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## Original Article

# Financial-related causes contributing to project delays

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**ABSTRACT** Delay in construction projects is a common phenomenon and a costly problem. This paper addresses the issues of financial-related delays in construction projects. It identifies the root causes and scrutinises the suitable mitigation actions of financial-related project delays. Four main factors were identified in the literature, namely late payment, poor cash flow management, insufficient financial resources and financial market instability. Primary data were collected by way of a preliminary interview, questionnaire survey and in-depth structured interviews. A total of 110 responses were obtained from a combination of clients, contractors, consultants and bankers. The result revealed that poor cash flow management is the most significant factor that leads to a project's delay followed by late payment, insufficient financial resources and financial market instability. Contractors' instable financial background, client's poor financial and business management, difficulties in obtaining loan from financiers and inflation were identified as the most significant underlying causes. The study findings indicate that clients play the most important role in reducing the impact of financial problems towards the extent of

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project's delay. Several suitable mitigation actions were suggested by the respondents. The study highlights the importance of having more intensive research that give emphasis on clients achieving a well-managed cash flow in order to obtain a prompt payment practice in the construction industry.

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## INTRODUCTION

The construction industry is one of the important industries that contribute to Malaysia's economic growth. The total contribution by the construction industry to the nation's gross domestic product (GDP) is significant, accounting for nearly 3.3 per cent of GDP in the year 2005 with about 600 000 workers (MALBEX, 2005). This contribution expanded to 4.6 per cent in year 2007, which is the highest growth since 1999 (National product and expenditure accounts – fourth quarter, 2007, 2008). The construction industry poses a great challenge as it is essential in generating wealth, improving the quality of life of the citizen through the provision of social and economic infrastructures and it links the whole spectrum of the economy with a multiplier effect that enables other industries to prosper alongside (Construction Industry Working Group on Payment, 2007). This industry can be regarded as one of the most risky, dynamic and challenging business, which suffered a temporary crisis between 1997 and 2000 during the ASEAN economy crisis, but had improved gradually since then. However, delays still occur in construction projects as the industry is famed for poor risk management, with many projects failing to meet deadlines and cost targets.

Delay is one of the most common, costly, complex and risky problems encountered in a construction project (Alaghbari *et al*, 2007). According to Shen *et al* (2001), the majority of the building projects usually cannot be accomplished within the stipulated contract period. Delays occur in most construction project and the magnitude of these delays varies considerably from project to project, and the problem of delays in project is a worldwide phenomenon. In Australia, only one-eighth of building contracts were accomplished within the schedule completion dates and the average time overrun exceeded 40 per cent (Bromilow, 1974). Hence, the construction industry in Malaysia, a fast developing country in South-East Asia, is not an exception. In 2005, approximately 17.3 per cent of the 417 government contract projects in Malaysia were considered sick with more than three months delay or abandoned.

## DELAYS IN CONSTRUCTION PROJECTS

Delay means a time overrun either beyond the contract date or beyond the date that the parties have agreed upon for the delivery of a project (Lo *et al*, 2006). Delay is common in every construction project and its extent varies considerably from project to project. Some projects are only



a few days behind schedule; some are delayed by over a year (Ahmed *et al*, 2003). In construction, delay could be defined as time overruns either beyond the completion date stipulated in contract or beyond the agreed date for delivery of a project between the parties (Assaf and Al-Hejji, 2006). Aibinu and Jagboro (2002) describe delay as a circumstance when the contractor and the project owner jointly or differently contribute to the non-completion of the project within the original or the stipulated or agreed contract period. Bramble and Callahan (1987) define delay as the time during which some part of the construction project has been extended or not performed because of an unanticipated circumstance. Hence, delay is a situation in which the work is being slowed down without stopping it entirely (Bartholomew, 1998).

Delays in construction projects lead to serious consequences that may retard the development of the construction industry and influence the overall economical condition of a country (Arditi *et al*, 1985). According to Shen (1997), delay in the completion of construction projects could be the greatest cause for extra cost and loss in financial return or other benefits from project. Thus, delay is costly for both owner and contractor. To the owner, a delay means loss of potential revenue, whereas to the contractor, a delay means increased costs in overhead.

Numerous studies (Mansfield *et al*, 1994; Chan and Kumaraswamy, 1998; Al-Khalil and Al-Ghafly, 1999; Assaf and Al-Hejji, 2006) were conducted to identify the common causes of delays in local construction projects with an intention to lessen the extent of delays and its impact. Most of the survey results (Al-Khalil and Al-Ghafly, 1999; Frimpong and Oluwoye, 2003) show that financial problem is one of the main causes of delays. Although the problem of delays looms large in the local construction industry, no attempt has been made to identify the root causes of financial-related problems.

## CAUSES OF FINANCIAL-RELATED DELAYS

Sambasivan and Soon (2007) have developed 28 well-recognised construction delay factors in construction and categorised them into eight major groups. These are client-related factors, contractor-related factors, consultant-related factors, material-related factors, labour- and equipment-related factors, financial-related factors, contract-related factor and external factors. Among others, a financial-related factor is one of the most critical factors that cause delays in construction projects (Alaghbari *et al*, 2007). The statement is supported by Sweis *et al* (2007) stating that in Jordan, financial difficulties faced by many contractors cause delay in construction projects. This is because of the many changes that are made by project clients during construction. As a result, it increases the construction cost in which contractors have to procure the material and equipment beyond their normal boundaries. In addition, delay in paying contractors will subsequently jeopardise contractor's cash flow. Delay in payment resulted in the slow progress on site, as many sub-contractors and suppliers are subjected to financial difficulties; hence, no material is delivered to the site.

A similar trend can be seen in the Malaysian construction industry. According to Ahmed *et al* (2003) and Wa'el Alaghbari (2005), the possible financial-related factors that lead to delays in Malaysian construction projects are financial problems of clients such as delayed payments, financial difficulties and economic problems; financial and cash flow problems of contractors; and external factor of poor economic conditions such as currency and inflation rate. In addition, difficulties in obtaining loans (Arditi *et al*, 1985) and short of funding are adverse financial-related factors that were identified in previous works.

Based on the 19 possible causes for financial-related project delay, shown in Table 1, the authors decide to group these causes under four different categories, namely late payment, poor cash flow management, insufficient financial resources and financial market instability. All the sub-problems are closely related to each other and will cause a significant impact on projects' delays. A description of each of the financial-related causes for delay follows.

### Late payment

Late payment is defined as failure of a paymaster to pay within the period of honouring of certificates as provided in the contract (Harris and McCaffer, 2003). The parties involved in the process of payment claim such as client, contractor, superintending officer, architect, quantity surveyor, banker and other construction players may cause a payment to be delayed. A delayed payment by a party who is involved in the process of payment claim may have an influence on the supply chain of payment in whole. According to the Construction Industry Working Group on Payment (2007), problems in payment at the higher end of the hierarchy will lead to a serious knock-on cash flow problem down the chain of contracts. The identified underlying causes of late payment include

**Table 1:** A list of 19 possible causes of financial-related problems

Category	Sub-categories
Late payment	<ul style="list-style-type: none"><li>• Client's poor financial and business management</li><li>• Withhold of payment by client</li><li>• Contractor's invalid claim</li><li>• Delay in valuation and certification of interim payment by consultant</li><li>• Inaccuracy of valuation for work done</li><li>• Insufficient documentation and information for valuation</li><li>• Involvement of too many parties in the process of honouring certificates</li><li>• Heavy work load of consultant to do evaluation for variation order</li></ul>
Poor cash flow management	<ul style="list-style-type: none"><li>• Contractor handles too many projects at the same time</li><li>• Contractor's unstable financial background</li><li>• Unqualified contractor underbidding the project cost</li><li>• Lack of regularly cash flow forecasting</li><li>• Poor credit arrangement with creditors and debtors</li><li>• Capital lock-up</li></ul>
Insufficient financial resources	<ul style="list-style-type: none"><li>• Difficulties in getting loan from financiers</li><li>• Allocation of government budget not in place</li></ul>
Financial market instability	<ul style="list-style-type: none"><li>• Increment of interest rate in repayment of loan</li><li>• Inflation (material prices, labour wages, transportation costs)</li><li>• Increment of foreign exchange rate (imported materials and plants)</li></ul>



(1) client's poor financial and business management, (2) withholding of payment by client, (3) contractor's invalid claim, (4) delay in valuation and certification of interim payment by consultant, (5) inaccuracy of valuation for work done, (6) insufficient documentation and information for valuation, (7) involvement of too many parties in the process of honouring certificates, (8) heavy work loads of consultant to carry out evaluation for work done and (9) contractor's misinterpretation of client's requirement of variation order.

### **Poor cash flow management**

Cash flow management is defined as a process of monitoring, analysing and adjusting projects' cash flow (Ward, nd). According to Ward (nd), the most important aspect of cash flow management is to avoid extended cash shortages that are caused by having too great a gap between cash inflows and outflows. As in the case of *Dawnays Ltd v FG Minter Ltd* (1971), Lord Denning famously said that cash flow is the lifeblood of the construction industry, and (Construction Industry Working Group on Payment, 2007) ease of cash flow is an essential element in delivering a successful project. Thus, a well-managed cash flow is important to enable the delivery of a successful project by performing a cash flow analysis on a regular basis to identify cash flow problems (Ward, nd). In analysing the cash flow of a project, cash flow forecasting is an essential method to head off cash flow problems. It is then important to develop and employ strategies that will maintain an adequate cash flow for the project. Therefore, a well-managed cash flow will improve the project's cash flow and subsequently improve the timely performance of a project. Conversely, a poorly managed cash flow represents the opposite. The underlying causes to poor cash flow management can be categorised as (1) contractor handles too many projects at the same time, (2) contractor's instable financial background, (3) unqualified contractor underbidding the project cost, (4) lack of regular cash flow forecasting, (5) poor credit arrangement with creditors and debtors and (6) capital lock-up.

### **Insufficient financial resources**

According to Kaming *et al* (1997), one of the most important factors causing delays in high-rise projects in Indonesia is the shortage of resources. In addition, Noulmanee *et al* (1999) investigated the causes of delays in highway construction in Thailand and concluded that one of the main causes of delays is the insufficient resources of an organisation. A survey by Ubaid (1991) concluded that the contractor's resources are the major measures on the contractors' performance that cause delays. The resources include financial resources, human resources, material resources and equipment resources. However, only the financial resources are focused in the research, as Abdul-Rahman *et al* (2006) addressed that lack of funds may affect the project's cash flow and lead to delay in site possession, which consequently causes delays in the project as whole. The factors that would cause insufficient financial resources are (1) difficulties in obtaining loan from financiers and (2) allocation of government budget not in place.

### Financial market instability

According to Ahmed *et al* (2003) and Wa'el Alaghbari (2005), the external factor of poor economic conditions such as currency and inflation rate would significantly give impact to project's cash flow, and hence affect the timely performance of the project. The underlying causes to financial market instability, which will then lead to cash flow problems in construction project include (1) increment of interest rate in repayment of loan, (2) inflation of material prices, labour wages and transportation costs and (3) increment of foreign exchange rate for imported materials and plants.

### RELATIONSHIP OF MAIN FINANCIAL-RELATED FACTORS TO DELAYS

Figure 1 illustrates the relationship between dependent and independent variables. It shows that the financial-related problems that cause delays in construction project are mainly for four main reasons. They are late payment, poor cash flow management, insufficient financial resources and financial market instability.

Figure 2 shows the propositions with the direct relationship between main problem and sub-problems. The propositions for each of the sub-problems can be summarised as follows:

- (i) The greater the delay in payment due to a contractor, the greater the cash flow problems, the greater the extent of delays.
- (ii) The poorer the cash flow management, the greater the cash flow problems, the greater the extent of delays.
- (iii) The greater the shortage of financial resources, the greater the cash flow problems, the greater the extent of delays.
- (iv) The greater the instability of financial market, the greater the cash flow problems, the greater the extent of delays.

Figure 3 shows the propositions with the direct relationship between main problem and sub-problems. For instance, poor cash flow management by a client of a construction project will cause a late payment to contractor. Delay in payment for work done from the client will affect the cash flow of the contractor.

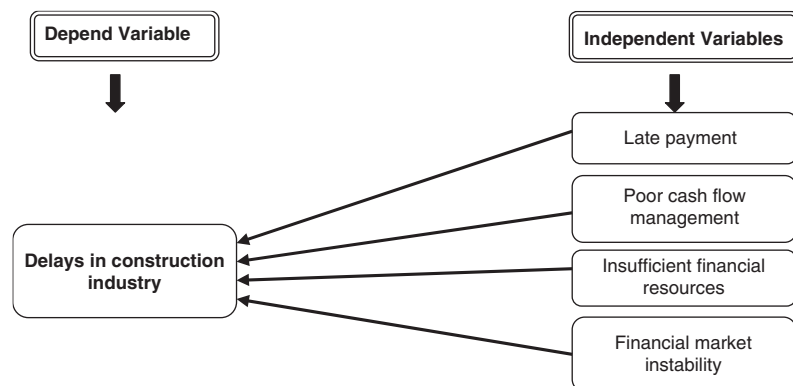


Figure 1: Relationship between dependent and independent variables.



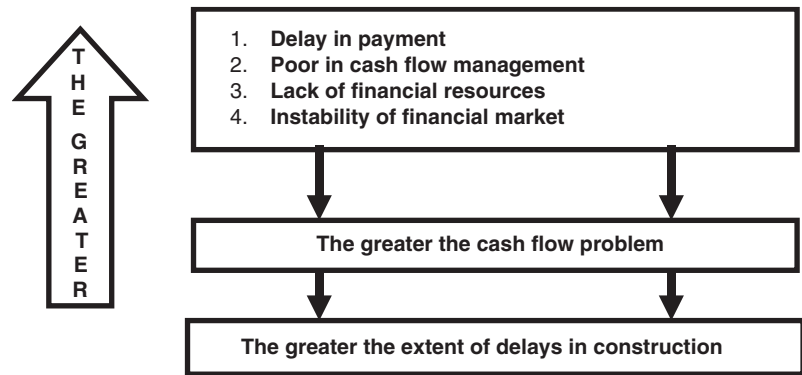


Figure 2: Relationship between main problem and sub-problems.

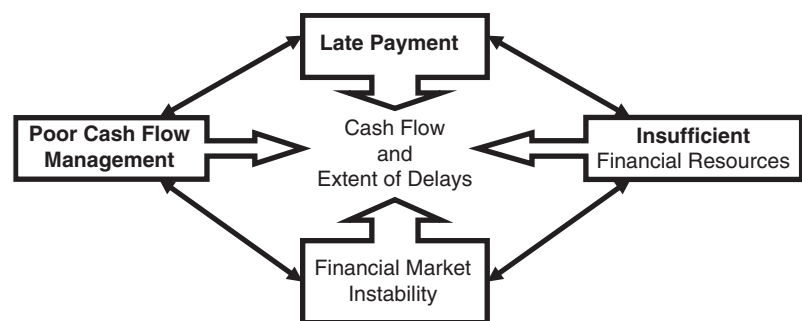


Figure 3: Inter-relationship between independent variables.

In addition, the instability of financial market would imply extra financial commitments that are beyond the capacity of the contractor that he or she is not prepared for such extra costs. As a result, the contractor would need to seek for additional financial resources in terms of loans from financial institutions such as banks. In some occasion, the loans are difficult to obtain from financial institutions as they have a strictly regulated checklist of borrowers' financial situation. owing to failure or delay in obtaining loans, shortage of financial resources at the time will lead to cash flow shortfalls that consequently cause delays in project. In essence, each independent variable is inter-related with each other. The relationship between independent variable forms a continual cycle.

## RESEARCH OBJECTIVES

The aim of the research is to reduce the extent of delays' impact caused by financial problems in Malaysian construction. The objectives of the research are as follows:

- (i) To identify the major root causes of financial-related problems that would lead to delays in Malaysian construction projects.
- (ii) To analyse the differences in the attitudes and perceptions of the four major industry parties – the clients, contractors, consultants and bankers – towards the causes of financial-related problems and their responsibilities in mitigating the problems.

- (iii) To investigate the opinions of the parties upon the actions that they undertake to manage the financial problems and study the suitable prevention steps in reducing the problems.

## RESEARCH METHOD

The research adopted four principal sources to achieve the objectives, namely preliminary interviews, questionnaire survey and in-depth structured interviews. The literature review was conducted to gather the related information in order to provide full understanding and knowledge on the variables and related issues regarding the delays and financial-related problems in the construction industry. An exploratory preliminary interview was then carried out with construction professionals to obtain preliminary information regarding the causes of financial-related problems in construction industry towards identifying the four sub-problems, as discussed previously. The information gathered from the literature review and preliminary interviews were used to design the questionnaires and interviews.

A questionnaire survey was carried out to identify the major root causes of financial-related problems for the second stage of data collection. This research focused on four main groups of participant in building construction projects. These groups comprise clients, contractors, consultants (building architects, civil engineers and quantity surveyors) and bankers. The questionnaires were distributed to a random sample of 150 clients, 250 contractors and 150 consultants located in the Klang Valley (Kuala Lumpur and Selangor States) and eight bankers located in Perak. A one-month period was allowed for the participants to complete and return the survey forms.

After the data were quantified from the questionnaire survey, eight respondents were short-listed to be interviewed in order to understand a particular phenomenon from the point of view of the parties based on the feedback and comments given in the questionnaire forms. This approach was adopted as the research involved probing questions whereby respondents were required to provide in-depth answers in order that particularly interesting aspects of the responses could be delved into. The in-depth structured interviews covered the four main parties involved in construction project, which included two respondents from each group.

## SURVEY RESULT ANALYSIS

Of the 558 questionnaires that had been sent out to the targeted groups, 110 questionnaires were returned, which yields an overall response rate of 19.71 per cent: 16 were from clients, 50 from contractors, 40 from consultants and four from bankers. Table 2 shows the response rate of each professional group. The highest responses at 45 per cent were given by the contractor, followed by consultant (36 per cent), client (15 per cent) and banker (4 per cent).

A total of eight interviews were conducted with two respondents from each professional group. Table 3 illustrates the details of interviewees for each group. Most of the questions asked during the interview concentrated on the root causes that had been identified from



**Table 2:** Respondent to questionnaire survey

Professional group	Sent		Received	
	No.	%	No.	%
Client	150	27	16	15
Contractor	250	45	50	45
Consultant	150	27	40	36
Banker	8	1	4	4
Total	558	100	110	100

**Table 3:** Details of the interviewees for in-depth structured interviews

Group	Position held by interviewees	Experience of interviewees
Client A	• Project manager	10 years
Client B	• Project manager	26 years
Contractor A	• Project manager	23 years
Contractor B	• Engineer	20 years
Consultant A	• Quantity surveyor	10 years
Consultant B	• Quantity surveyor	8 years
Bankers A	• Senior sales and marketing executive	6 years
Bankers B	• Branch manager	14 years

each group in the questionnaire survey, the understanding of their occurrence and the suitable mitigation actions that have been adopted and suggested by the interviewees.

### Late payment

Table 4 shows that a contractor's invalid claim was agreed upon by clients as most significant underlying cause to late payment with 59 scores; withholding of payment by client by contractors with 202 scores; client's poor financial and business management by consultants with 172 scores; withhold of payment by client and client's poor financial and business management by bankers with 15 scores, respectively. Overall, the results indicated that client's poor financial and business management was most significant in contributing to late payment, which would lead to project's delays.

### Poor cash flow management

Table 5 delineates that contractor's instable financial background was agreed upon by clients, consultants and bankers as the most significant underlying cause to poor cash flow management with scores of 62, 167 and 17, respectively; and unqualified contractor underbidding the project cost by contractors with a score of 200. Generally, a contractor's instable financial background was suggested from the results as the most significant factor that underlies poor cash flow management that would consequently lead to delays in project.

### Insufficient financial resources

The results from Table 6 shows that contractors, consultants and bankers similarly agreed on the fact that difficulties in obtaining loan from financiers

**Table 4:** Underlying causes of late payment

Underlying causes of late payment	Score				
	Client	Contractor	Consultant	Banker	Total
(a) Client's poor financial and business management	58	197	172	15	442
(b) Withhold of payment by client	58	202	152	15	427
(c) Contractor's invalid claim	59	153	135	12	359
(d) Delay in valuation and certification of interim payment by consultant	55	185	127	10	377
(e) Inaccuracy of valuation for work done	56	168	113	10	347
(f) Insufficient documentation and information for valuation	54	170	139	12	375
(g) Involvement of too many parties in the process of honouring certificates	48	191	140	14	393
(h) Heavy work load of consultant to do evaluation for work done	41	150	119	10	320
(i) Contractor's misinterpretation of client's requirement of variation order	43	154	137	10	344

**Table 5:** Underlying causes to poor cash flow management

Underlying causes to poor cash flow management	Score				
	Client	Contractor	Consultant	Banker	Total
(a) Contractor handles too many projects at the same time	58	174	153	11	396
(b) Contractor's unstable financial background	62	195	167	17	441
(c) Unqualified contractor underbidding the project cost	61	200	165	10	436
(d) Lack of regularly cash flow forecasting	58	197	155	15	425
(e) Poor credit arrangement with creditors and debtors	57	190	154	13	414
(f) Capital lock-up	56	188	151	16	411

**Table 6:** Underlying causes to insufficient financial resources

Underlying causes to insufficient financial resources	Score				
	Client	Contractor	Consultant	Banker	Total
(a) Difficulties in getting loan from financiers	52	180	148	14	394
(b) Allocation of government budget not in place	53	176	144	13	386

was the most significant factor that causes insufficient financial resources in construction industry with scores of 180, 148 and 14, respectively, whereas clients agreed on the fact that allocation of government budget not in place was a significant factor responsible for insufficient financial resources with a score of 53. However, the overall results indicated that 'difficulties in obtaining loan from financiers' was the most significant factor that causes insufficient financial resources with a score of 394.

### Financial market instability

Table 7 shows that four of the professional groups agreed on the fact that inflation of material prices, labour wages and transportation costs would significantly lead to cash flow problems, which consequently cause delays with scores of 61, 211, 164 and 18, respectively. In general, this

**Table 7:** Underlying causes of financial market instability

Underlying causes of financial market instability	Score				
	Client	Contractor	Consultant	Banker	Total
(a) Increment of interest rate in repayment of loan	52	178	139	13	382
(b) Inflation (material prices, labour wages, transportation costs)	61	211	164	18	454
(c) Increment of foreign exchange rate (imported materials and plants)	56	182	142	15	395

underlying factor was agreed upon as the most significant factor to financial market instability with a total score of 454.

## MAJOR FINANCIAL-RELATED CAUSES OF DELAYS

Table 8 identifies the most significant financial-related causes leading to delays in construction project. The results show that poor cash flow management was most significant in contributing to delay (score=464), followed by insufficient financial resources (score=451), late payment (score=450) and financial market instability (score=418).

Table 9 shows that poor cash flow management is the cause that frequently occurs in construction industry (score=228), followed by late payment (score=231), insufficient financial resources (score=232) and financial market instability (score=349).

Table 10 indicates that poor cash flow management was agreed upon by four professional groups as the root cause of delays, whereas late payment by three professional groups except bankers.

It can be concluded that poor cash flow management was the most significant factor in contributing to delays in construction project in which contractor's instable financial background (score=441), unqualified contractor underbidding the project cost (score=436) and lack of regularly cash flow forecasting (score=425) came under the category. The next significant factor was late payment, under which client's poor financial and business management (score=442) and withhold of payment by client (score=427) fell under. Trailing after them was insufficient financial resources, under which difficulties in obtaining loan from financiers (score=394) came under, and lastly followed by financial market instability under which inflation of material prices, labour wages and transportation costs (score=454) fell under.

## RESPONSIBILITY TO LESSEN DELAYS

Table 11 reveals that clients should bear the greatest responsibility and play the most important role in lessening the impact of financial problems. Approximately 60 per cent of respondents chose clients. A further comment was provided by one respondent that government plays an important role as well.

## SUGGESTED MITIGATION ACTIONS

The findings from the interviews can be classified into three main categories as follows:

- (i) *Payment:* Client should practice prompt payment to main contractor.

**Table 8:** Major financial-related causes of delays

Financial-related problems	Score				
	Client	Contractor	Consultant	Banker	Total
Late payment	58	212	165	15	450
Poor cash flow management	60	211	174	19	464
Insufficient financial resources	64	198	172	17	451
Financial market instability	54	188	161	15	418

**Table 9:** Financial-related causes that frequently occur

Financial-related problems	Score				
	(Rank 1=Most frequent, 4=Least frequent)				
	Client	Contractor	Consultant	Banker	Total
Late payment	36	91	91	10	231
Poor cash flow management	35	98	87	8	228
Insufficient financial resources	33	129	90	10	232
Financial market instability	58	153	126	12	349

**Table 10:** Major financial-related causes of delays from interviews

Respondents	Most significant sub-problem(s)
Clients	Late payment Poor cash flow management
Contractors	Late payment Poor cash flow management
Consultants	Late payment Poor cash flow management
Bankers	Poor cash flow management

**Table 11:** Responsibility to lessen delays

Professionals	Score
Clients	66
Contractors	30
Consultants	8
Bankers	5
Government	1

(ii) *Cash flow management:* Client should:

- Adopt 'financial assignment' to deal with suppliers in order to supply materials to the contractor and obtain direct payment from client.
- Structure the market by dividing the housing development into section.
- Do not over develop.
- Be educated on the importance of 'cash flow management' and the 'financial and business management' in order to have a well cash flow management.

## Contractor should:

- Adopt quota system, so that they do not engage with too many projects.
- Be careful in accessing risk in terms of material, transportation, labour and maintenance profit.
- Be smart in accepting the contract and choose a good paymaster.
- Carry out a lot of cost control internally.
- Apply payment bond with bank and client.



- Be eligible in making payment terms between client and sub-contractor.
  - Be educated on the importance of ‘cash flow management’ and the ‘financial and business management’ in order to have a well cash flow management.
- (iii) *Financial resources*: Banks should:
- Provide end-financing to most of the projects in order to solve most of the client’s cash flow problem.
  - Speed up the process of releasing the loan to the clients after all the conditions had been met.
- (iv) *Legislation*: Legislation should be amended to give a clear message to constructors and clients as to clarify the payment matters and refund procedures. These problems can be mitigated by execution of law in terms and conditions through setting a provision to deal with them. Stringent Act upon the bad payment culture should be executed and the time of money flow between all parties legally should be considered.

## CONCLUSIONS

Delay is a serious issue in construction industry as it impacts the time and cost of projects. Delay in construction projects would cause for extra cost and loss in financial return or other benefits from project. Thus, delay is costly for both owner and contractor. The extent of delays should be reduced by identifying the root causes of financial-related problems and find out the solutions that are able to reduce the extent of delays in construction project.

The survey findings indicated that the root causes of financial-related delays are because of poor cash flow management followed by late payment, insufficient financial resources and financial market instability. Contractor’s instable financial background, client’s poor financial and business management, difficulties in obtaining loan from financiers and inflation were identified as the most significant underlying causes to each of four main factors mentioned above. All parties involved in the construction project agreed on the fact that clients should bear the greatest responsibility and play the most important role in lessening the impact of financial problems and delays.

Several mitigation actions have been suggested by respondents in resolving the problem such as prompt payment by client, practicing ‘financial assignment’ among client, contractor and supplier, divide the housing development into section, be smart in choosing paymaster, be careful in accessing risk, be eligible in making payment term, carry out cost control internally, be educated on the importance of ‘cash flow management’ and the ‘financial and business management’ in order to have a well cash flow management, speed up the process of releasing the loan, amend the term and conditions of contract and so forth.

The findings of the research highlights the importance of having more intensive research that gives emphasis on clients achieving a well-managed cash flow in order to obtain a prompt payment practice in construction industry.

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