

## EFFECTS OF DELAY IN INTERIM PAYMENT ON CONTRACTORS' WORKING CAPITAL IN LAGOS STATE, NIGERIA

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### ABSTRACT

*Delayed payment to contractors has a serious effect on early completion of projects in the construction industry. The study sought to untie the effects of delayed payments problems facing Nigeria contractors. A logical approach was adopted for the study using literature research and surveys. A total of 80 questionnaires were administered to construction firms in Lagos State, Nigeria using stratified sampling technique. A quantitative research method was adopted. Descriptive statistics in form of frequency, percentage and Mean Item Score was used to analyze the data collected. The survey revealed that, delay in interim payment creates financial hardship, creates cash flow problems, creates negative chain effect on other parties as well as leads to abandonment of projects amongst others. The study recommends that the client should be mandated to sign payment bond with a bank and contractors should endeavor to attend trainings on cash flow and financial management. In conclusion, it is hoped that these findings would help in mitigating the payments problems of Nigerian contractors.*

**Keywords:** Contractor, Delay, Interim payment, Nigeria, Working capital.

### 1.0 INTRODUCTION

Working capital is the money available for conducting the day to day operation of a project (Pilcher, 1994). It is an important liquidity indicator in major benchmarks of surety credit-granting institutions to decide and determine the granting of loan to the construction industry. The Construction process is capital intensive, from inception to completion; cost is incurred at every stage. However, the major cost is incurred during the actual construction stage where irreversible commitment of fund is undertaken in the procurement and

deployment of resources such as labour, plant, materials and managerial expertise to achieve the finished product (Ugochukwu & Oyekwena, 2014). The project manager is required to make numerous decisions that will determine the success or failure of the project both in accomplishment of physical and in monitoring terms. One of such decision is the working capital requirement for the successful completion of the project (Kumar, 2000).

In the construction industry, working capitals account for about 60% of total investment (Kumar, 2000). Every project needs adequate liquid resources

to maintain day to day cash flow. Working capital finance is required to bridge the time between expenditure and revenue (Hendrickson, 1998). It needs enough to pay wages and salaries as they fall due and enough to pay creditors if it is to keep its work force and ensure its supply.

However, due to inability of most contractors to raise sufficient funds to finance and complete construction project, the clients develop a practice of regular interim payment to the contractors. Late or inadequate certification can cause severe difficulties particularly if these occur a number of times on a particular project. In extreme cases, this may lead to the contractor's insolvency. Subcontractors' particularly domestic subcontractors are particularly vulnerable as they typically are on pay-when-paid or extended credit arrangement (Cunningham, 2012).

Most construction contracts require interim payment to be paid to the contractor. This is to relieve the contractor of the burden of financing the whole work until completion, works which may take many months or years to complete valuation and payment are formal contractual processes and therefore they must be processed strictly in accordance with the contract conditions (Royal Institute of Character Surveyors, 2013).

Interim payments are vital for the cash flow and working capital of contractors and if they are delayed the contractors can bear unreasonable costs without income, which can potentially affect his profitability and ultimately lead to insolvency. Due to the importance of interim payments, failure to comply with clauses which set out the obligations of Quantity surveyors, Architects and Employers in respect of interim certificates is likely to amount to a

fundamental breach of contract. It is therefore crucial for Quantity surveyors to acquaint themselves with the contract rules under which evaluations for interim payments are to be conducted (Hong Kong Institute of Surveyors, 2015).

Several researches has been conducted on causes of delayed payments such as; Abdul-Rahman, Kho and Wang (2013); Akinsiku and Akinsulire (2012); Muhwezi, Acai and Otim (2014);Ye and Abdul-Rahman (2010) to mention but few. However little has been done to assess the effect of delayed payment on contractors' working capital. Previous studies also examined types of payment system and factors influencing the payment system with little attention being paid to the effect of delay in interim payment on the contractor's working capital in Lagos State, this research aim to fill that gap.

It is opined that this study will contribute to literatures on contract administration, bringing to limelight the effect of delay in interim payment on the contractor's working capital, help to develop appropriate corrective actions and in seeking right for the contactors in attainment of payment on the predetermined time.

## **2.0 LITERATURE REVIEW**

### **2.1 Concept of interim payments**

When the value of contracts was more than a few thousand pounds, it had always been normal practice for contractors to be paid sums on account as the construction work proceeds. This is because it was generally recognized that it would be unreasonable to expect contractors to finance construction operations without assistance from Employers. Also,

the expense of borrowing large sums, which otherwise would be involved, would add significantly to total costs which it is in the interest of Employers to minimize the expenses, (Ramus, Birchall & Griffiths, 2007). According to Ameer-Ali (2005), payment is the life blood of the construction industry because construction projects often involve very large capital outlay. Ansah (2011) reported that it is very obvious that a healthy and consistent disbursement of money is a critical point in determining contractor's performance.

Interim payments is the amount of any periodic payments and it is calculated by determining the total value of work executed, plus the value of materials on site (only if this is allowed under the contract) and any other amount specified as being payable under the contract. All previous payments are then deducted and the difference is the amount due (Ramus et.al., 2007). Certain factors influence the choice of interim payments which are as listed by Sheriff and Kaka (2003) are; Cost certainty, Time Certainty, Project Complexity, and Flexibility for Changes, Form of Contracts, Contractor Cash flow, Procurement Method, Dispute Likelihood, Project Size, and Speed of Completion.

## **2.2 Working capital of a construction company**

According to Losbichler and Mahmoodi (2012), "Working capital is one of the most powerful and least understood drivers for supply chain managers to improve a company's cash flow and profitability". Contractors must have enough working capital to cushion the effects of delay in payment of certificates, especially on government contracts, which they require for payment of wages,

purchase of materials, hiring of plants etc. during the gap between valuation of work and actual payment. This means that contractors actively participate in financing construction projects.

Similarly Maness and Zietlow (2005) reported that working capital policy refers to the basic principles and guidelines the companies use when they control their working capital management. Working capital policy is an important issue in any organization because without the proper management of working capital components it will be difficult for the organizations to run its operations smoothly. Working capital management is significant since it plays a vital role in keeping the wheels of the business running (Lawrence & Charles, 1985). Its effective provision can ensure the success of a business while its inefficient management can lead not only to losses but also to the ultimate downfall of what might otherwise be a promising concern.

## **2.3 Key differences between cash flow and working capital of a company**

The key difference between these two terms is that working capital provides a snapshot of the present situation, while cash flow is a measure of the company's ability to generate cash over a specific period. Monthly or quarterly cash flows will naturally be different from amount of cash generated over 12-month periods as a result; working capital provides an excellent idea about how easily the company can pay immediate liabilities.

## **2.4 Factors affecting the Amount of Investment in Working Capital**

A contractor's / firm's working capital requirement cannot be established by principles, formulae or rules. Rather, they are determined or influenced by a number of factors, as follows:

### **Economic Recession**

The nature of construction performance and workload is often related to the economy of developing nations like Nigeria. Where there is a boom in the economy, construction activities will increase, therefore increasing the scale of operations of a firm. This leads to an increase in level of stock and debtors, therefore necessitating an increase in working capital requirement of the firm. The reverse is the case when the economy is in recession and contractors require less working capital.

### **Weather condition**

Also most construction works in Nigeria take place during the dry season when the weather is very conducive for outdoor activities. However, there is reduction in construction activities during the rainy season, as rain or wet conditions disrupt construction activities. According to Pandey (2000), most construction firms experience seasonal and cyclical fluctuations in the demand for their products and services.

### **Price Changes/ Inflation**

In a period of rising price levels, i.e. inflation, the cost of goods will rise, and companies that need to maintain the same level of current assets will need more working capital. The low value of naira, the importation of numerous resources for construction ranging from materials to equipment/vehicle,

unstable economic and political climate and government fiscal policy in terms of increases in tariffs, taxes duties etc. all lead to inflation in prices of construction industry resources, and unpredictable increase in the cost of capital. In such a scenario, the contractor's working capital requirement for the project will rise above what it should normally be, and the contractor will have to look for external credit in order to finance the extra cost of increased working capital arising out of increases in current liabilities due to inflation.

### **2.5 Effects of delay in interim payment**

Lack of payment to contractors is a common cause of disputes in the construction industry (Kennedy 2005; Watts & Scrinvener 1993). According to Artidi and Chotibongs (2005), all the problems in the construction industry begin when payment in the exact amount due by the date shown on the statement is not received. Projects exceed initial time estimates and costs escalate and extensive delays are experienced. Its effects are sometimes so harsh that some companies have to close down. One of the biggest consequences would be the interest due on capital borrowed. Contractors often borrow working capital from banks in order to finance their construction operations and invariably have to pay interest on these borrowings.

Contractors are highly dependent on regular interim payments from employers during the course of construction to help discharge the debt so accrued. Therefore, when a contractor does not receive interim payments on time or in accordance with the terms agreed or for the proper amount, the interest he or she needs to pay in the form of finance charges to the bank will invariably increase. For example,

delays in approving contractors' invoices/claims and settling payments and release of retention monies have had major impacts on constructors' cash flows (Odeyinka, Lowe & Kaka, 2008; Sin 2006). Odeyinka and Kaka (2005) and Eugenie (2006) both suggest that failure to make payments within stipulated timeframes mean that contractors would have to incur additional financing and transaction costs, which increases their risk of insolvency.

Delayed payment will also affect the contractor's performance. He may lose his workers. He might not have sufficient funds to tide him over until such time as conflict is resolved and the next payment is received in terms of the contract. The construction process will be delayed and the list goes on. But one thing is for sure: delayed payments or non-payment to contractors have a negative influence on the overall construction process. It should be understood that 'the practice of efficient and timely payment in construction projects is a major factor that can contribute to a project's success' (CIOB, 2004).

The possible effects of delayed payment have been identified as follows:

- Creates financial hardship: It is anticipated that delayed payment can create financial hardships for the contractor.
- Creates a negative chain effect on other parties: As stated by Davis Langdon and Seah Consultancy (2003), 'the construction payment blues have domino effects'. A delayed payment by one party may affect the entire supply chain of payment of a construction project.
- Creates cash-flow problems: It is universally accepted that delayed payment affects the contractor's cash flow, which in turn can affect

the progress of the works and profitability (Naseem, 2005).

- Results in a delay in completion of projects: According to Abdul-Rahman and Berawi, (2006), a financial problem is confirmed by the view of top management in the survey as being the main cause of delay, in addition to manpower shortage.
- Leads to bankruptcy or liquidation
- Leads to abandonment of projects
- Results in formal dispute resolution, e.g. litigation/arbitration
- Creates negative social impacts.

## 2.5 Ways of mitigating delay in interim payment

Lim (2005) identified payment of accrued interest, suspension of works, right to slow down work, eradication of the 'pay-when-paid' clause, right to refer dispute to adjudication, creation of a trust account, payment bond e.t.c as means for improving the problem of delayed payments in the construction industry.

Ye and Abdul-Rahman (2010) reported that understanding and researching the owner's ability to pay is the most effective solution in mitigation of late payment problems. Other mitigating measures include implementation of the Construction Payment and Adjudication Act, negotiation of payment terms with client to facilitate a healthy cash flow, obtaining payment due before handover of project to client, understand and study the payment requirement of each individual project and implementation of financial management to ease cash flow problems.

Ramachandra and Rotimi (2015) discovered that mitigating measures adopted in New Zealand construction industry includes registering caveat notices and placing charging orders over the projects built. In addition, construction parties filed bankruptcy notices and liquidation proceedings to recover payments. They further recommends that adherence to procedural requirements, provision of protection to delay and losses and attitudinal changes will help to mitigate payment problems in the construction industry.

### 3.0 RESEARCH METHODOLOGY

Quantitative research methodology was used in this study and specifically survey design which is also called cross-sectional design.

The principal method used to collect information for this study was the questionnaire survey. The choice of using this method was made based on a variety of factors, including the type of information to be gathered and the need to protect the privacy of the participants. Often, confidentiality is necessary to ensure that participants respond honestly. Since the subject of the research is payment, confidentiality is very necessary. The questionnaire was designed according to the objectives of the study.

The survey was carried out to obtain indicative data from construction companies registered with Federation of Construction Industry (FOCI) based in Lagos state and other identified construction companies using stratified sampling techniques. In total, 80 questionnaires were distributed to the identified respondents. The respondents were asked to express their experience of the effects of delay in

interim payment on working capital as well as to suggest action to be taken to solve the problems.

The structured questionnaires were handed in person to the respondents and complemented with online mode of administration. These methods led to the return of 69 completed questionnaires, this amounts to 86% response rate. However, 62 questionnaires were found to be adequately completed and thus used for this study.

The data obtained from the returned questionnaires was measured using descriptive statistics with the aid of Statistical Packages for Social Sciences (SPSS17.0) software. Descriptive statistics include the use of frequency distribution tables, percentages, and Mean Item Score (MIS).

### 4.0 RESULTS AND DISCUSSION

#### 4.1 Demographic information of the Respondents

The respondents were asked to indicate their demographic information and responses which are shown in Table 1.

The analysis in the table 1 reveals that 40 respondents representing (64.5%) were male, while 22 respondents representing (35.5%) were female. The age group of the respondents reveals that 24 (38.7%) respondents fall within the age of 21-30 years, 32(51.6%) respondents fall within the age of 31-40 years, while 6 (9.7%) respondents fall within the age bracket of 41 and above years. Academic qualification of respondents reveals that 12 (19.4%) are National Diploma holder, 32 (51.6%) are Higher National Diploma holder, 10 (16.1%) are B.Sc

holder, while 8 respondents representing (12.9%) are M.Sc. holder. The job title reveals that, 12(19.4%) of the respondents are managing director, 10(16.1%) are head planning/procurement, 18(29.0%) are project/construction manager, 3(4.8%) are commercial manager, 11(17.8%) are site supervisor/manager while 8(12.9%) specified other job titles. The years of experience reveals that 16 respondents representing (25.8%) have 1-5 years of experience in the field, 8 (12.9%) have 6-10 years and 16 and above years of experience respectively while 30 respondents representing (48.4%) have 11-15 years of experience.

Table 1 also shows that respondents are still in business as more than 70% of them have handled not less than 5 projects in the last five years. The nature of construction project handled by respondents cut across building, civil engineering and heavy engineering construction.

This demographic information pertaining to the respondents supports the underlying assumption that respondents are competent, experienced and capable of exercising sound judgment. As such, their response to the questions could be trusted as valid for this research.

**Table 1: Demographic information of the Respondents**

<b>Personal Information</b>	<b>N</b>	<b>Percentage (%)</b>
<b>Gender</b>		
Male	40	64.5
Female	22	35.5
<b>Age Group</b>		
21-30 years	24	38.7
31-40 years	32	51.6
41-above years	6	9.7
<b>Academic Qualification</b>		
National Diploma	12	19.4
Higher National Diploma	32	51.6
Bachelor’s Degree	10	16.1
M.Sc.	8	12.9
<b>Job Title</b>		
Managing Director	12	19.4
Head Planning/Procurement	10	16.1
Project/Construction Manager	18	29.0
Commercial Manager	3	4.8
Site Supervisor/Manager	11	17.8
Others	8	12.9

**Years of Experience**

1- 5 years	16	25.8
6-10 years	8	12.9
11-15 years	30	48.4
16-above years	8	12.9

**Numbers of Project Handled in the last 5 years**

1-5	14	22.6
6-10	28	45.2
11-15	12	19.4
16-20	6	9.6
Above 20	2	3.2

**Nature of Construction Project**

Building Construction	24	38.7
Civil Engineering Construction	12	19.4
Heavy Engineering Construction	16	25.8
Others	10	16.1

**4.2 Effects of delay in interim payment on contractors’ working capital.**

Respondents were asked to indicate their level of agreement to the itemised effects of delay in interim payment on contractors’ working capital on a five point likert scale. The responses obtained are indicated in Table 2.

**Table 2: Effects of delay in interim payment on contractors’ working capital.**

Statements	Mean	Rank
Create financial hardship	4.61	1
Create cash flow problems	4.16	2
Create negative chain effect on other parties	4.10	3
Leads to abandonment of projects	4.10	3
Results in dispute	4.03	5
Leads to bankruptcy or liquidation	3.68	6
Creates negative social impact	3.68	6
Results in delay in completing project	3.58	8

The analysis in the table 2 shows that creates financial hardship was ranked highest, followed by create cash flow problems, create negative chain effect on other parties and leads to abandonment of projects, results in dispute, leads to bankruptcy or liquidation and creates negative social impact, and results in delay in completing project.

The result of this study is consistent with Ansah (2011) where the main contractor and subcontractor agrees that delayed payment creates financial hardship for the company, creates negative relationship among parties in contract and leads to abandonment of the project. It should be understood that ‘the practice of efficient and timely payment in construction projects is a major factor that can contribute to a project’s success’ (CIOB, 2004).Pandey(2000)stated that delay in interim payment reduces contractors' working capital and as such will need to depend on his personal or external



sources to fund the project. Most standard forms of contract, such as the standard form of contract for use in building works, and that for civil engineering works incorporate clauses for periodic payment to the contractor for the work to be properly executed at the time of issue of certificate.

### 4.3 Ways of mitigating interim payment problems affecting contractors’ working capital

Respondents were asked to indicate their level of agreement to the itemised ways of mitigating the effects of delay payment on contractors’ working capital on a five point likert scale. The responses obtained indicated in Table 3.

The analysis in the Table 3 shows that there is need for contractors to understand the owners’ ability to pay even before signing of contract. This is closely followed by implementation of Construction Industry Payment and Adjudication Act and negotiation of payment terms with client to facilitate a healthy cash flow respectively.

**Table 3: Ways of mitigating delay in interim payment problems affecting contractors’ working capital.**

Statement	Mean	Rank
Understand and research owner’s ability to pay	4.77	1
Implementation of Construction Industry Payment and Adjudication Act	4.75	2
Negotiate payment terms with clients to facilitate a healthy cash flow	4.70	3
Application of payment bond with bank and client	4.52	4
Provide the contractors’ right to either suspend work or reduce the rate of work	4.20	5

Impose interest penalty on late payers	4.15	6
Reschedule work to help client ease their cashflow	3.98	7
Implementation of financial management to ease cash flow problems	3.76	8
Contractors should chase payment due relentlessly	3.72	9
Contractors to submit timely and accurate invoices with complete documents	3.58	10

### 5.0 CONCLUSION

The study examined the effect of delay in interim payment on contractor’s working capital and the methods of mitigating these effects. Creates financial hardship emerged as the most significant effect. Creates cash flow problems, creates negative chain effects on other parties, leads to bankruptcy or liquidation were also significant amongst others. Investigating a client’s ability to pay, empowering the Construction Payment and Adjudication Act, and negotiating payment terms to facilitate a healthy cash flow were suggested by the study as possible solutions. In view of the fact that contractors are dissatisfied with delayed payments, it is suggested that attention may need to be focused on devising new innovative payment systems that will address these issues. This obviously is an area that needs further research in order to address this issue.

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