industry (Mehdi Riazi, 2014) which has affected the survival of many parties (Ameer Ali, 2006). To make things worse, work suspension is not permitted in event of late payments due to inexistence of laws allowing such act (see Kah Seng Construction Sdn Bhd v Selsin Development Sdn Bhd, 1997) thus, causing sufferings to complete the work. In attempt to survive, contractors have gone as far as abandoning projects (see Mehdi Riazi, 2014) which among other problems, it delays projects due to the need to repeat tender process to select new contractors to complete the work.

CONCLUSION

It has been evident that time overrun is an incessant problem surrounding the Malaysian construction industry. Past studies have also recorded astonishing rates of time overrun in Malaysian construction projects, example seen from delay rates in eighth, ninth, tenth and twelfth Malaysia Plan, signifying that there are issues within the industry that need a more thorough examination for a more effective measures to be put in place. This research has performed eleven (11) experts' interviews in attempt to dig into the real issues from the perspective of highly experienced industry professionals. The experts ranged from fourteen (14) years to more than thirty (30) years of experience in construction industry, average being at approximately twenty-two (22) years. Even most of the experts interviewed also rated the extent of delay in Malaysian construction industry to be high or very high (nine (9) out of eleven (11) people). The interviews also led to the establishment of the main time overrun contributors which were determined based on the number of times they were mentioned by the experts. In overall, the most significant cause of time overrun were found to be due to project variations, mentioned eight (8) times. Coming up second most significant were related to the lack of experience among project parties, mentioned seven (7) times. The third most significant contributors were shared by three other aspects namely late/slow decision making, poor project planning and late payment of completed works, all of which were mentioned six (6) times, respectively. All these significant aspects were also found to coincide with research in the past of similar areas thus further strengthening their relevance.

While there have been studies on delay within the Malaysian construction industry, very little that focused on the expert perspective, especially those from recent time. Some did take the same approach but only targeted public sector projects. The findings of this research, therefore, further contributes to the body of knowledge via establishing the most significant factors leading to time overrun in Malaysian construction projects as a whole with regard to the input of highly expert groups. On top of that, the number of responses obtained were roughly double of those from the past thus, further strengthening the validity of findings as being able to present the general population of Malaysian construction industry.

The outcome of this research is also expected to benefit both the public and private construction sectors in Malaysia in their quest to overcome delay in projects. Having gotten input of vastly experienced respondents (averaging approximately 22 years of experience), also implies that they have gone through different eras of industry and thus, their responses can be used as a trustable source of information for industry players to focus upon, take reasonable care and to apply mitigation strategies if possible. On top of that, the Malaysia government could also use the findings to improve future Malaysia Plans project implementations especially considering that many of them had failed miserably in term of achieving timely completion. Perhaps, the most significant aspects identified in this research could be made the point of focus to be catered in future Malaysia Plans. Beyond that, considering that many of the incessant problems of developing nations being quite similar to each other, hence, with some filtration, results of this research could also be used as guidelines for other developing countries in their endeavor to eliminate delays.

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