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## EFFECTS OF DELAYED PAYMENT OF CONTRACTORS ON CONSTRUCTION PROJECT DELIVERY IN NIGERIA

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### ABSTRACT

Delay in paying construction contractors has impacted negatively on the effectiveness of the contractor and as such affect project delivery schedule. Failure to pay contractors for work executed might lead to the contracting firm being insolvent. This research is a form of quantitative research and it a cross-sectional research survey which is a combination of descriptive and explanatory research design. The population of the study comprises of clients, consultant and contractors. A total of 65 questionnaires were distributed and 47 were returned and used for the analysis. It gives a response rate of 72%. Random sampling technique method was used, thus the respondents has equal chances of being selected. Statistical package for social sciences (SPSS 20th version) was used to analyse the data via descriptive and inferential statistic. The finding shows that the causes of delayed payment were unrealistic cash flow, error in claims, poor financial problems and disagreement on valuation of work. The impact of delayed payment is delay in project progress which affects the schedule of work and leads to cost overrun and extension of time. In conclusion clients should seek co- investors for support on financial commitment. It was recommended that the stakeholders should work as a team in the execution of project to avoid bottlenecks usually encountered in agreeing contractors' payment.

Keywords: construction, contractor, payment, project delivery, valuation.

### INTRODUCTION

The issue of delayed payment in the construction industry is a global phenomenon (Hasmori, Ismail & Said, 2012). In Nigeria, many contractors have been apprehensive about what to do to ensure they do not run out of cash during the execution of their projects to ensure profitability and positive cash flow. Cash flow for individual projects can affect contractors and spur the need for financing and also affecting overall profitability of the project (Jiang, 2014). The construction industry especially construction contractors suffer from a number of problems that affect time, cost, and quality performances. The practice of efficient and timely payment in construction projects is a major factor leading to project success (Hasmori *et al.*, 2012) while the cash flow positioning of contracting firm has a great deal to do with its success or failure (Jiang, 2014).

Jiang (2014) opined that many failing contractor firms were profitable ventures at the time of bankruptcy. Under-capitalization, difficulties in getting credits, substantial cost

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of getting financed, etc. cause contractors to complete projects with negative ending balances. Therefore, cash flow planning and analysis is extremely important for project success. The importance of payment is further advanced in that the construction industry is capital intensive, the ability of client to pay contractors timely will reduce contractors' cash flow problems, curb claims arising from fluctuations as results of inflation. It is generally accepted that delayed payment will cause severe cash flow problems especially to contractors, and this would have a devastating knock-on effect down the procurement chain (Ansah, 2011).

There are several factors that cause delayed payment, most of the time it involves the clients, consultants and contractors. Reeves (2003) in his work stated that the main reasons for delayed payment is errors in submitting claims by the contractor. This includes claims without adequate supporting documents, wrongly calculated claims and those submitted without using the right procedures. Contractors at times need to represent their claims and a repeat the whole process is inevitable after making necessary corrections. Ayudhya (2012) posited that the prolong time required for the procurement and payment is a strong indicator that the company is in financial difficulties. Ayodele and Alabi (2011) opined that delayed payment result to the loss of continuity of construction activities and consequent breakdowns in the command structure and communications.

The payment of the project awarded would commonly be based on the progress of the project. The contractors need to submit the progress billing attached with the approve percentage of completion by the authorized person in charge. The general guideline is to honor payment within 14 days on submission of completed information and documentation with the Architect. Most of the problem of delay occurs when contractors' inadvertently omit some necessary documents required, and in order to avoid delay in paying the contractors, the payment officers have to make sure that the documentation is complete. If such problem happens, the documents would be sent back to the relevant contractors for verification and amendment. It will take another two days with the treasury and three days in the finance department to process the payment. Overall, it would take another week for the payment to be honored. There is also a clause stated that the contractors can be paid three months after the signing date of the agreement before any payment is being certified.

## **LITERATURE REVIEW**

Delay was generally acknowledged as the most common, costly, complex and risky problem encountered in construction project and could be liable to considerable pressure on construction time and cost (Ayudhya 2012). Aibinu and Jagboro (2002) study on effect of delay in Nigeria shows that time overrun, cost overrun, dispute, arbitration and litigation and total abandonment (Olalusi and Otunola 2012) are related factors that affected project delivery. Similar study by Odeyinka and Yusif (1998) views causes and effect of delays on completion cost from project participants and extraneous point of view. Clients' could experience financial problems and subsequently had difficulties paying their main contractor, consultants and material suppliers, and thus the progress of project is compromised.

Sambasivan and Soon (2007) have identified 28 construction delay factors; these factors are grouped into 8 main factors. They are client-related, contractor-related, consultant-related, material-related, labour and equipment related, financial related

contract related and external factors. Algahbari (2005) reported that financial related factor was one of the most critical factors that cause delays in construction projects.

According to Johnston (1999), survey of the Payment Performance in Britain has shown that the construction industry is prone to late-payment culture, with payment of debts due to subcontractors and suppliers being made on average. As stated by Kennedy (2005), 'Payment, not unexpectedly, has always been the main subject of disputes.' It is anticipated that conflict if unsettled will escalate into disputes which can also cause late and non-payment. Several relevant studies have been conducted in the United Kingdom which addressed the problems related to payment issues in the construction industry. Latham Report (Latham 1994) has introduced some radical measures to resolve problems related to payment issues in the construction industry by introducing the Construction Contracts Act, establishing mandatory trust funds for payments and suggesting that adjudication should be the normal method of dispute resolution. Some of the recommendations have been incorporated in the Part II of the Housing Grants, Construction and Regeneration Act 1996.

The problem of the security of payment by the contractor to the client is extensively dealt with by way of mechanic lien statues in USA and Canada, which is currently absent in Nigeria. In defined term, Lien is a right to take and hold or sell a property of a debtor as security for a debt until payment is made. Theoretically, any unpaid contractor who has provided labour or materials in constructing the building has the right to exercise lien and then sells the building and utilizes the amount of payment received to his benefit and the remainder will be returned to the debtor. This provision is currently absent in any Construction Contracts Act in the world and would be a very good remedy for the recovery of delayed payment or non-payment. This right has proved to be successfully implemented in the USA and Canada in securing payment debt. Apart from mechanic lien, payment bond is another remedy worth underlying.

The payment bond is a straight forward devise basically requiring a third party such as bank or an insurance company to guarantee payment in the event of default on the part of the paying party (Lim 2005). Basically, it requires the party awarding a construction contract in excess of certain amount to provide a payment bond to the contractor. The concept is similar to performance bond that is widely used in government projects but the onus lies on the employer to obtain the payment bond. It should also be noted that the contractor is not entitled to commence the work unless the payment bond is received.

## **RESEARH METHODS**

Descriptive research design was used and random sampling technique was used to select the population. The targeted population comprises of clients, contractors, and consultants (construction professionals). 65 questionnaires were distributed and 47 were returned and used for the analysis. It gives a response rate of 72%. According to Hasmori et al. (2012), a response rate above 70% were referred to as good. Data for the study were processed and analyzed with the aid of the Statistical Packages for Social Science (SPSS 20<sup>th</sup> version). Descriptive and inferential statistical tools were used for the analysis. Relative importance index (RII) was calculated using this formula:

$$RII = 5n_5 + 4n_4 + 3n_3 + 2n_2 + n_1 / 5n$$

Where:  $n_5, \dots, n_1$  = very high impact.  $\dots$  no impact.

## ANALYSIS OF DATA FINDINGS

### Causes of Delayed Payments

From Table 1, the causes of delayed payment are divided into client, contractor, consultant and contractual related factors. The relative importance index (RII) is calculated for each of the related factors causing delayed projects. For client related factors, the highest rank is unrealistic cash flow (RII = 0.71), followed by clients' poor financial management (RII = 0.71) and the least rank clients' related causes of delayed payment is clients' failure to implement good attitude by wrongfully withholding payment to the contractor (RII = 0.60). For contractors' related factors, the highest ranked causes of delayed payment is contractor failure to agree to the valuation of work (RII = 0.72), followed by error in contractor claims (RII = 0.71) and contractors' failure to follow certain procedures during claims (RII = 0.69). The least ranked contractors' related factor is contractor's delay in submitting claims (RII = 0.63). Consultant related factors on causes of delayed payment are lack of co-ordination of project team activities (RII= 0.74), inadequate flow of information between project team (RII = 0.72) and consultant failure in treating claims (RII = 0.70). The least ranked consultant related factors are delay in valuation of work done by quantity surveyor (RII = 0.66) and poor estimation of project cost (RII = 0.65). For contractual related factor, the most ranked causes of delayed payment are contract used are not comprehensive in dealing payment issues (RII = 0.61) and improper choice of standard form of contract (RII = 0.61). While the least ranked contractual related factors is contract used are too complicated to be understood by the parties (RII = 0.55).

From the analysis, it shows that delayed payments can be from the client, contractor, and consultant and also as a result of the type of contract. This is also in supported of other researcher work. From the study of Hasmore et al. (2012), paymaster's poor financial management, paymaster with holding of payment, conflict among the parties and disagreement on the valuation of work done are the factors causing delayed payment. The study of Ayudhya (2012) identified the causes of delayed payment from the perspectives of the owners, consultants and contractors and the common cause is owner financial problems. He concluded that unexpected event are faced by the owners during construction projects, thus this is required that they employed the service of co- investors to aid in the aspect of financials so as to assist the contractors and the contractors in allocation of resources. This study also supports Ayudhya (2012) finding because the client is the financier of the construction projects, if there is no adequate flow of cash, the consultant will not be able to prepare the interim payment and the certificate to be issue by the Architect and for payment to be made to the contractors. Without payment to the contractors, the projects will be abandoned and work will be suspended which will affect project delivery in terms of time, cost and quality. Other identified causes of delayed payment are inaccurate Bill of quantities, inability of the client in taking rapid decision, priority on construction time on the consultant perspective (Haseeb et al. 2011), working drawing not details. Haseeb et al. (2011) were able to identified external related factors for causes of delayed payment; they are changes in government policy and laws, statutory rules and regulation and natural condition. In the study of Olalusi and Otunola (2012) in Nigeria,

it was realized that projects are abandoned as a result of late/ non- payment on the part of the government.

Table 1: Causes of delayed payment

Causes of delayed payment	Relative importance Index ( RII)	Rank
<b>Client related factors</b>		
Unrealistic cash flow	0.71	1
Client's poor financial management	0.70	2
Client's failure to raise fund for financial sources	0.69	3
Clients' failure to follow pre-set procedure	0.68	4
Client failure to agree to the valuation of work	0.65	5
Client failure to understand the contract agreement	0.64	6
Client failure to implement good attitude by wrongfully withholding payment to the contractor unduly by the client	0.60	7
<b>Contractors' related factors</b>		
Contractor failure to agree to the valuation of work	0.72	1
Error in contractor claims	0.71	2
Contractors' failure to follow the certain procedures is claims	0.69	3
Contractor failure to do work based on BOQ	0.68	4
Contractors' failure to understand the contract agreement	0.67	5
Contractors' failure to substantiate their claims	0.66	6
Contractors' failure in applying for claims	0.65	7
Contractor's delay in submitting claims	0.63	8
<b>Contractual related factors</b>		
Contract used are not comprehensive in dealing with payment issues	0.61	1
Improper choice of standard form of contract	0.61	1
Unfair contract terms	0.58	3
Contract used are too complicated to be understood by the parties	0.55	4
<b>Consultant related factors</b>		
Lack of co-ordination of project team activities	0.74	1
Inadequate flow of information between project team	0.72	2
Consultant failure in treating claims	0.71	3
Delay in certification of work done by architect or contract administration	0.70	4
Inability of consultant to manage funds	0.67	5
Delay in valuation of work done by quantity surveyor	0.66	6
Poor estimation of project cost	0.65	7

### Impact of Delayed Payment of Contractor on Construction Project Delivery

Table 2 showed the impact of delayed payment of contractor on construction project delivery. From the analysis, it shows that as a result of delayed payment, the highest ranked effect on project delivery are delay in project progress (RII = 0.81), Extension of time ( RII = 0.77), and create cash flow problems for contractors (RII = 0.76).

Others impact factors of delayed on project delivery are disruption of work schedule (RII = 0.73), time schedule of the project (RII = 0.72) and results in contractual dispute (RII = 0.71). The least impact factors are users' satisfaction (RII = 0.53) and health and safety (RII = 0.52).

It shows that delayed payment affect the performance of the project in terms of ability to complete the project within time, cost and quality. The project management skill of the stakeholders in respect of the project is also affected because the planning techniques tool and contract management tools lay down will be disrupted by the impact of delayed payment from the part of the clients' in particular. This is in support

of a similar study by Ansah (2011) in Ghana that delay payment leads to delay in project progress and it is a function of extension of time and at time insolvency.

Table 2: Impact of delayed payment of contractor on project delivery

Impact of delayed payment	Relative importance Index ( RII)	Rank
Delay in project progress	0.81	1
Extension of time	0.77	2
Create cash flow problems for contractors''	0.76	3
Disruption of work schedule	0.73	4
Time schedule of the project	0.72	5
Results in contractual dispute	0.71	6
Productivity	0.71	6
Abandonment of the project	0.70	8
Cost of the project	0.69	9
Construction cost will rise	0.68	10
Client's satisfaction	0.67	11
Apply for substantial advanced payment at the start of the project	0.66	12
Creates negative relationship	0.64	13
Create cash flow problem for clients	0.62	14
Quality of the project	0.61	15
Environment	0.60	16
Low quality works due to contractors' uncertain condition	0.59	17
Defect	0.58	18
Innovation and learning	0.56	19
Regular and community satisfaction	0.55	19
Users' satisfaction	0.53	20
Health and safety	0.52	21

### Significant Difference between the Perception of Clients, Consultants and Contractors on Impact of Delayed Payment on Project Delivery.

The perception of clients, consultants and contractors were tested on the impact of delayed payment on project delivery using analysis of variance (ANOVA) at 95% confidence level of significant as shows in Table 3. The results showed that for clients and consultant there was no significant difference of the impact factors of delayed payment on project delivery at significant level of 0.05 thus, the null hypothesis ( $H_0$ ) was accepted. From contractors, perspective the alternate hypothesis ( $H_1$ ) was accepted because the F- ratio (4.867) was significant at 0.05.

Table 3: Analysis of variance of clients, consultants and contractors perception

ANOVA		Sum of Squares	df	Mean Square	F	Sig.	Remark	Decision
Client Factors	Between Groups	1240.633	29	42.780	3.138	.006	NS	$H_0$
	Within Groups	259.000	19	13.632				
	Total	1499.633	48					
Contractor Factors	Between Groups	2011.983	29	69.379	4.867	.000	S	$H_1$
	Within Groups	270.833	19	14.254				
	Total	2282.816	48					
Consultant Factors	Between Groups	1454.352	29	50.150	1.918	.071	NS	$H_0$
	Within Groups	496.750	19	26.145				
	Total	1951.102	48					

## CONCLUSION

In this study, causes of delayed payment have been suitably established, factors such as unrealistic cash flow, clients' poor financial management and clients' failure to raise fund for financial sources were adjudged to be the prevailing causes by clients. On the side of the contractor, related factors resulting in client delaying payment include, contractors' failure to agree to the valuation of work, error in contractor's claims, contractor failure to follow certain procedures on claims and contractor failure to do work based on bill of quantities. Contractual related factors are contract used are not comprehensive in dealing with payment and improper choice of standard form of contract and unfair contract terms. Delayed payment as a result of consultant related factors are payment lack of coordination of project team activities, inadequate flow of information between project team, consultant failure in treating claims and delay in certification of work done by architect or contract administration.

The impacts of delayed payment on project delivery are delay in project process, extension of time, creation of cash flow problem for contractor and disruption of work schedule, this is in agreement with Kazaz, Ulubeyli & Tuncbilekli (2012); El-Razek, 2008; Frimpong et al, 2003, Mezher & Tawil, 1998; Arditi et al, 1985. The action that could be taken to reduce the impact of delayed payment on project delivery is establishing a good relationship between the stakeholders including the client and also following up payment by formal procedures.

The project manager should ensure team spirit among the stakeholders and also ensure project management techniques within the construction process and the clients should ensure they have co – investors for support on financial commitment.

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