

## A FRAMEWORK FOR COMBATING PAYMENT-RELATED ISSUES (PRI) IN THE MALAYSIAN CONSTRUCTION INDUSTRY

Siti Suhana Judi  
Centre of Studies for Quantity Surveying,  
Faculty of Architecture, Planning & Surveying,  
University of Technology MARA, 40450 Shah Alam, Malaysia  
Email: sitiesuhana@gmail.com

Nuremma Mustaffa  
Quantity Surveying Department, Faculty of Built Environment  
University of Technology Malaysia, 81310 Skudai, Johor, Malaysia  
Email: b-nuremma@utm.my

Roselan Nayan  
Quantity Surveying Department, Faculty of Built Environment  
University of Technology Malaysia, 81310 Skudai, Johor, Malaysia  
Email: nayan\_roselan@yahoo.com

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### ABSTRACT

*Payment problems in the Malaysian construction industry are sensitive issues in nature and have relatively increased in number in recent years. In the Malaysian context, there are a number of research's which have investigated on the causes of payment related disputes and it can be comprehended that, payment-related issues are increasing in number from year to year. The objective of the paper is to highlight on the current scenario on payment-related issues in Malaysia and to identify the dire determinants of in ensuring that payment is made on time. A questionnaire survey have distributed to the G7 contractors registered with the Construction Industry Development Board (CIDB) and Client representatives from Real Estate & Housing Developers' Association Malaysia (REHDA). The data obtained was analysed using inferential statistical techniques and the means derived were compared for each type of payment-related issues across different groups of respondent. The findings of the research is expected to help to fill the gaps between theory and practice towards payment-related issues in the Malaysian construction industry and will be useful to the key players in identifying the determinants to ensure on time payment. If the issues of payment in the Malaysia are not managed efficiently, it will create cash flow problems and unnecessary financial stress to the unpaid party.*

Keywords: Payment on time, construction, determinants

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### Introduction

Payment is very important to all the parties involved in construction industry because it is considered as lifeblood for a project. Payment is a sum of money paid to someone in return for goods, work done or services rendered (CIDB, 2012)(Ameer Ali, 2005). In the context of construction industry, payment is the sum of money paid to the contractors after the completion of project assigned to them (Ansah, 2011). With reference to Morgan, (2016), the biggest challenges face by the contractors in their business involve two words i.e. "LATE" and "PAYMENT". Without proper and detail management, the project will be delayed, not constructed within the cost estimated and sometimes it will affect the quality of the end products and indirectly cause the goal of Construction Industry Transformation Plan (CITP 2016-2020) under thrust Quality (Q1) and Productivity (P1) in achievable (CIDB, 2016).

According to Loosemore as cited in Chua, (2012), the construction works involve huge amounts of money and most of the contractors find it very difficult to bear the heavy daily construction expenses if payments are delayed. If the employer fails in the delivery of his obligation relating to payment, it may be regarded as a primary breach of contract (Chambers, 2006). According to Shen et al. (2001) as cited in Abdul-Rahman, Takim, & Min (2009), the majority of the building projects are unable to be completed within the stipulated contract period and the major implication when a project is delayed, would be the increase in cost and time and would affected the actual cost of the project (A. S. Ali, Smith, Pitt, & Chan Hong Choon, 2004). Research done by Ramachandra & Rotimi, (2015) and by Abdul-Rahman, et.al., (2013) have shown the seriousness of payment-related issues that have been in existence in the Malaysian construction industry since the year of 2000. From these researches, it is shown that about 44% of local contractors who are registered with CIDB Malaysia have experienced untimely payment i.e. late payment in government-funded projects and 54% in private funded projects. For non-payment issues, 14% the contractors have not been paid for the works under government-funded projects and 33% in private-funded projects.

In recent year, Abdul-Rahman et al., (2013) has predicted in his research, that since January 2010 the number of the contractors who had been involved in government and private funded projects are 210 (63.1%) and 257 (77.2%) respectively and from that figure, 62.8% (147) of the contractors showed that they have encountered with late-payment situations in Government-funded projects, while 65.4% (178) experienced late-payment in private funded projects. From the above statistics, it shows that from year to year, the percentage of issues in payment keep on increasing for both types of project. Hence, a research needs be conducted in order to investigate the current situation on payment-related issues in the Malaysian construction industry. The justification for the study to be conducted is to compile updated information on the issues of related payment in the Malaysian context because the available data is already regarded as obsolete i.e. the data were collected since year 2000. There is also a need to identify the dire determinants in the payment-related issues because from the previous research conducted, there are a lot of determinants, which have been highlighted in each study but none of the research have classified the determinants into the appropriate group.

## **PAYMENT IN CONSTRUCTION INDUSTRY**

Disputes have been identified as one of the epidemics of the construction industry. According to Jaffar, et al., (2010), a dispute may be said to exist when a claim or an assertion made by one party is rejected or not accepted. According to Muigua (2011), a dispute may be synonymous with a conflict, which may also be described as a situation when one is pursuing objectives that are contradictory with the goals of another. Disputes are common phenomenon in the construction industry, which can be happened between Contractor and Client, Client and an Architect and many other contractual arrangements. It requires proper dispute management to ensure a project will be managed effectively and complete as foreseen by the parties. Abidin, (2006) as in (Ramachandra, Olabode, & Rotimi, (2015) had established a profile on construction disputes and pointed out that payment certificates is the main source of disputes and Jaffar, et al., (2010) in an earlier research deduced that contractual matters related to variations and payments were found to be the main sources of disputes in the Malaysian construction industry.

From a previous study done by Barough, Shoubi & Preece, (2013), late payment (one of the payment-related issues), is one of the most important issues discussed, i.e.70% of respondents totally agree about the arising dispute due to late payment. In their opinion, late payment is a substantial factor, which can lead to disputes in the Malaysian construction industry. In the past, all other reasons are not significant as the main reason was the client's refusal to pay within time or the certified amount in full. Ramachandra & Rotimi, (2015) also quoted while investigating the status of payment disputes in the Austrian construction industry found out that from 40 cases reviewed, 80% were related to progress and final payments.

Most of the construction contracts contain provisions for payment to be made against the types of payment usually issued by the Superintending Officer (S.O.) / Architect. Payment is one of the most important components, which form a major concern to many parties who are involved in the construction industry. In comparison to other industries, it is regarded as so because in construction sector, due to the unique characteristic of construction itself, which consist of the process normally taking a long time and involve high cost to produce the output and terms of payment are being made upon the production of output completed (Ameer Ali, 2006). Payment is a monetary consideration for the contractor's performance and obligations and it is one of the employer's prime obligations in which failure to pay is regarded as a fundamental breach of contract. It is so important to an extent that the employer/client should pay a reasonable sum of money to the contractor if the value of works is not expressly mentioned anywhere in the contract.

Morgan, (2016) spelt out in his research, the waiting time of six (6) months for Clients to pay their bills is not uncommon. From the above situation, it can be deduced that, delaying of payment will be create a lot of problems i.e. cash flow problems, financial stress to the unpaid party etc. and this has been agreed by Fong, (2007) who stated payment is one of the major problems which need to be addressed and it has been identified to be caused by several factors i.e. project finance, unfair contract terms, under-certification, withholding of payment, inadequate dispute resolution procedures and security of payment.

## **TYPES OF PAYMENT IN CONSTRUCTION INDUSTRY**

From a Malaysian context, the payment may be made in three (3) main forms types of payment, consist of Advance Payment (only applicable for government project, which using Traditional contract and Design & Build Contract), Interim Payment and Final Payment (Malaysia Standard Form of Contract, 2010).

### **a) Advance Payment**

Advance payment defined as a sum of money borrowed by the client to the contractor and given at the beginning of the contract three months from the date of possession of the site (Ismail, 2008). In practice, advance payment is given for the government project only as a financial assistance to the contractor to start the work and only applicable for conventional contract and design and build/Turnkey contract only (Special Provision to conditions of contract – Treasury Instruction 10/2001). Provision of advance payment stated in clause 69.1 stated that the contractor should be entitled to an advance payment, i.e. 25% of the value of the Contract Sum after less Prime Cost Sum and value Provisional Sums and Contingencies i.e. "Value of Builder's Work" and subject to a maximum of RM 10 Million (PWD 203A, 2010). This is the sum of money paid to the contractor by the employer well before the work involved is executed. This practice is usually done in public work contracts. The main purpose of implementing this scheme is to help the contractor to start up and finance the contract without resorting to unnecessary external borrowings.

### **b) Interim Payment**

Online Osborn's Concise Law Dictionary, (2013) defined interim payment as: "A payment on account of any damages, debt or other sum (excluding costs) which the employer may be held liable to pay to or for the benefit of the contractor. It required financing the Contractor's operations because most construction work involves considerable sums of money and spanning a considerable length of time. In the case of *Aoki Corp v Lippoland (Singapore) Pte Ltd Warren LH Khoo J* noted that, "progress payments are the lifeline of a building contractor's business" ([1995] 2 SLR 609, at p. 619). Thus, the planning and maintaining of a satisfactory cash flow is vital, especially, where many different participants are involved, and, substantial advance payments are made, in which large sums of money must pass regularly from one party to another (Group, 1991). In other word, interim payment defined as a sum payable to the contractor on a regular basis as specified in the standard form of contract for the value of work, which has been completed plus material supplied and any other eligible items accounted by the contract (Ismail, 2008).

#### c) Final Payment

Ismail, (2008) in his book, defined the final payment as an appropriate amount received either by the contractor or the client after all the contract price adjustment is done. This is the last payment to be made by the employer to the contractor (or by the contractor to the employer) after the completion of the works. This is the method of payment to contractor triggered by the achievement of the contract milestone of practical or substantial completion and/or the so-called handing over of the works to the employer. Hence, unless such stage is reached and certified by the contract administrator, the contractor is not entitled to any payment whatsoever. In using this method, the contractor is basically financing the works to a large degree, which costs would eventually build into the contract sum.

### CLASSIFICATION OF PAYMENT-RELATED ISSUES

In construction industry viewpoint, when the key players in industry discourse on payment-related issues, it will be referred to late payment and non-payment. It same goes in New Zealand, research done by (Ramachandra & Rotimi, 2015), payment problem referred to the payment delays and losses persist in the construction industry and continue to be a key concern to industry practitioners. In Malaysia construction industry, payment-related issues consist of three (3) types i.e. late payment, non-payment and under payment (Judi, 2010).

#### a) Late Payment / Delayed Payment

Harris and McCaffer (2003) as cited in (Abdul Rahman, Wang, Takim, & Wong, (2011), defined late payment as a failure of a paymaster to pay within the period of honouring of certificates as provided in the contract. In simple word, late payment is expressed as a delay in making a payment or payment that is made after the stipulated time frame stated in condition of contract. From the Commercial Transactions Regulations (2002), defined late payment occurs when the payment exceeding the related date and Ameer Ali, (2006) as cited in Judi (2010), defined late payment as a failure by the Employer to pay the Contractor within the time stated in the Contract. In addition, late payment can be summarised when the Client taking longer time than the allocated time (beyond the period of honouring certificate) to issue/making payment to the Contractor.

#### b) Non Payment

Online Oxford Dictionary (2003) defined non-payment as a failure to pay an amount of money that is owed. Ameer Ali, (2005) also well-defined non-payment as a failure to get payment or a sum of money and Ameer (2005) as cited in (Judi, 2010), reveal that, non-payment occurs when the Contractor is not being paid at all for his work or to simplify, the term of non-payment can be expressly stated as no payment is release to Contractor albeit the Contractor has completed certain area of works.

#### c) Under Payment / lesser payment

Nik Din & Ismail, (2014) defined under payment when in the situation the certified and paid amount by the client is lower than the value of Contractor's work done. In the case of an under payment, the client paid the contractor in timely, but only the amount of the payment will be reduced from the certified certificate.

### CLASSIFICATION OF DETERMINANTS IN PAYMENT -RELATED ISSUES

In Malaysia, starting in the year 2000, Master Builders Association Malaysia (MBAM) reveal in the research which collaborates with the Construction Industry Development Board (CIDB), Malaysian construction industry facing the problem in late and non-payment for the private funded project and government funded project. After disclosing the information to the industry on the seriousness of payment problem faced by the industry, in the 2005 University of Malaya collaborate with CIDB stating do the research on the factor or causes leads to the problem in payment. Recently, (Abdul-Rahman et al., 2013) done a research on payment related issues in Malaysia on the title of **Cause, Effect, and Reaction for Late payment and Non-payment Issues in Malaysian Building Sector**, was tabulate the major factor into ten (10) groups, which consist of the following:-

- |  |  |
|--|--|
| a) Client's poor financial management          | b) Client's withholding of payment     |
| c) Contractor's default                        | d) Contractor's work performance       |
| e) Consultant's Quantity Surveyor              | f) Financial market stability          |
| g) Insufficient financial Resources            | h) Conflict among the parties involved |
| i) Delay in certification & Poor Documentation | j) Local culture or Attitude.          |

From the previous research, the authors replicate the factors and develop in appropriate manner in a way to group at different types of payment-related issues.

## RESEARCH METHODOLOGY

For this study an extensive literature review has been carried out as the background of the research in order to understand the topic of this research on the issues, trends and gaps on payment-related issues expressly in the Malaysia construction industry. It should be highlighted here that the research has laid down two different objectives, which comprise of Objective 1, which is to identify the current scenario on payment-related issues in Malaysian context and Objective 2, which is to identify the dire determinant to ensure payment on time.

For objective 1 and 2: The quantitative approach will be run-through in the form of questionnaires survey. For this objective, the survey will be focusing on payment-related issues occur starting from the year of 2011 until 2016. The time frame was set until 2016 because the authors predict payment-related issues will be resolve or reduce after the implementation of Construction Industry Payment and Adjudication Act (CIPAA) in Malaysian construction industry. The target respondents are from the large-scale contractor (G7 contractors) which registered with Construction Industry Development Board (CIDB) and representative from Employer/Client companies (which registered with REHDA). All the respondent population comes from all states in Malaysia including Sabah and Sarawak. The sampling used in this research is based on non-probability sampling i.e. Convenience sampling. The justification to choose quantitative method for the objective 1 and 2, the method is highly efficient where a large sample selection from a predetermined population is involved, and is relatively inexpensive (Kelley et al., 2003). The questionnaire will be analysing using SPSS Version 21.0. The main purpose of using questionnaire to get the current on the level of knowledge of the respondents on the payment-related issues, experience and awareness of the respondents on the payment-related issues in Malaysia construction industry and will be rank the determinants to each payment-related issues categories. The survey will be analysed responses from both parties and for the analysis purposes; the finding will be explained concurrence between Clients and Contractors respectively. Using the information gathered from Objective 1, 2 a proactive for preventive payment issues framework will be develop.

## ANALYSIS OF FINDING

### Profile of Respondent

The first part of the questionnaire addressed the research participants' demographic details. Participants were required to indicate demographic information of the sector group they belong to, their profession in the organization, the nature of the business involved, the numbers of years of experience in the organization and in the construction industry, and the type of projects undertaken in their organization. The number of responses received from both respondents i.e. Client (Private and Public) and G7 Contractor's Company.

One hundred and thirty eight questionnaires were returned within six months of being sent out, making the total response rate 34.5 percent. 43 responses received from Client's representatives, which is from different background i.e. from public organizations (Public Work Department from various divisions, Dewan Bandaraya Kuala Lumpur (DBKL), etc.), from private organizations (registered with Real Estate & Housing Developers Association Malaysia (REHDA), and from Government Linked Companies (GLC's). From the other part, close to 95 responses received feedback from G7 contractors' representatives, who is registered in Construction Industry Development Board (CIDB) Malaysia directory. From the statistic above, it can be summarized that the feedback received from both main key players in the construction industry will help to resolve the major issue in payment-related in the Malaysian construction industry.

**Table 1: Summary of the designation of the respondents in their organization**

Designation in the organization	Client	Contractor	Total	Percent
Chief Executive Officer (CEO)	0	4	4	2.90
Quantity Surveyor	26	62	88	63.37
Contract Manager	3	12	15	10.87
Project Manager	10	10	20	14.49
Others	4	7	11	7.97

From the total of 143 respondents, more than 60% (88 responses) are from the background of Quantity Surveyors, while almost 15% (20 responses) and more than 10% (15 responses) are Project Managers and Contract Managers, respectively. Another 8% of the respondents are from different positions i.e. Assistant General Manager, Development Manager, Site Supervisor, and Cost Control Engineer, of which all respondents are familiar with the research topic i.e. payment-related issues. From the table above, close to 3% (4 responses) received a response from Chief Executive Officers (CEO) of the company.

Overall, taking into account both categories of responses, even though more than 60% respondents were in the Quantity Surveyor background, it should not be presumed that the answers given by them would be biased at all. This is because as we know, a Quantity Surveyor is a party whose responsibility is more related to the task of preparation of the payments, as compared to the other position. Apart from this reason, the availability of responses given by respondents of different positions also makes the research findings more variety.

**Analysis Section B – To Identify Current Situation on Payment-Related Issues**

This section presents an analysis of the current situation on the nature of payment-related issues towards the types of payments involved during the construction period. In this research, the entire respondents were required to indicate information regarding their experiences in facing payment problems between the years 2011–2016. For this section, it was consisted of Eleven (11) questions. For this section, the respondent may choose more than one answer and the answer would be solely based on the experience of the respondent in their current organization.

**Table 2: Overall summary of the company experience towards payment related issues**

Experience companies facing payment related issues in year 2011-2016		Client	Contractor	Total	Percent
	YES	37	90	127	92.03
	NO	6	5	11	7.97

Referring to Table 2 above, it shows that 92% (127 responses) stated that their organizations were facing payment-related issues during construction period i.e. late in payment, non-payment and under payment. From the response, only 8% (11 responses) responded that their organization did not have an experience in facing any payment related issues during construct the project. From the statistical data above, it can deduce that the payment-related issues are still a terrible in our construction industry.

**Table 3: Type of funded project**

The types of finance for the projects	Client	Contractor	Total	Percent
Government-Funded	19	51	70	42.68
Private Funded	27	67	94	57.32

The findings have been summarised in Table 3, it shows that the majority of the respondents 57%(94 responses) and 43% (70 responses) agreed that both types of projects, either funded by the government or private institutions, are equally exposed to payment-related issues such as late payment, non-payment and under payment. From the above table, it shows that both respondents had an experience in handling the projects with facing payment-related issues.

After confirming payment-related issues still arise in our construction industry, the next question the respondents were required to answer more in depth in line with the first objective of the research to identify current situation on payment-related issues in the Malaysian construction industry. For the second question, respondents were given the frequency scale from 0 (zero) to indicate the matters NEVER happen until frequency scale number 4 (four) to indicate the situation VERY OFTEN happen in their daily routine.

**Table 4: The causes of Advance Payment – Late Payment**

The level of causes	Client	Contractor	Total	Percent
Never	15	47	62	44.94
Rare	13	18	31	22.46
Sometimes	11	22	33	23.91
Often	3	8	11	7.97
Very Often	1	0	1	0.72

From the feedback, referring to Table 4, the majority of respondents, which is 45% (62 responses) agreed that their organizations never facing problem in advance payment causal by late in payment. Even though majority of the respondent agreed that late payment never happen during in the transaction between client to the contractor, but from the table above, it can deduce that more than 50% (76 responses) stated that late payment issues still happen in their organisation in such condition i.e. rare 22%(31 responses), sometimes 24%(33 responses), often 8%(11 responses) and 1% (1 responses).

**Table 5: The causes of Advance Payment – Non Payment**

The level of causes	Client	Contractor	Total	Percent
Never	38	70	108	78.26
Rare	1	13	14	10.15
Sometimes	3	8	11	7.97
Often	1	4	5	3.62
Very Often	0	0	0	0

From the feedback, referring to Table 5, close to 80% (108 responses) agreed that their organizations Never facing problem in Advance payment causal by non-payment. However, from the statistical data from the table above, more than 20% (20 responses) spelt out in their survey, it still the number to prove that non-payment issues still happen in a transaction in advance payment. From the table above, it can deduce that late payment issues still happen in their organisation in such condition i.e. rare 10% (14 responses), sometimes 8%(11 responses) and often 4%(5 responses).

**Table 6: The causes of Advance Payment – Under Payment**

The level of causes	Client	Contractor	Total	Percent
Never	36	63	99	71.74
Rare	2	11	13	9.42
Sometimes	2	14	16	11.59
Often	3	7	10	7.25
Very Often	0	0	0	0

Referring to Table 6, more than 70% (99 responses) agreed that their organizations Never facing problem in Advance payment causal by under payment. However, from the statistical data from the table above, it was same goes with non-payment, more than 30% (39 responses) spelt out in their survey, it still the number to prove that under payment issues still happen during transaction advance payment from client. From the table above, it can deduce that late payment issues still happen in their organisation in such condition i.e. rare 9% (13 responses), sometimes 12%(16 responses) and often 7%(10 responses). From the situation above, it can be summarized that advance payments are usually associated with payment-related issues only late in payment compared to non-payment or under payment. This is because advance payment will be paid in lump sum amount at initial stage before contractor start the work.

**Table 7: The causes of interim payment –late payment**

The level of occurrence	Client	Contractor	Total	Percent
Never	10	11	21	15.22
Rare	7	9	16	11.59
Sometimes	6	36	42	30.44
Often	14	25	39	28.26
Very Often	6	14	20	14.49

As depicted in Table 7, more than 30% (42 responses) declared that in interim payment, which was typically caused by late payment, sometimes happen in their organizations and more than 10% (20 responses) and 20% (39 responses) deduce that late payment very often and often happen during interim payment transaction respectively. Only 11% (16 responses) stated the issues of late payment rare happen during interim payment transaction.

**Table 8: The causes of interim payment – non payment**

The level of occurrence	Client	Contractor	Total	Percent
Never	31	53	84	60.87
Rare	6	17	23	16.67
Sometimes	3	17	20	14.49
Often	3	8	11	7.97
Very Often	0	0	0	0

With reference to Table 8, for interim payment, more than 60% (84 responses) spelt out that non-payment issues never happen in interim payment. More than 15% (23 responses) and 10% (20 responses) deduce that late payment rare and sometimes happen in interim payment respectively. From the data, only 8% (11 responses) stated that the situation of late payment very often happens in interim payment. From the data, it can deduce that, in the interim payment problem of non-payment is lesser happen compared late and under payment.

**Table 9: The causes of interim payment – under payment**

The level of causes	Client	Contractor	Total	Percent
Never	21	32	53	38.41
Rare	8	10	18	13.04
Sometimes	7	14	21	15.22
Often	5	28	33	23.91
Very Often	2	11	13	9.42

Table 9 depicts the results that, for issue for under payment in interim payment, only 40% (53 responses) agreed that their organizations never facing under payment or lesser in receiving payment. Another 10% (13 responses) and more than 20% (33 responses) agreed that their organization very often and often facing the problems respectively. The balance of 15% (21 responses) and 13% (18 responses) deduce that under payment sometimes and rarely happen in their organization respectively.

From the above situations, it can be summarized that interim payment are usually associated with payment-related issues either late in payment, non-payment or under payment.

**Table 10: The causes of final payment – late payment**

The level of causes	Client	Contractor	Total	Percent
Never	9	18	27	19.57
Rare	8	7	15	10.87
Sometimes	6	22	28	20.29
Often	10	30	40	28.98
Very Often	10	18	28	20.29

From the respondents' feedback, referring to Table 10, the majority of respondent i.e. almost 30% (40 responses) agreed that their organizations often facing late payment issues in final payment. Another 20% (28 responses) and very often-facing late payment issues in final payment respectively. From the table above, shows that and 20% (28 responses) spelt out their organization only sometimes facing late payment in final payment. From the figure above, only 10% (15 responses) and close to 20% (27 responses) for the situation, which the problem late payment rare and never happen in their organization respectively.

**Table 11: The causes of final payment – non payment**

The level of causes	Client	Contractor	Total	Percent
Never	32	51	83	60.14
Rare	5	16	21	15.22
Sometimes	4	13	17	12.32
Often	2	10	12	8.70
Very Often	0	5	5	3.62

From the respondents' feedback, referring to Table 11, more than 60% (83 responses) agreed that their organizations never facing non-payment problem in final payment. It was followed by a situation where 15% (21 responses) agreed that non-payment was rare happen during payment at the final stage of the payment. Another 12% (17 responses) and 8% (12 responses) agreed that non-payment only sometimes and often happen during final payment respectively, and only 4% (5 responses) spelt out that non-payment very often happen in final payment.

**Table 12: The causes of final payment – under payment**

The level of causes	Client	Contractor	Total	Percent
Never	21	42	63	45.65
Rare	8	14	22	15.94
Sometimes	7	14	21	15.22
Often	5	14	19	13.77
Very Often	2	11	13	9.42

From the respondents' feedback, referring to Table 12, more than 40% (63 responses) agreed that their organisations never facing under payment in final payment. It was followed by situation where 15% (21 responses) agreed that non-payment was rare happen during payment at final stage of payment. Another 12% (17 responses) and 8% (12 responses) agreed that non-payment only sometimes and often happen during final payment respectively. And only 4% (5 responses) spelt out that non-payment very often happen in final payment.

From the table above, it can be concluded from the findings that final payment are usually associated with late in payment issues, compared to under payment or non-payment. This can be mainly due to the fact that the contractor are required to submit a claim as stated in Clause 31.1 (PWD 203A Rev.1/2010) and S.O. checks all the claim and within 30 days after final certificate prepared by the S.O., the contractor will be received a payment.

**Table 13: definition of late payment**

No.of delay (day)	Client	Contractor	Total	Percent
2		1	1	0.72
7		3	3	2.17
10	2	2	4	2.91
14	5	9	14	10.15
15	3	4	7	5.07
20	1	3	4	2.91
21	1	1	2	1.45
25		1	1	0.72
28	1		1	0.72
30	23	51	74	53.62
32	1		1	0.72
40		1	1	0.72

45	3	4	7	5.07
60	2	10	12	8.70
65	1		1	0.72
75		1	1	0.72
90		4	4	2.91

Based on the Clients' and Contractor's responses, referring to Table 13, the majority of the respondents i.e. 54% (74 respondents), stated that 30 (thirty) days on the working days is considered as a late payment and it was referred from the expired date of the certificate. The minimum number of delayed which respondents can be accept is 10 days of working days and maximum number of days which the respondents can tolerate and acceptable is up to 60 days of working days. From the table above, the range of definition for late payment, which can consider as acceptable is within the range 10- 60 days on the working days.

**Table 14: Definition of non-payment**

Number of certificate	Client	Contractor	Total	Percent
1	9	29	38	28
2	27	38	65	47
3	7	21	28	20
4		5	5	4
5		2	2	1

With regards to the definition of non-payment, based on Table 14, the majority of Client and Contractor reveal that 62.8% (27 respondents) and 40% (38 respondents) respectively, agreed that a delay in receiving payment for two (2) cycle certificates can be considered as a non-payment. Based on the open-ended question, the Client responded that the range number of certificate, which is issued for which no payment is made, is between 1 to 3 certificates and Contractors responded that the range of certificates which are issued for which no payment is made is between 1 to 5 certificates. After certificate number 5, if the client still does not pay the contractor, it can then be regarded as a dispute.

**Table 15: Definition of under payment**

Amount	Client	Contractor	Total	Percent
Less 5%	7	17	24	17.39
5%-10%	8	16	24	17.39
10-15%	12	31	43	31.16
15-20%	6	9	15	10.87
More 20%	10	22	32	23.19

To determine and define the meaning of under payment, based on Table 15, majority of the respondent i.e. Client (27.9%, 12 respondents) and Contractor (31.6%, 30 respondents), agreed that when the contractor received less than 10-15% from the recommended amount as stated in the certificate, this can be considered as under payment. From the Client's opinion, 7 respondents (16.3%) stated the minimum amount, which will be considered is less than 5% from recommended amount and 9 respondents (20.9%) stated if received more than 20% less from recommended amount considered as under payment. From the Contractor's side, 17 respondents (17.9%) stated the minimum amount, which will be considered is less than 5% from recommended amount and 22 respondents (23.2%) stated if received more than 20% less from recommended amount considered under payment.

**Section C: To identify the dire determinants of payment-related issues**

For Section C, the respondents required to show the level of understanding for each causal factor for late payment, non-payment and under payment. In this section, agreement scale of 1 (Strongly Disagree) to 5 (Strongly Agree) will be presented. In this section, all the information will be analyse using descriptive method. Based on Table 16, it shows that all the determinant for each payment-related issues. For the analytical purposes, the data will be tabulate overall, since the objective of the study to identify the dire determinants for each type of payment-related issues towards each of type of payment.

**Table 16: Determinant for late payment**

Determinants	Overall Mean	Rank	Client		Contractor	
			Mean	Rank	Mean	Rank
Slow processing and delay in finalizing of Variations in Interim Payment	3.8914	1	3.9302	3	3.8526	1
Poor quality of work lead to client's dissatisfaction	3.6742	2	4.2326	1	3.1158	26
Involvement too many parties in the process of honouring interim certificate	3.6721	3	3.7442	6	3.6000	5



Determinants	Overall Mean	Rank	Client		Contractor	
			Mean	Rank	Mean	Rank
Delay in evaluation and certification of interim payment	3.6688	4	3.6744	10	3.6632	3
Bureaucracy procedures of payment process	3.6679	5	3.7674	4	3.5684	7
Contractor's work do not adhere to required standard of specification	3.6404	6	4.1860	2	3.0947	27
Ineffective utilization of funds	3.6065	7	3.5814	14	3.6313	4
Sales of houses do not hit the targeted amount	3.5453	8	3.5116	17	3.5789	6
Scarcity of capital to finance the project	3.5445	9	3.6047	13	3.4842	9

Referring Table 16 depicts that the majority of the respondents agreed that the dire determinant for late payment cause by **contractors default** with overall mean (3.8914). The dire determinants causes by contractors default contribute from slow processing and delay in finalizing of Variations Order. It was agreed also by the Contractor's side, which the determinant is major contributor to late payment issues in payment with mean (3.8526) and the from the Client's side, this factor fall under number 3 (three) the most critical in late payment issues. Slow processing and delay in finalising of variation order normally involved at interim payment and final payment. When the variation order not manage in order it will affect the process in releasing payment either in interim payment or final payment.

**Table 17: Determinant for Non Payment**

Determinants	Overall Mean	Rank	Client		Contractor	
			Mean	Rank	Mean	Rank
Contractor work do not adhere to required standard specification	3.7044	1	4.093	1	3.3158	14
Slow processing and delay in finalizing of Variations in Interim Payment	3.6776	2	3.8605	3	3.4947	7
Poor quality of work lead to client's dissatisfaction	3.6538	3	4.0233	2	3.2842	15
Involvement too many parties in the process of honouring interim certificate	3.6059	4	3.7907	4	3.4211	11
Delay in evaluation and certification of interim payment	3.5962	5	3.6977	6	3.4947	9
Deficiencies in client management capacity	3.5960	6	3.5814	11	3.6105	2
Ineffective utilization of funds	3.5907	7	3.5814	10	3.6000	3
Disagreement of the valuation of work done	3.5846	8	3.6744	7	3.4947	8
Shortage allocation of fund due to Variation Orders (V.O)	3.5783	9	3.6512	9	3.5053	6
Scarcity of capital to finance the project	3.5517	10	3.5349	12	3.5684	4
Delays in releasing retention monies to contractor	3.5334	11	3.3721	25	3.6947	1

Referring Table 17, illustrates that the majority of the respondents agreed that the dire determinant for non-payment cause by **Contractors work performance** with overall mean (3.7044). The dire determinants causes by contractors work performance contribute from Contractor works do not adhere to required standard specification. It was agreed also by the Client's side, which the determinant is major contributor to non-payment issues in payment with mean (4.093) and the from the Contractor's side, this factor fall under number 14 (fourteen) and consider moderately agreed with the determinants.

**Table 18: Determinant for Under Payment**

Determinants	Overall Mean	Rank	Client		Contractor	
			Mean	Rank	Mean	Rank
Slow processing and delay in finalizing of Variations in Interim Payment	3.7009	1	3.9070	3	3.4947	7
Contractor work do not adhere to required standard specification	3.6696	2	4.0233	2	3.3158	14
Poor quality of work lead to client's dissatisfaction	3.6538	3	4.0233	1	3.2842	15
Disagreement of the valuation of work	3.5264	4	3.5581	7	3.4947	8

done						
Deficiencies in client management capacity	3.5262	5	3.4651	17	3.6105	2

Referring Table 18, shows that the majority of the respondents agreed that the dire determinant for non-payment cause by that the majority of the respondents agreed that the dire determinant for late payment cause by **Contractors default** with overall mean (3.7009). The dire determinants causes by contractors default contribute from slow processing and delay in finalizing of Variations Order. From the client's responses, there was agreed that the determinant is major contributor to under payment issues in payment with mean (3.9070) and the from the Contractor's side, this factor fall under number 3 (three) the most critical in late payment issues. Slow processing and delay in finalising of variation order normally involved at interim payment and final payment. When the variation order not manage in order it will affect the process in releasing payment either in interim payment or final payment.

## CONCLUSION

This paper is focusing on current situation of payment-related issues (PRI) in the Malaysian construction industry starting from the year 2011 until 2016 and the research focusing to identify the dire determinants for each payment-related issues (PRI) to ensure timely in payment. It can be summarised that from the research conducted, payment problems are still prevalent dilemma from the top down of the hierarchy i.e. payment from client to main contractors either in advance payment, interim payment or final payment. Based on the 138 responses i.e. 43 responses from clients and 95 responses from G7 Contractors, payment-related issues (PRI) are happened in their organisation (private, public or government-linked company).

To reduce the problem in payment from becoming a dispute, this paper aims to identify and rank the dire determinants for each payment-related issues to ensure timely in payment. From the inferential analysis, there are top five (5) dire determinants identified for each payment-related issues. For late payment issues, respondents (Clients and Contractors) agreed that main reason is slow processing and delay in finalizing of variation in payment (overall mean = 3.8914), poor quality of work lead to client's dissatisfaction (overall mean = 3.6742), involvement of too many parties in the process of honouring interim certificate (overall mean = 3.6721), delay in evaluation and certification of interim payment (overall mean = 3.6688) and bureaucracy procedures of payment process (overall mean = 3.6679) are major factor's for late payment issues. For dire determinants in non-payment, contractor work do not adhere to the required standard specification (overall mean = 3.7044), slow processing and delay in finalizing of variations in interim payment (overall mean = 3.7667), poor quality of work lead to client's dissatisfaction (overall mean = 3.6358), involvement of too many parties in the process of honouring interim certificate (overall mean= 3.6059) and delay in evaluation and certification of interim payment (overall mean = 3.5962) are major factors for non payment issues. For under payment, slow processing and delay in finalizing of variations in payment (overall mean = 3.7009), contractor work do not adhere to the required standard specification (overall mean = 3.6696), poor quality of work lead to client's dissatisfaction (overall mean = 3.6538), disagreement of the valuation of work done (overall mean = 3.5264) and deficiencies in client management capacity (overall mean = 3.5262) identified as major factors for under payment issues. From the dire determinants for each payment-related issues (PRI) above, it can be summarised that, for late payment and under payment, the major factor is slow processing and delay in finalizing of variations of work and contractor work do not adhere to the required standard specification can be concluded as a major contributor for non-payment issues. From the findings, if the payment-related issues resolve before become a disputes, the Construction Industry Transformation Plan (CITP 2016-2020) under 2 thrust i.e. Quality (Q1) Increase emphasis on quality and implement quality assessments and Productivity (P1) Continue investment in human capital development in construction project will be achieve in term of TIME, COST and QUALITY and also if the payment-related issues overcome at early stage, it will increase the productivity to all the parties involve.

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