APPRAISING THE CHALLENGES OF RETENTION FEES IN CORRECTING DEFECTS IN POST CONSTRUCTION WORK IN TARABA STATE

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Abstract

The aim of this research was to assess the challenges of retention fees to address defects in post construction work in Taraba state with a view to exploring feasible alternatives or better practiced to replace retentions. The study adopted quantitative survey research design and data was collected through questionnaire from professionals who were randomly drawn. 140 structured questionnaires were distributed to the professionals. This research is based on Appraising the Challenges of Retention Fees in Correcting Defects in Post Construction work in Taraba State. The study adopted simple random sampling technique and Statistical Package for Social Science (SPSS) software version 22 was used for data analysis and the results were presented in tables. The finding of this study revealed that the major current issues surrounding the practice of retention are clients abuse contractors retentions is wide spread, ignorance in respect of the law, not released on time, bad management of defects, cash flow issues, overpayment, insolvency of the payer and contractors abuse subcontractors retention is wide spread. The study reveals that the major alternatives that could be used in place of the traditional retention practice where by retention are deposited in an interest-bearing escrow or trust account, eliminating of retention with a payment or performance bond, warranties & guarantees. Retention bonds are the major alternatives that could be used in place of the traditional retention practice.

Key words: Appraising, retention fees, professionals, traditional, major alternative.

Introduction

The retention fee system is an important and peculating feature to the building industry. In the present-day construction industry, retention is the most commonly used performance security (House of Commons, 2002). Retention or withholding of cash from subcontractors by the main contractor and from the main contractor by the client is commonplace within the industry. As reported by Hugles, Hillebrandt and Murdoch (2000), most construction contracts are subject to cash retention. As such, curbing the numerous challenges of cash retention that can address the defects that arises during defect liability period is the thrust of this study.

Evidence suggests problems around the practice of retentions in the Nigeria construction industry, however there is a lack of empirical research on this topic area in Nigeria. With recent collapse of several buildings in Nigeria the issue of retention has once again sparked debate within the Nigeria construction industry (Ninness, 2013). With the industry having undergone radical changes in the past few decades or so the existence of the historical retention practice seems to be odd. Therefore, this research intends to examine the challenges of cash retention fee to address defects in post construction work in Taraba State.

Survey research design was adopted by the researcher. Hence, in consistence with a study by Inuwa (2014), this research design is mainly quantitative and descriptive in nature. The populations for the study are 152 professionals (architects, quantity surveyors, civil engineers and builders) in the construction industry in Taraba State.

The researcher adopted simple random sampling technique. The sample size for this research was in accordance with Krejcie and Morgan table which was used for determining the 152 professionals (Krejcie and Morgan, 1976). 152 questionnaires was administered. The Reliability index of the instrument was set at 0.7 Cronbach alpha values. Statistical Package for Social Science (SPSS) and component factor analysis was used for statistical analysis of the data generated from the questionnaire.

The data obtained using questionnaire survey was thoroughly screened, analyzed and sorted out for analysis depicting the information responses from the respondent. Since the study contained descriptive and inferential approach, questions in research questions 1, 2, & 3 were analyzed using mean ranking while research question 4 was analyzed using factor analysis**.**

The research administered a total of 152 questionnaires to the professionals in the study area. 140 properly filled and returned questionnaires were used for analysis and presented.

One hundred and fifty two questionnaires were administered to the respondents. The study retrieved one hundred and forty (140) valid questionnaires representing 81% response rate, and this response rate appears justifiable to measure its variables in the field of construction industry. According to Irons and Buskist (2008) as cited by Abadi *et al.* (2017), the result of a survey is considered as biased and little value if the response was less than 30-40%. Moreover, a 78% response rate was recorded by Irum, Ahmed and Sultana (2015), Issa and Koblegard (2015) recorded a 68% response rate, Kazaz and Ulubeyli (2013) reported a response rate of 55.25% each, and Lill (2018) achieved a 33% response rate.

Table 1: Questionnaire Response Rate

S/N	Respondent	Distribution	Returned	% Response Rate
1	Architects	40	38	95.7
2	Builders	40	38	95.7
3	Quantity Surveyors	35	25	70.7
4	Engineering	25	15	70.7
5	Accountants	12	4	40.2
	Total	152	140	92

Table 2: Educational specialization type

Specialization	Frequency	Percent	Valid Percent	Cumulative Percent
Architecture	38	36.4	36.4	36.4
Builders	38	36.4	36.4	65.0
Quantity Surveyor	25	15.7	15.7	85.7
Engineering	15	9.9	9.9	88.6
Accountant	4	1.6	1.6	100.0
Total	140	100.0	100.0	

Source: Field work (2021)

The professionals who were the respondents of the questionnaire include architect, builders, quantity surveyors, engineers and accountants. From Table 6, the percentage of people whose profession is Architecture is 36.4%, the builders as shown in the table makes up 36.4% of the surveyed personnel. The quantity surveyor in the firms makes up 15.7%. The engineers present

were 9.9%, while the accountants make up a total of 1.6%. The highest group of professionals are the architects and builders.

Table 3: Educational qualification

Qualification	Frequency	Percent	Valid Percent	Cumulative Percent
ND	21	15.0	15.0	15.0
HND	51	36.4	36.4	97.9
BSc/B.Tech	56	40.0	40.0	55.0
PGD	9	6.4	6.4	61.4
Msc	3	2.1	2.1	100.0
Total	140	100.0	100.0	

Source: Field work (2021)

The qualification of the respondents of the questionnaire includes Msc, PGD, Bsc/B.Tech, HND, and ND. The percentage of Diploma in term of qualification of the respondent is (15.0%), those having HND with a percentage of (36.4%), those with BSc/B.Tech has a percentage of (40.0%), personnel with PGD are (6.4%) of the respondents while those with master's degree in percentage are (2.1%). Thus, people with Degree are the highest in number of the respondent in the surveyed area, this shows that the surveyed area has experienced professional in the area surveyed.

Table 4: Professional institution

Professional body	Frequency	Percent	Valid Percent	Cumulative Percent
NIA	37	26.4	26.4	26.4
NIQS	38	27.1	27.1	53.6
NIOB	47	33.6	33.6	87.1
NSE	18	12.9	12.9	100.0
Total	140	100.0	100.0	

Source: Field work (2021)

The professional institution of the respondents includes NIA, NIOB, NSE, and NIQS. The percentage of respondents registered with NIA is 26.4%, those registered with NIOB are 33.6%, those registered with NIQS are 27.1%, and those registered with NSE are 12.9%. Therefore, respondents registered with NIOB are the highest in the study area.

Table 5: Period been involved in the construction industry

Period	Frequency	Percent	Valid Percent	Cumulative Percent
Less than 5 years	37	26.4	26.4	26.4
5 – 11 years	39	27.9	27.9	54.3
12- 17 years	53	37.9	37.9	92.1
18- 23 years	11	7.9	7.9	100.0
Total	140	100.0	100.0	

Source: Field work (2021)

The result form the table shows that the percentage of people with years of experience in less than 5 years is 26.4%, those within the years of experience between 5 to 11 years have a percentage of 27.9%, years of experience between 12 to 17 years have a percentage of 37.9%, while the percentage of people whose years of experience ranges from 18-23 years is 7.9%. Thus, this indicates that the working groups with years of experience between 12 years to 17 years are mostly found in the construction field.

Table 6: Management level in the organization

Management level	Frequency	Percent	Valid Percent	Cumulative Percent
Top management	28	20.0	20.0	20.0
Middle management	82	58.6	58.6	78.6
Lower management	28	20.0	20.0	98.6
Trade supervision	2	1.4	1.4	100.0
Total	140	100.0	100.0	

Source: Field work (2021)

The result from Table 10 shows that the management level in the organization are top management, middle management, lower management and trade supervision. The respondents in the top management are having 20.0%, respondents in middle management are having 58.6%, respondents in lower management are having 20% and respondents in trade supervision are having 1.4%. This indicates that most of the respondents in the organization are in middle management.

Issues surrounding the current practice of fee retention

Table 7 below shows the remark on issues surrounding the current practice of retention using the Rank Scale: Extremely Severe (ES); 4 – Severe (SE); 3-Moderately Severe (MS); 2- Least

Severe (LS); 1 – Not Severe (NS). The Decision rule of five point's likert rating scales include: Extremely Severe = 4.50 – 5.00, Severe = 3.50 – 4.49, Moderately Severe = 2.50 – 3.49, Least Severe = 1.50 – 2.49, Not Severe = 0.05 – 1.49. In the issues surrounding the current practice of retention it shows that clients abuse contractors retentions is wide spread, ignorance in respect of the law, not released on time, bad management of defects, cash flow issues, and overpayment are the major issues surrounding the current practice of retention with mean value ranging from 4.1637 to 3.5439. Moreover, insolvency of the payer and contractors abuse subcontractors retention is wide spread are also issues surrounding the current practice of retention in the study area with moderately severe mean of 3.4503 and 3.3801.

This is in line with research of Uher (1991) that the sub-contractors are suffering most from the practice of retentions. They are the main challenges of the retention practice as against clients or the main contractors for whom retentions is a source of extra capital, which they could use for other purposes e.g. financing other projects (Uher, 1991).

Table 7: Issues surrounding retention

Variable	Mean	Std. Deviation	Remark
Clients abuse contractors retentions is wide spread	4.1637	0.94698	Severe
Ignorance in respect of the law	4.0468	0.92613	Severe
Not released on time	3.8012	0.88411	Severe
Bad management of defects	3.7836	1.15186	Severe
Cash flow issues	3.6140	1.25273	Severe
Overpayment	3.5439	0.70017	Severe
Insolvency of the payer	3.4503	0.89290	Moderately Severe
Contractors abuse subcontractors retention is wide spread	3.3801	0.64819	Moderately Severe

Source: Field work (2021)

Alternatives that could be used in place of the traditional retention fee practice

Table 8 below shows the remark of alternatives that could be used in place of the traditional retention practice using the Rank Scale: Ineffective (IE); 4 – Least effective (LE); 3-Fairly effect6ive (FE); 2- Effective (EF); 1 –Highly effective (HE). The Decision rule of five point's likert rating scales include: Highly Effective = 4.50 – 5.00, Effective = 3.50 – 4.49, Fairly Effective = 2.50 – 3.49, Least Effective = 1.50 – 2.49, Ineffective = 0.05 – 1.49. In alternatives

that could be used in place of the traditional retention practice it reveals that maintaining the current practice however retention to be deposited in an interest bearing escrow or trust account, eliminating of retention with a payment or performance bond, warranties & guarantees, retention bonds are the effective alternatives that could be used in place of the traditional retention practice with mean value ranging from 3.8947 and 3.5029.

In addition, performance bond, project bank account, substitution of securities in place of retention, parent company guarantee and securities in place of retention are also fairly alternatives that could be used in place of the traditional retention practice with mean value ranging from 3.3977 and 3.1287.Latham (2004) and Hughes (2008) had recommended securing construction money by using trust accounts, to protect against client insolvency. The use of escrow/trust accounts to hold retention monies seems to be an accepted form of security.

Table 8: Alternatives to retention

Variable	Mean	Std. Deviation	Remark
Maintaining the current practice however retention to be deposited in an interest bearing escrow or trust account	3.8947	1.25273	Effective
Eliminating of retention with a payment or performance bond	3.6199	0.70017	Effective
Warranties & guarantees	3.5906	0.89290	Effective
Retention bonds	3.5029	0.64819	Effective
Performance bond	3.3977	1.10255	Fairly Effective
Project bank account	3.1871	1.15420	Fairly Effective
Substitution of securities in place of retention	3.1696	1.15357	Fairly Effective
Parent company guarantee	3.1637	0.51588	Fairly Effective
Securities in place of retention	3.1287	0.88216	Fairly Effective

Source: Field work (2021)

Determination in the extent to which alternative retention are used

Table 13 below shows the extent to which retention is used using the Rank Scale: 5 -Highly Effective (HE); 4 – Effective (EF); 3- Fairly Effective (FE); 2- Least Effective (LE); 1 – Ineffective (IE). The Decision rule of five point's likert rating scales include: Highly Effective =

4.50 – 5.00, Effective = 3.50 – 4.49, Fairly Effective = 2.50 – 3.49, Least Effective = 1.50 – 2.49, Ineffective = 0.05 – 1.49. In determining the extent to which retention are used it shows that the extent of application retention fee on various types of projects is categorized in three categories. Building project has three variables, civil engineering project has three and heavy engineering project has only two variables. In building project application retention fees is effectively used in all the projects with mean values ranging from 4.1637 to 3.8012 while in civil engineering project retention fees is effectively used in road construction and railway construction with mean value of 3.6140 to 3.4503 which is fairly effective in highway construction. In heavy engineering project retention fees is fairly effective both telecommunication mast and dam construction with mean value of 3.3099 and 2.2515.

Table 9: Extent of application alternative retention fee on various types of projects

Variable	Mean	Std. Deviation	Remark
Building Project			
Residential building	4.1637	1.10255	Effective
Commercial building	4.0468	1.15420	Effective
Office building	3.8012	1.15357	Effective
Civil Engineering Project			
Road construction	3.6140	0.51588	Effective
Railway construction	3.5439	0.88216	Effective
High way construction	3.4503	0.51588	Fairly Effective
Heavy Engineering Project			
Telecommunication mast	3.3099	0.88411	Fairly Effective
Dam construction	3.2515	1.15186	Fairly Effective

Source: Field work (2021)

Parameters for retention fee in correcting defects

From the fourteen factors identified as parameters for retention fee in correcting defects. Component Factors Analysis was used to determine the parameters for retention fee in correcting defects. Any factor that had a score of at-least 0.5 (absolute value) as highlighted in Table 14 was considered as parameters for retention fee in correcting defects. Under Factor 1, thirteen variables; Prompt payment of retention fee, Contractor situation should be taken into

consideration, Correct interpretation of work information by client/employer, Non-holding back of retention fee, Administration of retention fee should engender trust in contractor, Introduction of retention fee is to improve relationship. All contractors' retention money should not be used for repair work, Application of bond as alternative to retention fee, Financial security in exchange of retain age fee, Introduction of letter of credit in place of retention fee in escrow account, Deployment of payment bond were parameters for retention fee in correcting defects. Under Factor 2, one variable was not a parameter for retention fee in correcting defects. From Factor 3 no variable was identified as parameters for retention fee in correcting defects. This means that thirteen out of the fourteen variables were considered by respondents as factor rotation of parameters for retention fee in correcting defects.

Table 10: Parameters for retention fee in correcting defects

S/N	Variables	Factor 1	Factor 2	Factor 3
1	Prompt payment of retention fee	0.639	-0.104	-0.100
2	Contractor situation should be taken into consideration	0.664	-0.285	0.174
3	Correct interpretation of work information by client/employer	0.701	0.147	-0.113
4	Non-holding back of retention fee	0.350	0.664	0.069
5	Administration of retention fee should engender trust in contractor	0.627	-0.053	-0.504
6	Introduction of retention fee	0.571	-0.108	0.478
7	Introduction of retention fee to improve relationship	0.743	0.115	-0.309
8	All contractors' retention money should not be used for repair work	0.870	0.010	0.114
9	Application of bond as alternative to retention fee	0.491	-0.565	-0.299
10	Financial security in exchange of retainage fee	0.505	-0.255	0.137
11	Introduction of letter of credit in place of retention fee in escrow account	0.635	0.330	-0.137
12	Deployment of payment bond	0.749	0.201	-0.005
13	Escrowing of retention fee in escrow account	0.752	0.004	0.0162
14	Application of performance bond	0.648	-0.055	0.344

Current Issues Surrounding the Practice of Retention Fees

On current issues surrounding the practice of retention, the result shows that clients abuse contractors retentions is wide spread, ignorance in respect of the law, not released on time, bad management of defects, cash flow issues, and overpayment are the major issues surrounding the

current practice of retention. Moreover, insolvency of the payer and contractors abuse subcontractors retention is wide spread are also issues surrounding the current practice of retention in the study area. This is in line with research of Uher (1991) that the sub-contractors are suffering most from the practice of retentions. They are the main opponents of the retention practice as against clients or the main contractors for whom retentions is a source of extra capital, which they could use for other purposes e.g. financing other projects (Uher, 1991).Whereas research shows that the opponents of the practice believe that retention reduces competition and increases project cost, provides a financial disincentive for timely completion of the work, and places a financial hardship upon contractors and subcontractors (Bausınan. 2004).The opponents also believe that the system is often abused by employers who withhold payment unreasonably, their objective being either to speed up work and/or to achieve cost savings with only marginal interest placed in indemnifying the employer against defects. This unreasonable withholding of payment places significant pressure on contractor/subcontractor cash flow. It is well known that the margins in the building industry are tight and unpaid retention funds can easily wipe out a contractors/ subcontractors profit or even cause a loss on a project (Wyatt 2003).

Alternatives that could be used in Place of the Traditional Retention Practice

The alternatives that could be used in place of the traditional retention practice are maintaining the current practice however retention to be deposited in an interest-bearing escrow of trust account, eliminating of retention with a payment or performance bond, warranties &guarantees, retention bonds are the major alternatives that could be used in place of the traditional retention practice. In addition, performance bond, project bank account, substitution of securities in place of retention, parent company guarantee and securities in place of retention are also alternatives that could be used in place of the traditional retention practice. Latham (1994) and Hughes (1998) had recommended securing construction money by using trust accounts, to protect against client insolvency. The use of escrow/trust accounts to hold retention monies seems to be accepted form of security.

However according to Dodsworth (2003) main contractors' perception were diverse with clients favouring the system of retentions, preferring the abolition of retention except against their subcontractors in Situations where they were themselves subject to retentions. Some contractors viewed retentions as causing" immense harm to the competitiveness and the viability of small

and medium-sized firms a mechanism that has no place in a modem construction industry dependent upon the most advanced skills in technology and engineering"

Extent to which Retention are Used

On the extent of application retention fee on various types of projects, it shows that the extent of application retention fee is used on various types of projects is categorized in three Categories. Building project has three variables, civil engineering project has three and heavy engineering project has only two variables. In building project application retention fees is effectively used in all the projects while in civil engineering project retention fees is effectively used in road construction and railway construction where it is fairly effective in highway construction. In heavy engineering project retention fees is fairly effective both telecommunication mast and dam construction. The legitimate purpose of retentions as per Stockenberg (2001) is to guarantee clients that the contractor properly and timely complete the contract. Without holding retentions, believe that contractors cannot be held responsible for things such as: undone work, Correction of poor-quality work, code compliance, delivery of warranties, guarantees, operating instruction, parts information, compliance with mechanics lien law, occupancy and other permits, inspection reports, as-built drawings in various aspect of building, civil engineering and heavy engineering projects (Ahmad & Barnes, 1992).

The client holds on to the retention money until the completion stage of the contract. The retention sum is released once the client is reasonably assured by the architect engineer that the project is completed as per the terms of the contract, and progress payments have been accurately prepared (Wyatt, 2003). The retention release mechanism is such that halt of this 1s released to the main contractor once the project is certified practically complete whereas the other half is withheld until the end of the defects liability period or the maintenance period, during which the contractor must rectify any detects identified.

Conclusion

1. It is concluded on the research findings that current issues surrounding the practice of retention are clients abuse contractors retentions is wide spread, ignorance in respect of the law, not released on time, bad management of defects, cash flow issues, overpayment.
2. Escrow or trust account, eliminating of retention with a payment or performance bond, warranties & guarantees, retention bonds are the major alternatives that could be used in place of the traditional retention practice.

3. If contractors adhere strictly to specification standard, they cannot be held responsible for things such as: undone work, correction of poor-quality work, code compliance, delivery of warranties, guarantees, operating instructions, parts information, compliance with mechanics lien law, occupancy and other permits, inspection reports, as-built drawings in various aspect of building, civil engineering and heavy engineering projects.

Recommendations

1. Clients and main contractors should have contractual warranties to protect them from subcontractors who fail to complete work or perform defective work.
2. Clients in construction industry should not earn interest on retentions. Retentions should be held both by the clients and the contractors in the construction industry.
3. Alternatives to traditional retentions should be set in the conditions of every contract, which could be followed through the entire construction industry.

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