



**6th UNDERGRADUATE
SEMINAR ON BUILT
ENVIRONMENT
AND TECHNOLOGY
(USBET) 2023**

**SUSTAINABLE BUILT
ENVIRONMENT**

25 - 27 SEPTEMBER 2023

E-PROCEEDING

USBET 2023



e-Proceeding

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Published by,

Department Of Built Environment Studies And Technology
Faculty Of Architecture, Planning & Surveying
Universiti Teknologi MARA Perak Branch, Seri Iskandar Campus
usbet.fspuperak@gmail.com

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eISSN 2821-3076



9 772 821 307 002

02 October 2023 | Perak, Malaysia
Universiti Teknologi MARA, Perak Branch, Seri Iskandar Campus

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6th Undergraduate Seminar on Built Environment and Technology 2023

- E- Proceedings-

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College of Built Environment (KAB) UiTM Perak Branch



FACTORS CONTRIBUTING TO PROGRESS PAYMENT PROBLEMS IN MALAYSIAN CONSTRUCTION PROJECTS

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ABSTRACT

Payment like interim payment is the most important in construction projects because it is the lifeblood that keeps the project operating efficiently. Timely and accurate payments are necessary to maintain a good cash flow, allowing contractors to meet their financial obligations to pay workers. However, the construction project is prone to numerous payment problems, such as delayed payment and non-payment. Delayed payment is a common issue in which contractors are not paid on time, resulting in cash flow problems and significant project delays. The objective of this research was to identify the factors contributing to progress payment problems in Malaysian construction projects. The research methodology used was a quantitative method via a questionnaire survey. A total of 106 questionnaires has been distributed to grade G1 until G5 contractor in Klang Valley through a stratified random sampling method, and 52 questionnaires have been returned. The Statistical Package for the Social Sciences (SPSS) version 28 software was used to analyse the data. From the findings, it was found that most of the respondents agreed with the factors contributing to progress payment problems in Malaysian construction projects. The findings will help the project stakeholders overcome the payment problems and ensure project completion within the specified time, cost, and quality.

Keywords: *construction project, factors, payment problems*

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INTRODUCTION

A payment is a sum of money from one party to another (Haron & Arazmi, 2020). The payment has been calculated based on the worth of any labour, supplies, or products included in the contract (Haron & Arazmi, 2020). They stated that payment needs to be paid fully and promptly, except if circumstances delay the process. In a construction contract, the payment is divided into two categories: interim payment and final payment. Construction players involved in the payment process ensure the payment can be made properly. Based on Clauses Regarding Payment under PWD Form 203A (Rev. 1/2010), a contractor must fulfill his obligation, as confirmed early in the construction contract to carry out all the works. In addition, the client is obligated to fulfill his commitment to reimburse contractors for their work. Since payment is one of the primary commitments made in agreements between parties, failure to make the payment on time may constitute a breach of those agreements. It is a critical measure and factors in evaluating how well the contractor performed on the construction project (Haron & Arazmi, 2020).

Moreover, a construction project will be excellent if all payments are made properly. This makes it easier for the contractor to engage workers and purchase materials of the highest quality, among other things (Haron & Arazmi, 2020). This really shows that payment is a crucial component of construction projects because it is the lifeblood of the construction industry, particularly for contractors tasked with ensuring that all parties, including subcontractors, suppliers, and employees, have an uninterrupted cash flow in order to carry out their duties effectively (Judi & Mustafa, 2023).

Apart from that, Luo et al. (2019) stated that construction projects frequently experience payment problems. Judi and Mustafa (2023) stated that payment problems are a delicate matter, and their underlying causes must be addressed to ensure that projects are completed within the specified time, cost, and quality parameters. According to Masrom et al. (2021), the major problems occurring in payment are delayed payment and non-payment. These problems remain in the construction industry. These payment problems involved numerous phases and parties at all levels. It frequently involves the main contractor, the subcontractors, and the contractor and the client. Even though there have been many studies on payments, it is still up for debate what elements, particularly in private construction projects, contribute to payment problems. Late payment is one of the problems occurring in construction projects in Malaysia (Fateh & Yee, 2021; Haron & Arazmi, 2020). Payment issues at the top of the hierarchy have significant knock-on effects that affect the cash flow throughout the contracts. A seamless cash flow was necessary for the contractor to ensure their work was properly completed. Construction work is only stopped if there is not enough money available for the contractor to buy the supplies required for the project (Ping, 2018). This scenario directly effects the duration of the entire project. In addition, Fateh and Yee (2021) stated that late payment is an important problem that hinders progress and can result in delays, disputes, and project termination. Inadequate business and financial management by clients, payment withholds by clients, invalid claims by contractors, delays in valuation and certification processes, inaccurate valuation of completed work, inadequate information and documentation, and misunderstandings regarding variation orders are the root causes that can contribute to late payment (Fateh & Yee, 2021).

Furthermore, according to Fateh and Yee (2021), non-payment continues to be a significant problem in the construction industry, especially in Malaysia. Azman et al. (2014) also stated that non-payment is a significant issue in Malaysian construction projects. This non-payment that has drawn complaints from the parties in the construction projects. Contractors frequently face the problem of late or nonpayment of interim payments, which has a negative consequence on the construction project (Azman et al., 2014). Additionally, Fateh and Yee (2021) stated that non-payment problems are exacerbated by financial factors such as the withholding of payment by approval parties and unfavourable economic conditions. Therefore, there is a need to determine the factors contributing to progress payment problems in construction project in order to ensure the contractor can complete the works within time, cost and quality.

LITERATURE REVIEW

Payment in Construction Projects

According to Luo et al. (2019), payment is a crucial factor that affects the success and progression of construction projects. The researchers then stated that in construction projects, payment entails the transfer of funds between project stakeholders, such as owners, contractors, subcontractors, and suppliers, in exchange for the work and services rendered. In construction projects, payments are typically made in stages based on the amount of work done by the contractors. There are various payment types in Malaysia. According to the Malaysia Standard Form of Contract (2010), three payment types in Malaysia are Advance Payment, Interim Payment, and Final Payment. Advance Payment is only for government projects that use Traditional Contracts and Design & Build Contracts.

According to Ismail (2008), advance payment is a quantity of money the client lends to the contractor and gives to the contractor at the commencement of the contract. This payment is due three months after the client takes possession of the site. Judi et al. (2017) stated that advance payment is only for government projects that use Traditional Contracts and Design & Build Contracts. There is the provision of advance payment stated in clause 69.1, which said that the contractor should be entitled to an advance payment, amounting to 25% of the Contract Sum after less Prime Cost Sum and value Provisional Sums and Contingencies that is, "Value of Builder's Work" and subject to a maximum of RM 10 million (PWD 203A, 2010). Furthermore, Judi et al. (2017) stated that the employer pays the advance payment amount to the contractor well before the work is performed. This is a common practice in public work contracts. The primary objective of this programme is to assist the contractor in starting up and financing the contract without resorting to unneeded external borrowings.

Osborn's Concise Law Dictionary defines Interim payment as: "A payment on account of any damages, debt or other sum (excluding cost) 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 spans a considerable length of time". Judi et al. (2017) also stated that Interim payment is a sum payable to the contractor regularly, as stipulated in the standard

contract form, for the value of work completed plus the cost of materials supplied and any other eligible items accounted for under the contract.

After all contract price adjustments have been made, the contractor or the client receives the final payment. This is the last payment that the employer must give to the contractor or by the contractor to the employer upon completion of the project. This is the payment method to the contractor triggered by practical or substantial completion or the so-called handover of the works to the employer. Therefore, unless this step is reached and certified by the contract administrator, the contractor has no right to payment. Using this strategy, the contractor is essentially funding a significant portion of the works, the costs of which will later be included in the contract total (Judi et al., 2017).

Scenario of Payment Issues in Malaysia

Payment problems in the Malaysian construction industry are delicate problems that have risen over the past few years (Judi et al., 2017). According to Judi et al. (2017), payment is monetary compensation for the contractor's performance and obligations, and failing to pay is considered a fundamental breach of contract by the employer. Suppose the worth of the work is not explicitly stated in the contract. The client must pay the contractor an appropriate amount.

Furthermore, progress payment problems significantly affect the accomplishment of construction contracts. This is especially true when smaller construction contractors are involved, as these contractors depend highly on cash flow to maintain their company operations. Even if contractual protections and laws exist, construction payment problems are prevalent (Asuquo & Effiong, 2017). According to Azman et al. (2013), if the contractor is not paid regularly and in a timely manner, it could delay the project, lower profits, or even cause the company to go bankrupt. Since subcontractors, suppliers, hirers, and everyone else in the construction value chain suffers when clients do not pay the primary contractors on schedule, this is a problem for the entire industry.

Factors Contributing to Progress Payment Problems in Construction Project.

Payment problems are not a novel issue in construction projects. Several recent studies have noted that many factors can contribute to progress payment problems. According to Ping (2018), the factors that contributed to the late payment were contractor factors, client factors, and contractual matters considerations. Ping (2018) then stated that the factors contributing to progress payment problems were contractor factors, client factors, and contractual matters considerations. Table 1 presents the summary of contributing factors discussed among the previous researchers. Based on the table, there are ten (10) contributing factors identified which are poor financial management and the client's financial position, bureaucratic procedures, delay in payment certification, culture created by the construction parties themselves, contractors' inaccurate claim, slow processing and delay in the finalisation of the variation order, insufficient funds due to the variation order, dispute

over the amount of valuation of works, delay in interim payment evaluation and certification and lack of knowledge of the standard construction contract.

Table 1: Previous research on the constraints that women faced in Malaysia's construction projects

NO	PARAMETERS	AUTHORS	FREQUENCY
1	Poor financial management and the client's financial position.	Ping (2018), Masrom et al. (2021), Niazi & Painting (2017), Ansah (2011), Peters et al. (2019), Ramachandra & Rotimi (2015)	6
2	Bureaucratic procedures	Judi & Mustafa (2023), Asuquo & Effiong (2017), Niazi & Painting (2017), Peters et al. (2019), Ramachandra & Rotimi (2015)	5
3	Delay in payment certification	Masrom et al. (2021), Asuquo & Effiong (2017), Odenigbo et al. (2020), Amaoko (2011), Fateh & Hee (2021)	5
4	Culture created by the construction parties themselves	Masrom et al. (2021), Ansah (2011), Peters et al. (2019), Azman et al. (2014), Ye & Rahman (2010)	5
5	Contractors' inaccurate claim	Ping (2018), Ansah (2011), Illankoon et al. (2019), Abdul-Rahman et al. (2014)	4
6	Slow processing and delay in the finalisation of the variation order	Judi & Mustafa (2023), Fateh & Hee (2021), Ramachandra & Rotimi (2015)	3
7	Insufficient funds due to the variation order	Judi & Mustafa (2023), Mazahar (2019)	2
8	Dispute over the amount of valuation of works	Judi & Mustafa (2023), Asuquo & Effiong (2017), Azman et al. (2014)	3
9	Delay in interim payment evaluation and certification	Judi & Mustafa (2023), Asuquo & Effiong (2017)	2
10	Lack of knowledge of the standard construction contract	Ping (2018), Asuquo & Effiong (2017), Ansah (2011), Adaku et al. (2023)	4

Poor financial management and the client's financial position.

The factors related to clients are poor financial management and the client's financial position (Ramachandra & Rotimi, 2015; Peters et al., 2019). The client's financial resources may come from his funds, bank loans, or investments. Poor financial management on the client's part results in insufficient funds for the project's building process. Thus, late progress payment problems emerge due to the client's bad financial management and condition, effecting the project's success level (Ping, 2018). Ping (2018) then stated that if clients have limited financial resources or struggle to manage their finances effectively, they may have difficulty paying their bills on time or in whole. Additionally, if the client has not planned appropriately for their financial obligations or has taken on too much debt, this can lead to progress payment problems (Niazi & Painting, 2017). There is a study based on Ghana's construction industry perspective supports that poor financial management and the client's financial position are one of the factors responsible for the progress payment problems (Ansah, 2011). Additionally, Masrom et al. (2021) stated that poor financial administration on the part of the paymaster may result in insufficient operating funds when the payees are due payment.

Bureaucratic procedures

Bureaucratic Procedures are the cause of the delay in payment certification (Judi & Mustafa, 2023; Peters et al., 2019; Asuquo & Effiong, 2017; Niazi & Painting, 2017). Bureaucratic procedures refer to the formal rules and processes that must be followed in order to carry out tasks or make decisions within a bureaucratic organization (Judi & Mustafa, 2023). These procedures are typically designed to ensure consistency, accountability, and compliance with laws and regulations. Judi and Mustafa (2023) stated that the client's organization's intrinsic hierarchy problem was one of the causal components in the late payment and underpayment problems. When the contractor submitted a claim to the customer in this scenario, the claim had to be approved by management or superiors at various levels. In many situations, the clients also had various standard operating procedures, which complicated matters further by forcing contractors to follow the specified protocols and other requirements.

Furthermore, Peters et al. (2019) stated that a lack of qualified personnel and a laissez-faire work culture can exacerbate bureaucratic processes. Frequently, multiple agencies are required to sign the release of payment, and in some of these organisations, multiple signatures may be required.

Delay in payment certification

Based on the finding from Masrom et al. (2021), various factors lead to progress payment problems. The highest-ranked factor contributing to the progress payment problems is a delay in payment certification. Delays in payment certification are because of the ineffective payment procedure. Certification is necessary for the contractor to receive payment from the client for the quantity of work completed. If the certification was submitted late, it is possible that the contractor will not receive payment from the client on time (Masrom et al., 2021). Supported by Odenigbo et al. (2020), the client, the contractor, and each active participant in the project are all essential components of the payment chain process. The problem with payments in

the construction business significantly affects all of the industry's stakeholders. When one of the parties involved in a construction project delays payment, it can disrupt the whole payment chain for the project (Odenigbo et al., 2020). The cash flow issue is closely connected to the problem of delayed payments.

In addition, according to Asuquo and Effiong (2017), uncontrollable incidents may have a catastrophic effect on smaller contractors. If the client uses his right to withhold payment owing to the default of the main contractors, the subcontractor, who may have performed his task satisfactorily, will not get paid (Amaoko, 2011). There is no privity of contract between the subcontractor and the owner. Hence a subcontractor cannot typically circumvent the main contractor and pursue redress against the owner (Asuquo & Effiong, 2017).

Culture created by the construction parties themselves

The factor of the progress payment problem is the culture created by the construction parties themselves. This culture can refer to the prevailing attitudes and behaviours among construction industry stakeholders, including contractors, subcontractors, owners, and other parties involved in construction projects. According to Masrom et al. (2021), It is appropriate for a contractor in Malaysia to accept a payment that was made late by the client for fewer than five (5) working days or to receive a delayed payment from the client, as they are always compassionate to the client. This may be due to a culture of delayed payment in the Malaysian construction business, which allows contractors to accept payment delays of a few days.

Furthermore, the finding of Peters et al. (2019), Azman et al. (2014), Ansah (2011) and Ye and Rahman (2010) also agreed that the culture of delayed payment is one of the factors responsible for progress payment problems in the Malaysian construction industry. Peters et al. (2019) stated that where some experts consider that payment delays are standard practice and are therefore, they are fine with it. Despite this perception, small contractors maintain close relationships with their clients and persistently pursue payment for completed work to increase profit margins. From the literature of several researchers, it can be concluded that a culture of non-payment or slow payment is developed within the industry, where delaying or withholding payment for completed work is acceptable.

Contractors' inaccurate claim

According to Ping (2018) and Abdul-Rahman et al. (2014), an incorrect claim can delay payment. Illankoon et al. (2019) stated that inaccurate claims arise for various reasons, such as a misunderstanding of the scope of work, inadequate documentation or record-keeping, or deliberate attempts to overstate the value of completed work. In another study based on Ghana's construction industry perspective, the causes of payment delays related to contractors are delayed claims, erroneous claims, and claims presented without acceptable supporting documentation (Ansah, 2011).

Ping (2018) stated that inaccurate claims prevent the subcontractor from being paid by the main contractor. Incorrect claims are those in which the total amount is different, or there is a difference with the work performed by the subcontractor and

submitted to the main contractor. Consequently, the principal contractor will not pay the subcontractor until the correct claims have been made. This circumstance causes a delay in payment from the general contractor to the subcontractor since the subcontractor must fix the inaccurate claims. These inaccuracies can lead to mistrust and strained relationships between the parties involved in the project and financial losses for both the contractor and the owner.

Slow processing and delay in the finalisation of the variation order

Slow processing and delay in the finalisation of the variation order are one of the factors that lead to progress payment problems (Fateh & Hee, 2021; Ramachandra & Rotimi, 2015). As stated by Judi and Mustafa (2023), a lack of trust in the contractors as a result of their limited knowledge of the submission of variation orders and supporting documents resulted in problems with the provision of claim documents, including a lack of skilled and competent staff at the receiving end of the process, which ultimately affected the processing and finalisation of the variation orders. Due to this lack of confidence, clients frequently presume that contractors will take advantage of the situation by overcharging for the work performed.

Insufficient funds due to the variation order

According to Judi and Mustafa (2023), insufficient funds due to variation orders can be a factor that contributes to progress payment problems in construction projects. Variation in the contract typically arises when one or more parties intend to make changes or modifications in order to obtain better work in the current scope of work (Mazahar, 2019). According to Mazahar (2019), increase or decrease in the quantity of work, omission of work, change in nature of work, change in the quality of work, change in the type of work, change in levels of work, change in position of work, change in dimensions of work, change in timing of works activities, change in the sequence of work, and execution of any additional work were identified as valid reasons for variation order (VO). The contractors are eligible to recover the remedies specified in the contract. Similarly, if the contractor requests a change for an internal purpose, the contractor is responsible for any associated costs (Mazahar, 2019).

Judi and Mustafa (2023) stated that two factors that caused the lack of funds attributable to variation orders are a problem with the provision of claim documents and insufficient financial resources. The first issue was mostly attributable to the submission of insufficient claim documentation. The clients claimed that the contractors submitted claims for completed or extra work with insufficient documentation. The second issue was related to insufficient financial resources. As for the clients, if they have too many ongoing projects at once, yet if the projects do not run properly, the clients will have payment problems with the contractors.

Disputes over the amount of valuation of works

Asuquo and Effiong (2017) and Azman et al. (2014) mentioned that disputes over the amount or valuation of works can be a factor that contributes to progress payment problems in construction projects. These disputes can arise when there is a disagreement between the contractor and the owner regarding the value of

completed work or when there are discrepancies between the valuation of the work performed and the amount invoiced by the contractor.

In addition, Judi and Mustafa (2023) agreed that the disputes over the Amount of Valuation of Works due to a lack of trust between the contractual parties, particularly about late payments and underpayments, challenges linked with the production of claim documentation, and non-participation in the examination of joint payments at the site. Clients usually believe that contractors would attempt to take advantage of them by overcharging for the actual worth of the work performed on-site. Furthermore, the industry's lack of openness and communication could cause progress payment problems. If payment conditions are not clearly specified or agreed upon at the beginning of a project, or if modification orders are not conveyed properly and promptly, it can lead to misunderstandings and payment disputes (Judi & Mustafa, 2023).

Delay in interim payment evaluation and certification

Judi and Mustafa (2023) stated that delays in interim payment evaluation and certification can be a factor that contributes to progress payment problems in construction projects. Interim payments are payments made by the owner to the contractor during the course of the project, based on the value of completed work. Delays in the evaluation and certification of completed work can lead to delays in interim payments, resulting in financial difficulties for the contractor and straining the relationship between the parties involved.

Next, according to Judi and Mustafa (2023), lack of qualified employees, issues with the production of claim documentation, nonparticipation in the review of joint payments at the site, and issues related to the kind of contract selected all contributed to Delay in Interim Payment Evaluation and Certification. When a contract based on a lump sum is employed, the contractors will have disagreements on the evaluation of completed work, which will cause a delay in the acceptance of the payment claim, which is an issue related to the selection of the type of contract.

Furthermore, Asuquo and Effiong (2017) stated that delays in interim payment evaluation and certification may arise due to insufficient staffing or resources, a breakdown in communication among the parties involved, or disagreements over the valuation of finished work. This can cause a domino effect in which contractors and subcontractors are unable to pay their invoices or employees, resulting in project delays, disagreements, and financial hardship for all parties involved.

Lack of knowledge of the standard construction contract

Adaku et al. (2023) stated that a lack of familiarity with the legal environment of construction projects among project participants is frequently the cause of delayed payment to contractors. This is supported by Asuquo and Effiong (2017) and Ansa (2011) who stated that a lack of knowledge of the standard construction contract is a factor in progress payment problems. Moreover, inadequate contract provisions result in indecision among project participants and create administration difficulties. Such occurrences result in misunderstandings among project participants and payment delays. According to Ping (2018), there is still the use of the "pay when paid"

clause in construction projects, where this clause allows the subcontractor a reasonable amount of time to receive payment. The subcontractor is paid after the main contractor has received payment from the client but not until the contract administrator has certified the relevant amount. This clause is a non-standard construction contract. However, it is still practiced in construction projects.

To conclude, there are ten (10) contributing factors discussed among the previous researchers. Based on the Table 2.1, the most discussed appropriate actions among researchers which are poor financial management and the client's financial position, bureaucratic procedures and delay in payment certification. Overall, of the factors are involve various parties and this will contribute to the progress payment problems.

RESEARCH METHODOLOGY

The literature review is conducted in this research. It presents an analytical and critical discussion on the factors contributing to progress payment problems in Malaysian construction project. To achieve the goals of the research, a questionnaire was employed to collect data from the respondents in accordance with the research's objectives. The questionnaire was distributed to 106 CIDB-registered contractors from Grade G1 through G5 in the Klang Valley to generate a representative sample for this research. A total of 52 questionnaire was returned. The questionnaire was distributed through electronic platforms and social media such as Email, WhatsApp, Facebook, and Telegram. These findings were analysed using descriptive analysis. Factors contributing to progress payment problems in Malaysian construction project are the primary purpose of the questionnaire. The data have been analysed using Statistical Package for the Social Sciences (SPSS) software version 28 to determine the outcome of the research.

FINDINGS AND DISCUSSION

The outcome of this section was to achieve the first objective of this research which was to identify the factors contributing to progress payment problems in Malaysian construction project. Table 4.1 had clarified the results of the survey regarding the factors contributing to progress payment problems in Malaysian construction project.

Table 2: Mean and Standard deviation for the factors contributing to progress payment problems in Malaysian construction projects.

ITEM	STATEMENT OF FACTORS	MEAN	STANDARD DEVIATION
1	The client's poor financial management is one factor leading to progress payment problems.	4.10	0.748
2	Bureaucratic procedures	4.02	0.700
3	Delay in payment certification	4.23	0.703
4	The culture of accepting late payment.	4.06	0.895
5	Contractors' inaccurate claim.	4.08	0.737
6	Slow processing and delay of the finalisation of the variation order	4.17	0.785
7	Insufficient funds due to the variation order.	4.17	0.760
8	Dispute over the amount of valuation of works.	4.23	0.675
9	Delay in interim payment evaluation and certification.	4.19	0.658
10	Lack of knowledge of the standard construction contract.	4.21	0.723
Average Mean		4.15	

Table 2 shows the record of mean score and standard deviation. This allows the researcher to determine which variable was ranked when the mean score results are comparable. The average mean score of all variables is above 3.50. This indicates that the majority of respondents agree with the variables indicated in the questionnaire. Hargrave (2020) stated that a greater standard deviation indicates that the values are more spread out or dispersed, whereas a smaller standard deviation indicates that the values are closer to the mean score and less dispersed. The data in Table 4.8 showed that the lowest standard deviation was 0.658, which was close to the mean score, which was variable number 9. The variable with the largest standard deviation was number 4, which was 0.895.

Table 3 presents ten (10) variables by ranking that had been determined in order to identify the factors contributing to progress payment problems in Malaysian construction project. After analysing the data, this showed that most of the respondents agreed with all the factors contributing to progress payment problems in Malaysian construction project because the average mean score collected was 4.15.

The factor that has generated the most discussion among the various authors in the literature review is the client's poor financial management is one factor leading to progress payment problems. However, the highest means score for the factors contributing to progress payment problems in Malaysian construction project is a

delay in payment certification to be ranked number 1 in the data with a mean score of 4.23, which is the same as the factor of dispute over the amount of valuation of works but is different from the standard deviation. Delay in payment certification has the highest standard deviation compared to the dispute over the amount of valuation of works, which puts this variable in the first place. Dispute over the amount of valuation of works is ranked in number 2.

Table 3: Rank of the factors contributing to progress payment problems in Malaysian construction project

ITEM	STATEMENT OF FACTORS	MEAN	RANK
1	Delay in payment certification	4.23	1
2	Dispute over the amount of valuation of works.	4.23	2
3	Lack of knowledge of the standard construction contract.	4.21	3
4	Delay in interim payment evaluation and certification.	4.19	4
5	Slow processing and delay of the finalisation of the variation order	4.17	5
6	Insufficient funds due to the variation order.	4.17	6
7	The client's poor financial management is one factor leading to progress payment problems.	4.10	7
8	Contractors' inaccurate claim.	4.08	8
9	The culture of accepting late payment.	4.06	9
10	Bureaucratic procedures	4.02	10
Average Mean		4.15	

All contractors agreed that the delay in payment certification will lead to progress payment problems. According to Masrom et al. (2021), certification is necessary for the contractor to receive payment from the client for the quantity of work completed. If the certification was submitted late, it is possible that the contractor will not receive payment from the client on time. Odenigbo et al. (2020) stated that when one of the parties involved in a construction project delays payment, it can disrupt the whole payment chain for the project. Next, the disputes over valuation can delay the payment process. If the parties cannot agree on the value of the completed work, the process of payment certification may be delayed until the dispute is resolved. As stated by Asuquo and Effiong (2017) and Azman et al. (2014), disputes over the amount or valuation of works can be a factor that contributes to progress payment problems in Malaysian construction projects. Supported by Judi and Mustafa (2023), the disputes over the amount of valuation of works due to a lack of trust between the contractual parties, particularly about late payments and underpayments, challenges linked with the production of claim documentation, and non-participation in the examination of joint payments at the site.

Then, the factor for lack of knowledge of the standard construction contract was placed in number 3 with a mean score 4.21. It is seemed that not all parties involved are aware with the standard construction contract. Adaku et al. (2023) stated that a lack of familiarity with the legal environment of construction projects among project participants is frequently the cause of delayed payment to contractors. This is supported by Asuquo and Effiong (2017) and Ansah (2011) who stated that a lack of knowledge of the standard construction contract is a factor in progress payment problems.

Furthermore, for the fourth-highest mean score in this statement is delay in Interim Payment Evaluation and Certification. Judi and Mustaffa (2023) stated that delays in interim payment evaluation and certification can be a factor that contributes to progress payment problems in Malaysian construction projects. Lack of qualified employees, issues with the production of claim documentation, nonparticipation in the review of joint payments at the site, and issues related to the kind of contract selected all contributed to Delay in Interim Payment Evaluation and Certification (Judi & Mustaffa, 2023). Moreover, the slow processing and delay of the finalisation of the variation order which placed number 5 in this survey with mean score 4.21. As mentioned by Fateh and Hee (2021) and Ramachandra and Rotimi (2015), slow processing and delay in the finalisation of the variation order are one of the factors that lead to progress payment problems.

CONCLUSIONS

In conclusion, determining the factors of progress payment problems in Malaysian construction projects is crucial for addressing and mitigating potential issues. By identifying these factors, project stakeholders can take proactive measures to minimize progress payment problems and ensure a smooth payment process. Factors such as delay in payment certification, dispute over the amount of valuation of works, lack of knowledge of the standard construction contract, delay in interim payment evaluation and certification and slow processing and delay of the finalisation of the variation order can contribute to progress payment problems. Understanding these factors allows stakeholders to implement effective strategies, such as accurate budget estimation, clear project planning, comprehensive documentation, open communication channels, simplified payment structures, and diligent contract management, to prevent or resolve payment issues.

Moreover, determining the factors of progress payment problems enables stakeholders to improve the overall payment system in the construction industry. By analyzing common patterns and trends, industry professionals, government entities, and relevant stakeholders can collaborate to develop standardized practices, regulations, and payment protocols. This collaborative effort can lead to the establishment of fair payment practices and streamlined payment processes. Ultimately, by addressing the factors contributing to progress payment problems, the construction industry can create a more sustainable and reliable payment ecosystem, fostering trust, collaboration, and positive relationships among project participants. For future research, a further study could be expanded to include construction industry manufacturers and suppliers. By involving both the manufacturing and

supply sectors of the construction industry, the outcome will be more comprehensive and the study will be much simpler for future researchers to utilise.

ACKNOWLEDGEMENT

We are appreciative of the resources and opportunities that have been made available by Universiti Teknologi MARA, Perak Branch. In addition, we would like to extend our heartfelt appreciation to construction parties that involved directly and indirectly in providing data and their participation, which was an essential factor in the successful completion of this study.

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Surat kami : 700-KPK (PRP.UP.1/20/1)

Tarikh : 20 Januari 2023

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