

# Contributions of Contracting Parties to Non-Settlement of Final Accounts in Building Projects in Abuja, Nigeria

Yahaya, I<sup>1\*</sup>, Abidoye, J<sup>2</sup>& Saidu, I<sup>3</sup>

<sup>1</sup>Department of Building Technology, Niger State College of Education, Minna, Nigeria

<sup>2&3</sup>Department of Quantity Surveying, Federal University of Technology, Minna, Nigeria  
[isahyahaya50@gmail.com](mailto:isahyahaya50@gmail.com)

---

The defect liability period/final account stage of a project is sometimes rarely settled or even being delayed by some of the contracting parties, and thereby posing serious challenges on contractors. The research examined the contributions of contracting parties to non-settlement of final accounts in building projects in Nigeria. Quantitative technique was adopted in this study. The targeted population constituted the major construction participants, including government clients, registered consultants (Architects and Quantity Surveyors, due to their involvement in valuation and payment certificates) and contractors within Abuja. The stratified random sampling method was adopted. A total 146 structured questionnaires were administered to 23 clients, 21 contractors and 102 consultants, from which a total of 119 was retrieved, representing 86% response rate. The collected data were analysed using the descriptive statistical and inferential methods. It was found that changes in specifications during construction, inadequate experience of consultant, and discrepancies in contract documentation, were the major consultants-related factors that contribute to non-settlement of final accounts. Also, rework due to errors during construction, unavailability of materials and equipment, and delay in material delivery, were the major contractors-related factors that contribute to non-settlement of final accounts in building projects. The results also revealed a non-significant difference in the views of respondents on these factors by the parties. It can be concluded that proper management of the identified factors would translate into effective settlement of final accounts in building projects. The contracting parties could constantly revise and implement the findings of this research as a reference document, in order to ensure effective settlement of final accounts in building projects.

**Keywords:** Building projects, Contracting parties, Final account, Nigeria, Settlement

---

## Introduction

Building projects comprise mainly four stages of execution, namely, design/planning, tender, actual construction, and final account settlement/defect liability stage (Kwok, 2009). Construction contracts generally provide some mechanism for the final payment to be made to the contractor on completion of the works described in the contract (Seamus-Cooley, 2015). This payment begins from the start of a project, until its completion, through advance payments, progress payment (interim valuation) and final payment, which is the final figure of the project (Zakaria *et al.*,

2012). Thus, final account is always prepared to show the final costs of a project that has been completed by the contractors, including the cost of defect liability period, additions, alternations, deductions resulting from project changes and other related payment as stated in the contract (Zarabizam *et al.*, 2012).

Successful closing of final account is categorised as resolved at the stipulated time without any problems relating to disputes and delays (Kwok, 2009). However, final accounts settlement is sometimes being delayed, because the closing process could be complicated, time consuming, and

adversarial process, often resulting to disputes (Zakari *et al.*, 2012). Shen *et al.* (2007) highlighted financial affordability to the client as one of the key requirements of any construction project. Hence, clients must practice efficient system to make sure that the contractors receive payments accordingly; as delay in the final accounts closing may cause problems to contractor in terms of working capital and eventually lead to bankruptcy. The major impacts of delay in settlement of final account in the construction projects according to Assaf and Al-Hejji (2006) include time overruns, cost overruns, disputes, arbitration, litigation and total abandonment. This delay may also represent additional cost to the contractor, as severe cash flow problems are often the result of failure to attend to outstanding final accounts (Kwok, 2009).

The main problem of this research is that contracting parties (clients, consultants and contractors) pay little attention to effects of the key factors that lead to non-settlement of final accounts in building project, and this problem poses serious challenges on the contractors which is mostly obvious at the defect liability stage of a project. Zakaria *et al.* (2014) attributed this problem to lack of comprehensive knowledge by the building participants of these factors, and in that, settlement of final account becomes a difficult process.

Previous studies on final account settlement focused on the important factors affecting final account settlement satisfaction for civil engineering projects (Kwok, 2009); development of theoretical framework on the causes of final account closing in construction projects (Zakaria *et al.*, 2012); final account closing in project management perspective (Ismail *et al.*, 2014); and relationship between preliminary estimate, tender sum and final account of building projects (Oseghale & Wahab, 2014). However, not much research has been conducted on the contributions of contracting parties to non-settlement of final account in building construction projects in Nigeria. Hence, this research aims to examine the contributions of contracting

parties to non-settlement of final accounts in building projects in Abuja, Nigeria.

## **Literature Review**

### **Contributions of contracting parties to non-settlement of final accounts**

The role and performance of various project participants and contracting parties at each stage of a construction project can influence the project success (Zakaria *et al.*, 2012). Hence, delay in construction projects is considered one of the most common problems causing a multitude of negative effects on the project, the final payments, and its participating parties (El-Razek *et al.*, 2008). Therefore, the contributions of contracting parties to the settlement of final account in a project cannot be overemphasised. The next section presents the contributions of contracting parties to the settlement of final accounts in building projects.

### **Consultant related factor**

Construction consultants (architect, quantity surveyors, builders, engineers and so forth) contribute in one way or the other to final account settlements in building contracts (Al-Kharashi & Skitmore, 2009). Hence, the contributing factors by consultants to non-settlement of final accounts according to Arditi *et al.* (1985) are: incomplete drawings, late issuance of instructions and inadequate supervision. In another study by Assaf and Hejji (2006) and Lo *et al.* (2006) delays in approving major changes in the scope of works, poor site management, inadequate site supervision by consultants, inflexibility (rigidity) of consultant in task execution, poor communication and coordination between consultant and other parties, late review and approval of design documents by consultants, conflicts between consultant and design engineer and inadequate experience of consultant, all contribute to settlement of final project account. Moreover, Al-Kharashi and Skitmore (2009) highlighted the following as affecting final accounts in project: inadequate experience of the consultant, delay in reviewing design documents, design errors, changes in types and

specifications during construction, insufficient communication between owner and consultant during design stage.

Additionally, Iyer and Jha (2005) highlighted the key causes of delays in project that may delay the final account as: inadequate project formulation in the beginning, unforeseen ground conditions, delays in design information, necessary variations of works, and reluctant in timely decision by the consultant. These factors according to Olawale and Sun (2010) could include: inspection and testing of completed portions of work, inadequate evaluation of project's duration, and discrepancies in contract documentation.

#### **Contractor related factors**

The contractor related contributing factors to non-settlement of final accounts as outlined by Aibinu and Odeyinka (2006); and Assaf and Hejji (2006) may include: financial difficulties and cash flow challenges, equipment breakdown and maintenance problems, planning and scheduling problems, material and equipment shortages, poor project management, slow mobilization and shortage of manpower.

According to Hemanta *et al.* (2012) site accidents, use of obsolete construction methods, poor qualification of contractor's technical staff, and delay in material delivery contributed the highest impact. Assaf and Hejji (2006) added that these factors could include poor site management and supervision, inadequate contractor experience and delays in subcontractor's works. In another study by Ling and Hoi (2006), the major contracting risks by contractors may also influence the defects liability period of projects namely: economic risks (materials supply, labour supply, and equipment availability), financial risks (relating to credit rating, capital supply and cash flow), managerial risks (relating to productivity, quality assurance, cost control and human resource management) and technical risks (relating to equipment and systems failure, collision and accidents).

Moreover, shortage of construction materials, changes in material types and specifications during construction, delay in material delivery, damage of sorted material while they are needed urgently, delay in manufacturing special building materials, late procurement of materials, late in selection of finishing materials contribute to success of project stages (Assaf & Hejji, 2006).

#### **Clients related factors**

Construction project owners contribute to non-settlement of final account in the following manners: clients' cash flow problems, variation orders, lack of incentive for contractors for early finish, intermitted stoppage of works due to cash flow challenges, lack of finance to complete the works, changes in materials type and specification during construction by the owner and slow in decision making (Aibinu & Odeyinka, 2006; Hemanta *et al.*, 2012; Faridi & El-Sayegh, 2006; Al-Kharashi & Skitmore, 2009).

In another studies Al-Khalil and Al-Ghafly (1999) and Assaf *et al.* (1995) noted that delay in making progress payments by the client and frequent change orders will have much impact on project. Also, delay in progress payments by owner, delay in delivering the site to the contractor by the owner, change orders by owner during construction, delay in approving design documents by client, delay in approving shop drawings and sample materials, unavailability of incentives for contractor for finishing ahead of schedule and suspension of work are major setback for projects success (Assaf and Hejji 2006). Iyer and Jha (2005) noted further that factors such as: vested interest of client's representative in not getting the project completed in time, project completion date specified but not yet planned by the owner and urgency emphasized by the owner while issuing tenders, all have the tendency of delaying final payment in projects.

## Research Methodology

A survey design approach was employed in this study with quantitative data gathered from the respondents. The research population constituted the major construction participants (clients, consultants and contractors) within Abuja, the Federal Capital Territory. The selected clients for the study are public clients gotten from the ministries, government parastatals and agencies. These ministries and agencies were selected on the basis of them having a unit or department responsible for procuring the construction industry's products.

The selected consultants are majorly the Quantity Surveyors and Architects due to their involvement in the preparation of valuation and payment certificate. Hence, registered quantity surveying and architecture firms located within Abuja were sampled. The contractors selected for the study are those located within Abuja, who are registered with Nigeria's Federation of Construction Industry (FOCI), as this is the largest umbrella body of construction contractors. Abuja was selected for this study because it is the administrative headquarters of Nigeria; it is one of the metropolitan cities in Nigeria that has the highest population of the built environment professionals and has many ongoing construction projects (Olawale & Sun, 2010).

In order to guarantee equal representation for each of the identified groups/strata (consultants, contractors and clients) in the population, stratified random sampling method was adopted. The respondents were first categorised into different strata before

they were selected and randomly sampled accordingly.

The sample frame included: 24 government clients, 121 consultants (49 Architects, 38 Quantity surveyors and 34 Builders) and 25 contractors, making up a total of 170 respondents. This value (170) was subjected to Krejci and Morgan (1970) formula for determining the minimum sample size value in the population. The value was reduced to a minimum of 118 at 95% confidence level and at 5% limit of error; showing that 118 is the minimum number of questionnaires that can be administered within the population.

Table 1 shows that 170 respondents were identified within the research population, from which a total of 146 structured questionnaire (on a five-point Likert scale) were administered, and 119 were retrieved with all fully answered and valid for analysis, representing 86% response rate.

The collected data were analysed by using the descriptive methods (percentile, Mean Item Score {MIS}, and Relative Importance Index {RII}) and the inferential method (Analysis of Variance {NOVA} and one-way sample t-test). Data processing was done with the aid of Statistical Package for the Social Sciences (SPSS) software.

The RII was adopted to determine the importance of the identified measures for mitigating the non-settlement of final account. The MIS was used to determine the weighted mean average of the identified measures and the premise of decision for the ranking is that the factor with the highest MIS is ranked 1<sup>st</sup> and others in such subsequent descending order.

**Table 1: Sample frame of the study**

Respondents	Population Size	Questionnaires administered	Questionnaires retrieved and valid for analysis	Percentage rate
Clients (government ministries and agencies)	24	23	21	14.4%
Consultants (Architect and Quantity Surveying Firms)	121	102	82	58.9%
Contractors	25	21	16	12.3%
Total	170	146	119	86%

Source: Researchers' survey, 2017

In order to determine the differences between the mean of the various groups of respondents (contractors, consultants and clients), the ANOVA test was employed to analyse the differences. The significance level attached to the possible effects of non-settled final accounts on contractors was ascertained using the one-sample t-test. Results are presented in tables.

## **Results and Discussion**

### **Contributions of consultants to non-settlement of final accounts**

Table 2 shows that under the contributions of consultants' related factors, the clients ranked changes in types and specifications during construction and inadequate experience of consultant as the top ranked factors. The consultants ranked discrepancies in contract documentation and specification interpretation disagreement, and incomplete drawings as the top factors. The contractor ranked discrepancies in contract documentation and contract and specification interpretation disagreement, and waiting time for approval of tests and inspections and the most significant consultant related factors.

On the overall mean value, all the assessed factors under this category have their mean value to be above average of 3.0. This implies that consultants' actions play a significant role in the non-payment of final account. The top ranked factors are: discrepancies in contract documentation and specification interpretation disagreement, inadequate experience of consultant, and waiting time for approval of tests and inspections, with overall mean values of 4.13, 3.97 and 3.92 respectively.

ANOVA test also shows that at 95% confidence level, there is no significant difference in the mean value of these three factors as their significant p-value were above 0.05. The least ranked factor is inflexibility of consultants with an overall mean value of 3.55 and a significant p-value of 0.977. A look at the table shows that out of the 14 factors assessed under this category, only 4 have their significant p-value to be less than 0.05. This implies that

at 95% confidence level, there is a statistically significant difference in the mean value of these 4 factors as observed by the three categories of respondents.

### **Contributions of contractors to non-settlement of final accounts**

Under the contributions of contractor, the most significant factors as perceived by the clients are; rework due to errors during construction, changes in material types and specifications during construction, and delay in material delivery. However, the consultants ranked financial difficulties and cash flow challenges, rework due to errors during construction, and changes in material types and specifications during construction as the most significant factors. From the contractors' view, rework due to errors during construction, changes in material types and specifications during construction, and poor quality of materials were the top-rated factors.

On the overall, it can be observed that all the assessed factors under this group have their mean value to be from 3.0 and above. This implies that these assessed factors have the tendency of affecting the payment of final accounts. The top ranked factors under this category are; rework due to errors during construction, financial difficulties and cash flow challenges, and changes in material types and specifications during construction, with a mean value of 4.15, 3.98, and 3.97 respectively. ANOVA also shows that there is no statistically significant difference in the mean of these top ranked factors, as a significant p-value of above 0.05 was derived. The least ranked factor is damage of sorted material while they are needed urgently with a mean value of 3.00 and a significant p-value of 0.727.

### **Contributions of clients to non-settlement of final accounts**

For the factors related to client's contribution to non-payment of final account, result reveals the clients ranked clients' cash flow problems, delay in progress payments by owner, and changes in materials type and specification during construction by the owner. The consultants

and contractors however ranked variation orders, delay in progress payments by owner, and changes in materials type and specification during construction by the owner, as the top three factors. On the overall, it is evident that all the assessed factors have a mean value of above average of 3.0, thus, showing that they are significant hand have the tendency to affect final account payment. The top ranked factors under this category are: clients' cash flow problems, variation orders, delay in progress payments by

owner, changes in materials type and specification during construction, slow decision making, and Lack of incentive for contractors for early finish, with an overall mean value of 4.42, 4.40, 4.38, 4.24, 4.22, and 4.21 respectively. ANOVA test also shows that there is no statistically significant difference in the mean value of all the assessed variables, as a significant p-value of above 0.05 was derived for all the assessed factors.

**Table 2: Contribution of consultants to non-settlement of final accounts**

Consultant Related Factors	Client		Consultants		Contractors		Overall		ANOVA	
	MIS	Rk	MIS	Rk	MIS	Rk	MIS	Rk	F-Stat	Sig.
Discrepancies in contract documentation and specification interpretation disagreement	4.10	3	4.14	1	4.11	1	4.13	1	0.025	0.976
Inadequate experience of consultant	4.14	2	3.90	4	3.93	4	3.97	2	0.482	0.619
Waiting time for approval of tests and inspections	3.79	8	3.92	3	4.04	2	3.92	3	0.390	0.678
Changes in types and specifications during construction	4.38	1	3.60	10	4.00	3	3.88	4	5.087	0.008**
Inadequate supervision	4.10	3	3.89	6	3.37	14	3.82	5	3.102	0.049**
Incomplete drawings	3.34	13	4.05	2	3.74	9	3.81	6	3.347	0.039**
Design errors made by designers' late issuance of instructions	3.86	7	3.76	7	3.74	9	3.78	7	0.105	0.900
Conflicts between consultant and design engineer	3.93	6	3.67	8	3.85	5	3.77	8	1.343	0.265
	3.79	8	3.63	9	3.85	5	3.72	9	0.661	0.518
Poor communication between consultant and other parties	4.10	3	3.51	14	3.81	7	3.72	9	5.037	0.008**
Poor project monitoring inadequate evaluation of project's duration	3.24	14	3.90	4	3.59	11	3.67	11	2.349	0.100
Late review and approval of design documents by consultants' inflexibility (rigidity) of consultant	3.76	10	3.54	11	3.78	8	3.65	12	1.188	0.309
	3.76	10	3.52	13	3.52	12	3.58	13	0.440	0.645
	3.59	12	3.54	11	3.52	12	3.55	14	0.023	0.977
							<b>3.78</b>			

*Note: MIS = Mean Item Score, Rk = Rank, \*\* Significant at p < 0.05.*

**Table 3: Contribution of contractors to non-settlement of final accounts**

Contractors Related Factors	Client		Consultant		Contractor		Overall		ANOVA	
	MIS	Rk	MIS	Rk	MIS	Rk	MIS	Rk	F-Stat	Sig.
Rework due to errors during construction	4.34	1	3.97	2	4.37	1	4.15	1	3.003	0.054
Financial difficulties and cash flow challenges	3.90	5	4.10	1	3.81	6	3.98	2	1.167	0.315
Changes in material types and specifications during construction	4.00	2	3.86	3	4.19	2	3.97	3	1.040	0.357
Improper construction methods implemented by contractor	3.90	5	3.79	4	3.93	4	3.85	4	0.273	0.762
Poor quality of materials	3.62	12	3.65	7	4.04	3	3.73	5	0.794	0.454
Poor site management and supervision	3.66	10	3.75	5	3.67	12	3.71	6	0.116	0.890
Improper project planning by contractor	3.66	10	3.65	7	3.89	5	3.71	6	0.454	0.636
Frequent change of sub-contractors due to their inefficient work	3.69	7	3.73	6	3.56	15	3.68	8	0.176	0.839
Delays in sub-contractors' work	3.52	15	3.65	7	3.78	9	3.65	9	0.240	0.787
Unavailability of materials equipment and adequate labour	3.97	3	3.37	20	3.81	6	3.61	10	4.708	0.011**
Slow mobilization	3.48	16	3.56	13	3.78	9	3.59	11	0.734	0.482
Inadequate contractor's work	3.62	12	3.48	14	3.81	6	3.59	11	0.488	0.615
Delay in manufacturing (special building materials)	3.69	7	3.43	17	3.74	11	3.56	13	0.932	0.397
Conflicts between contractor and other parties (consultant and owner)	3.45	18	3.65	7	3.48	17	3.56	14	0.776	0.463
Conflicts in sub-contractors schedule in execution of project	3.69	7	3.48	14	3.59	13	3.55	15	0.438	0.646
Material and equipment shortages	3.34	22	3.62	11	3.59	13	3.55	15	0.722	0.488
Delay in material delivery	3.97	3	3.37	20	3.44	19	3.53	17	1.556	0.215
Poor qualification of contractor's technical staff	3.48	16	3.57	12	3.30	24	3.49	18	0.618	0.541
Poor communication and coordination by contractor with other parties	3.55	14	3.43	17	3.48	17	3.47	19	0.186	0.831
Planning and scheduling Problems	3.45	18	3.44	16	3.52	16	3.46	20	0.042	0.959
Equipment breakdown and maintenance problems	3.24	23	3.37	20	3.33	21	3.33	21	0.109	0.897
Escalation of material prices and poor procurement of material	3.40	20	3.25	23	3.35	20	3.31	22	0.151	0.860
Ineffective planning and scheduling of project by Contractor	3.14	26	3.43	17	3.19	26	3.30	23	1.002	0.370
Use of improper or obsolete construction methods	3.38	21	3.08	25	3.33	21	3.21	24	1.611	0.204
Site accidents due to lack of safety measures	3.17	25	3.16	24	3.33	21	3.20	25	0.320	0.726
Shortage of construction materials in market	3.24	23	3.05	26	3.22	25	3.13	26	0.333	0.718
Damage of sorted material while they are needed urgently	3.10	27	2.92	27	3.07	27	3.00	27	0.320	0.727
							<b>3.66</b>			

Note: MIS = Mean Item Score, Rk = Rank, \*\* Significant at  $p < 0.05$ .

**Table 3:** Contribution of clients to non-settlement of final accounts

Clients Related Factors	Client		Consultant		Contractors		Overall		ANOVA	
	MIS	Rk	MIS	Rk	MIS	Rk	MIS	Rk	F-Stat	Sig.
Clients' cash flow problems	4.45	1	4.41	3	4.41	2	4.42	1	0.017	0.983
Variation orders	4.24	4	4.46	1	4.44	1	4.40	2	0.775	0.463
Delay in progress payments by owner	4.28	2	4.44	2	4.33	3	4.38	3	0.935	0.395
Slow decision making	4.21	5	4.27	4	4.22	6	4.24	4	0.213	0.809
Changes in materials type and specification during construction by the owner	4.28	2	4.17	6	4.26	5	4.22	5	0.582	0.560
Lack of incentive for contractors for early finish	4.07	7	4.24	5	4.30	4	4.21	6	0.476	0.623
Change orders by owner during construction	4.10	6	3.87	7	3.56	12	3.86	7	2.074	0.130
Late revision and approval of design documents by owner	4.03	8	3.71	11	3.78	7	3.81	8	1.526	0.222
coordination by owner and other parties	3.90	9	3.78	8	3.59	11	3.76	9	0.552	0.577
Conflicts between joint ownership of the project	3.83	10	3.67	12	3.78	7	3.73	10	0.230	0.795
Urgency emphasized by the owner while issuing tenders	3.24	14	3.75	9	3.74	10	3.62	11	1.317	0.272
Vested interest of client's representative in not getting the project completed in time	3.72	11	3.63	13	3.48	13	3.62	11	0.194	0.824
Project completion date specified but not yet planned by the owner	3.48	13	3.73	10	3.44	14	3.61	13	0.444	0.642
Delay to furnish and deliver the site to the contractor by the owner	3.72	11	3.21	14	3.78	7	3.46	14	2.036	0.135

*Note: MIS = Mean Item Score, Rk = Rank, \*\* Significant at  $p < 0.05$ .*

### Overall group mean for clients, contractors and consultants

Figure 1 shows the overall mean of the contribution of the three assessed contract parties. It is evident from Figure 1 that these three parties have significant role to play in the payment of final account, as a mean value of above 3.0 was derived. However, the contract party with the most significant contribution to non-payment of final account is the client with a mean value of 3.95. This is as a result of critical factors such as: problem with the clients' cash flow, which invariably will lead to the client being unable to settle the final account of the project; variation orders which in most cases will lead to delay in completion of the project, increase in cost and arising of claims; delay in progress payments by owner; changes in materials type and specification during construction; slow decision making; and lack of incentive for contractors for early finish. Next to the clients are the consultants' factors with a mean value of 3.78. This group is ranked second as a result of factors such as: discrepancies in contract documentation and specification interpretation disagreement, inadequate experience of consultant, and waiting time for approval of tests and inspections. The least factor is the contractors' factors, having a mean value of

3.55 with factors such as: rework due to errors during construction, financial difficulties and cash flow challenges, and changes in material types and specifications during construction.

This finding is in line with research of Aibinu and Odeyinka (2006); Faridi and El-Sayegh (2006); and Hemanta *et al.* (2012), which submitted that clients' cash flow problems, variation orders, lack of incentive for contractors for early finish, lack of finance to complete the works, changes in materials type by the client, and slow decision making are key factors of the clients that contributes the non-settlement of final accounts. The finding is also in tandem with Assaf and Hejji (2006) which stated that delay in client's payment can be a major factor influencing the settlement of final accounts. Memon *et al.* (2012) also discovered that design changes can lead to poor cost performance. This tends to affect the settlement of final account of such projects as clients may not be inclined to want pay any additional cost. The result is also in tandem with Assaf and Hejji (2006) which stated that changes in material specifications have the tendency in affecting project cost and by extension the settlement of final account at the end of the project.

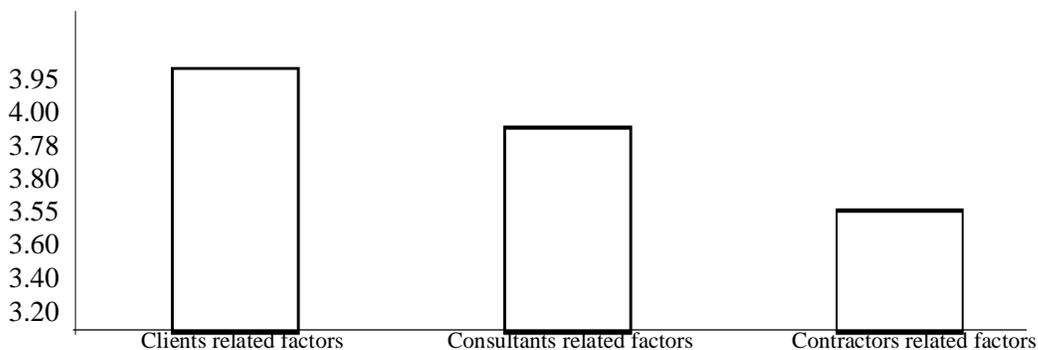


Figure 1: Overall group mean of contracting parties to non-settlement of final accounts

## Conclusion and Recommendations

The final account stage of a project is sometimes rarely settled or even being delayed by some of the contracting parties, and thereby posing serious challenges on contractors. Hence, this research investigated the contributions of contracting parties to non-settlement of final accounts in building projects in Abuja, Nigeria.

The research found that actors relating to clients also play a major role in the settlement of final account, including: problem with the clients' cash flow, variation orders, delay in progress payments by owner, changes in materials type and specification during construction, slow decision making, and lack of incentive for contractors for early finish. The major consultant and contractor related factors for non-settlement of final accounts are similar and they include: discrepancies in contract documentation and specification interpretation disagreement, inadequate experience of consultant, waiting time for approval of tests and inspections, rework due to errors during construction, financial difficulties and cash flow challenges, and changes in material types and specifications during construction. Also, there is no significant difference in the views of the three categories of respondents on the contributions of contracting parties to non-settlement of final accounts in building projects. Meaning that the respondents have similar views on the result.

Based on these findings, it can be concluded that proper management of these identified factors would translate into effective settlement of final accounts in building projects. The research recommends that, project clients should maintain a separate escrow bank account dedicated to financing the project, in order to mitigate the problems of client's inability to make payment as a result of poor clients' cash flow. Consultants and contractors should avoid the influence of discrepancies in contract documentations, as care must be ensured in preparing contract documents. In order to ensure effective settlement of final accounts in building projects, the contracting parties

could constantly revise and implement the findings of this research as a reference document.

## References

- Aibinu, A. A. & Odeyinka, H. A. (2006). Construction Delays and their Causative Factors in Nigeria, *Journal of Construction Engineering and Management*, 132, 667–677.
- Al-Khalil, M. I. & AL-Ghafly, M. (1999). Important Causes of Delay in Public Utility Projects in Saudi Arabia, *Journal of Construction Management and Economics*, 17(5), 647–655.
- Al-Kharashi, A. & Skitmore, M. (2009). Causes of Delays in Saudi Arabian Public Sector Construction Projects. *Journal of Construction Management and Economics*, 27(1), 3–23.
- Arditi, D., Akan, G. T. & Gurdamar, S. (1985). Reasons for Delays in Public Projects in Turkey, *Construction Management and Economics*, 3, 171–181.
- Assaf, S. A., Al-Khalil, M. & Al-Hazmi, M. (1995). Causes of delays in large building construction projects. *Journal of Management in Engineering*, 11, 45–50.
- Assaf, S. A. & Al-Hejji, S. (2006). Causes of delay in large construction projects. *International Journal of Project Management*, 24(4), 349–357.
- El-Razek, A. M. E., Bassioni, H. A. & Mobarak, A. M. (2008). Causes of Delay in Building Construction Projects in Egypt. *Journal of Construction Engineering and Management*, 134, 831–841.
- Faridi, A.S. & El-Sayegh, S. M. (2006). Significant Factors Causing Delay in the UAE construction industry, *Journal of Construction Management and Economics*, 24(11), 1167–1176.
- Hemanta, D., Anil, S., Iyer, K. C. & Sameer, R. (2012). Analysing factors affecting delays in Indian construction projects, *International journal of Project Management*, 30(4), 479 – 489.
- Ismail, S. Zakaria, Z. & Yusof, A. (2014). Construction: Final Account Closing

- in Project Management Perspective. *Feature Article Jurutera*, 2(4), 16-19.
- Iyer, K. C. & Jha, K. N. (2005). Factors affecting cost performance: evidence from Indian construction projects. *International Journal of Project Management*, 23(4), 283–295.
- Kwok, C. K. (2009). Study of Important Factors Affecting Final Account Settlement Satisfaction of Hong Kong Civil Engineering Projects: Contractor's Perspective. Unpublished Doctoral Thesis Department of Engineering, City University of Hong Kong.
- Ling, F. Y. Y. & Hoi, L. (2006). Risks faced by Singapore firms when undertaking construction projects in India. *International Journal of Project Management*, 24(3), 261–270.
- Lo, T. Y., Fung, I. W. H. & Tung, K. C. F. (2006). Construction delays in Hong Kong Civil Engineering Projects, *Journal of Construction Engineering and Management*, 132, 636–649.
- Memon, A. H., Rahman, I. A., Abdullah, M. R. & Azis, A. A. (2012). The Cause Factors of Large Project's Cost Overrun: A Survey in the Southern Part of Peninsular, *International Journal of Real Estate Studies*, 7(2), 1 – 15
- Olawale, Y. A. & Sun, M. (2010). Cost and time control of construction projects: inhibiting factors and mitigating measures in practice. *Construction Management and Economics*, 28(5), 509–526.
- Oseghale, G. E. & Wahab, A. B. (2014). Analysis of relationship between preliminary estimate, tender sum and final accounts (a case study of selected building projects in Edo State, Nigeria). *Journal of Civil and Environmental Research*, 6(6), 76-86.
- Seamus-cooley, C. (2015). The Chattered Quantity Surveyors and final account: [retrieved date] Accessed from <http://www.scquantitysurveyors.com/final-accounts>
- Shen, L., Hao, J. L., Tam, V.W. & Yao, H. (2007). A checklist for assessing sustainability performance of construction projects. *Journal of Civil Engineering and Management*, 13(4), 273-281.
- Zakaria, Z., Ismail, S. & Yusof, A. M. (2012). The Closing of final account in Malaysia construction industry: An overview on the cause and impact of dispute and delay. *Proceedings of the 19th. International Business Information Management Association*.
- Zarabizan Z. I., Syuhaida, I. & Aminah, Y. (2012). Cause and Impact of Dispute and Delay the Closing of Final Account in Malaysia Construction Industry. *Journal of Southeast Asian Research*, 20(2), 12-24.