

# An Assessment of the Impacts of Cost Factors Influencing Performance of Small Scale Local Government Contractors in Nigeria

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**Abstract** - The performances of small scale local government contractors (SSLGC) pose a challenge to the sustainable development of construction industry particularly in developing countries such as Nigeria. Studies in the past focus most attention on the productivity of major foreign construction firms mostly owned and managed by expatriates. Yet very few researches have done to assess the performance of SSLGC. This study aimed at identifying and assessing the major factors affecting performance of SSLGC in Nigeria. Three major factors namely: cash flow problems, fraudulent practices and the nature of construction environment are identified as the major factors affecting performance of SSLGC. Questionnaire survey was administered to the major parties in the industry; clients, contractors and consultants using proportionate stratified random sampling and the results indicates that cash flow scored the mean value of 3.77, fraudulent practice was 3.58 and nature of working environment 3.51 means, the three factors fall into the classification of very severe impacts factors contributing to the poor/low performance of contractors in Nigeria. The study concluded that cash flow problems, fraudulent practices in the industry and the nature of construction environment are the major factors affecting performance of SSLGC in Nigeria and the study recommended that local governments in Nigeria should devise a good cash flow policy, stringent penalty to persons involved in any fraud activity and thorough site investigation and documentation before embarking at any project.

**Keywords:** *Cost factors, Small Scale, Contractors, Performance.*

## 1. INTRODUCTION

Construction cost performance is one of the most important criteria of contractor's success from inception to completion of any building project and is of serious concern to parties involved in the building construction industry (Memon, Abdul Rahman, Abdullah, & Abdu Azis 2011). In a building construction industry it is very rarely projects are completed within initial estimated cost due to seen and

unforeseen circumstances or factors (Elinwa & Buba, 1993). Many researchers argued that cash flow problems, fraudulent practice in the industry and the nature of construction environment are the major factors affecting performance of construction building projects (Odeyinka, Lowe & kaka, 2008; Gambo & Said 2014). Although other researchers in the area of cost performance have different view on the factors affecting cost performance of building construction projects Baloi and Price (2003) said that variation and claims are the major factors that influence the cost performance of building projects in developing countries, but Iyer and Jha (2005) argued that conflicts among the parties in the projects, ignorance and lack of knowledge poor project specific attributes and hostile economic and climatic environments are the major factors contributing to the poor cost performance of projects. Site management financial factors were viewed as the two major factors contributing to the poor performance of small scale local governments contractors SSLGC in Malaysia, New Zealand and Nigeria (Rahman, Memon, Ade & Abdullahi, 2012; Johnson, 2010). Generally, factors affecting performance of contractors are viewed or group into environmental or site management factors, financial or cash flow factors and fraudulent or un due process factors (Gambo & Said, 2014; Inuwa, Wanyona Githae & Diang'a, 2014). Cnuddle (1991) related the causes of poor cost performance in construction industry to the non-conformance to specification that occurred on-site.

Meeampol and Ogunlana (2006) stated that, cost performance is the most important indicator of successful project used by the parties to the contract. Cost performance presents not only the company's profitability margin but also the value of good productivity of organizations at any point during the construction processes. It can be seen easily in the project account and is always used to measure contractor's performance against the estimated budget target. The researchers found that cash flow, fraud and site management are the important factors influencing performance of SSLGC. Cost performance variations on projects have been a major concern of researchers in the industry. The researchers have tried to solve problems by sourcing opinions (Al-Khalil & Al-Ghafly, 1999), studying the relationships between variables affecting cost

performances (Elinwa & Joshua, 2001). Poor cost performance is a very frequent and serious phenomenon and is almost associated with nearly all projects in the construction industry (Azhar, Farooqui, & Ahmed; 2008). The problem of poor cost performance is important and therefore, requires more study on it and needs to reduce its impacts in the future. Various studies identified that that poor cost performance is the major problem facing SSLGC in developing countries (Angelo & Reina; 2002). The trend is very severe in developing countries where the final cost of projects sometimes exceeds 100% of the initial contract sums of projects (Charoenngam & Sriprasert, 2001). A study by Koushki, Al-Rashid, and Kartam (2005) stated that the major factors contributing to the poor cost performance was the inadequacy of funds and working environment. Also, inclement weather conditions; and fluctuations in the cost of building materials are common factors causing poor cost performances (Chimwaso, 2000). In Ghana Frimpong, Oluwoye and Crawford (2003) identified the causes of poor cost performance of ground water projects in Ghana are poor contract payment system and bad weather

Cnuddle (1991) found that the value of poor performance of cost due to non-conformance to specification lies between 10% and 20% of the total estimated project costs. In addition, the study found that 46% of total cost deviation that contributes to the poor cost performances occurred during design stage of the projects. Hammarlund and Josephson (1991) suggested that, large part of the poor cost performances in construction projects are attributed to the poor skills of site management. The study concluded that the major causes of poor cost performances are: defective workmanship, defects in products, insufficient work separation, inadequate construction planning, disturbances in personnel planning, delays and alterations, failures in setting-out and coordination failures. Hammarlund and Josephson (1991) estimated that the poor cost performances that occur after a project has been completed are as high as 4% of actual project production cost. Interestingly, it was found that 51% of these poor cost performances are design related, while 26% were related to poor installation of materials and 10% to material failure. Very little studies were carried out on the effects of cash flow, fraud and nature of working construction environment, this study will investigate the effects of these factors on the performance of small scale local government contractors.

## 2. PERFORMANCE OF SMALL SCALE LOCAL GOVERNMENT CONTRACTORS IN NIGERIA (SSLGC)

Local government administration in Nigeria has come of age, because of the number and amount of projects awarded every year, and also because of its longevity and resilience of its relevance in the administration of the country (Fatile & Igbokwe-Ibeto, 2012). However, one of primary aim of creating local government administration in Nigeria is bring government closer to the people at grass root by providing efficient and effective social amenities and infrastructures such as constructions of feeder roads, markets and rural market stalls, provision of health care centers, construction

of drainages, provision transportation facilities, construction of abattoirs and slaughter houses, provision of affordable low income earners houses, etc. these functions of local governments are well spelt in the Nigerian constitution (Akande, 2000). What seems to matter most to the people at grassroots is to see tangible results of their taxes, contributions, labour expended and the judicious use of monthly subvention from the monthly federation account/allocation to their local governments. However, the enormous benefits that the grassroots stand to derive from a sound and functional local government has not been reality (Fatile & Igbokwe-Ibeto, 2012). The expectations of the people at grassroots were not achieved due to poor performance of contractors and the activities of clients (Local Governments) or client representatives (Alwi, Hampson & Mohamed, 2002; Wasi & Skitmore, 2001; Ofori, 1991).

For example, the performance of small scale local government contractors in Nigeria is criticised by researchers, committees involved in the monitoring of these projects and also the beneficiaries. Local Government Monitoring and Evaluation Committee LGMEC (2009) reported that between 2008-2009, twenty local governments of Bauchi State (i.e. One state out of thirty six states and federal capital territory, Abuja) awarded a total of 1607 projects, which about 65.5% of these projects were poorly executed and later abandoned half way before completion. The committee attributed the poor performance of these contractors to lack of good/sound cash flow policy, fraudulent practice and difficulty in assessing construction site. In confirmation to the above allegations the Director General Bureau of Public Procurement in Nigeria in the PAN Africa Conference held at National Theatre Accra Ghana between 21-22 May, 2013 attributed poor performance of contractors in Nigeria to the poor cash flow policies, open abuse of rules and standards in the award and execution of public contracts, loss of confidence by the public on the performance of contractors and public service, the report also revealed that out of every NGN1.00 spent by Government, 60k i.e. 60% was lost to due to fraudulent/underhand practices, contracts are awarded to unqualified and ill equipped contractors inadequate site preparation and investigation, inadequate working drawings, and other relevant contract document (Ezeh, 2013).

SSLGC are contracting firms that are completely owned and managed by Nigerians; the nationality of the firms' ownership and management is completely Nigerian. According to Uduak (2006) and Ibrahim (2012) the performance of SSLGCs' in Nigeria are better and claimed they can be entrusted with large and highly technical projects such as oil and gas projects, whereas most studies reported that the performance of SSLGC is poor with replete project abandonment, cost and time overruns, poor workmanship, poor management capability, financial difficulties, poor planning, poor mechanization and high frequency of litigation (Odediran et al. 2012; Oladimeji & Ojo, 2012; Muazu & Bustani, 2004; Achuen, et al. 2000; Bala et al. 2009; Adams, 1997). Many researchers have

attributed that the performances of SSLGCs' are poor, incompetence, inexperience and lack motivation (Ekundayo, Jewell, & Awodele, 2013; Odediran, et al. 2012; Aniekwu & Audu, 2010; Muazu & Bustani, 2004; Achuen, et al. 2000; Bala et al. 2009; Adams, 1997). These resulted in the few foreign firms, which constitute only 5% of the total number of contractors in the formal sector hence controlling almost 95% of the major public projects in the construction market, giving the indigenous firms just a 5% share of the market (Aniekwu & Audu, 2010; Oladapo, 2007; Muazu & Bustani, 2004). This resulted into low income to the industry due to expatriates repatriating their profits abroad, an insignificant value addition to construction and local industries supplying construction materials, and consistent contribution of 1% employment over the last decade as against the World Bank's average observation of about

$$\text{Cashflow} = \text{Receipts} - \text{Disbursements}$$

The equation above indicates that a positive cash flow shows a net receipts in a particular period of interest, while a negative cash flow shows a net disbursement in that period. Secondly, cash flows is defined here as the actual movement or transfer of cash (money) into a firm or out of a firm (Odeyinka, Lowe & Kaka, 2008). Therefore, based on

$$\text{Netcashflow} = \text{PositiveCashflow}(\text{Cashin}) - \text{NegativeCashflow}(\text{Cashout})$$

Based on the above definitions positive cash flow is derived from the monies or payment receipts by a firm during a period of time and negative cash flow is the monies expended on a contract for the procurements of materials, plant, equipments, services, wages and salaries, and other overhead cost (Odeyinka, Lowe & Kaka, 2008). Memon, Abdul Rahman, Abdullah, and Abdu Azis (2011) said that the effects of cash flow problem in the Malaysian construction industry are the main causes of contractor's financial difficulties. Cash flows are predicted to suffer more severely from timing and matching problems that reduce their ability to reflect firm performance. Therefore, cash flow seriously affects the performance of SSLGC that can hardly obtain loans from commercial banks due to lack of collaterals and government policies in developing countries (Dechow, 1994). The factors under cash flow problems includes delay in settling of claims and agreeing of variations/day works, under valuations of performed works, clients insolvency and delays in payments of approved valued works (Gambo & Ilias, 2014; Odeyinka, Lowe & Kaka, 2008).

Iyer and Jha (2005) identified that fraud in the construction industry is one of the major factors affecting cost performances of construction projects in India. Elinwa and Buba (2011) stated that fraudulent practices, kickbacks, nature of working environment are the most important factors, among other factors, leading to poor performance of cost in Nigerian construction industry. Rosenbaum, (1997)

#### 4. METHODS AND MATERIALS

This study is a quantitative in nature; a questionnaire survey was administered to 650 construction, consulting firms and project client in northern part of Nigeria. The

3.2% in other developing countries (Aniekwu & Audu, 2010; Idrus & Sodangi, 2010; Jinadu, 2007).

### 3. Factors Affecting Cost Performance of Small scale Local government Contractors (SSLGC)

The major factors identified as having disastrous effects on the performance of SSLC in Nigeria are cash flow problems, fraudulent practice and the nature of construction environment (Gambo & Said, 2014; Ezech, 2013; LGMEC, 2009). Cash flow can be viewed generally in construction projects in two ways. Firstly cash flow is view as the net receipt or net disbursement resulting from receipts and disbursements occurring in the same period (Odeyinka, Lowe & Kaka, 2008).

this definition money coming to the firm is termed as cash flow positive because the money is credited to the account of the firm and money going out from the firm is term cash flow negative because the money is debited from the account of the firm, so the different between the two is termed net cash flow.

mentioned that all government-funded projects in developing countries were political in nature. Political problem, in turn, invariably leads to poor cash flow, bribery and corruption. Mathew, Patrick and Denise (2013) defined fraud as the intent to deceive through false representation of a matter or a fact, whether by word or by conduct, or by concealment of information, which should have been disclosed, in order to cause an entity relying upon that false information. The factors under fraudulent practices are action not taken for non compliance with the terms and condition of contract, double payment for same item, substitution of specified item with used or inferior ones, expenses paid when not incurred, falsification of contract document and given gratitude to induce a party to the contract (Patrick & Denise, 2013).

Nature of the construction environmental affects the performance of SSLGC, it has become a major issue to the public (Shen & Tam, 2002). These environmental factors are harsh construction sites, Civil commotion/disturbances, Topography of the construction site, Site's constraints and storage limitations, Availability and supply of labour on the site, Hostile political and economic environment etc (Edward, Anderson & Russell, 1996; Yassamis, Arditi & Mohammadi, 2002). Polluted water, waste recycling and reusing are another factors having significant impacts on the performance of SSLGC (Shen & Tam, 2002).

region comprises of 19 states and federal capital territory Abuja. The region representing almost 80% of the total country's land mass (744,249.08 Sq Km) and a population

of about 95 million peoples (National population commission NPC 2000). A total of 357 questionnaires were returned and analyzed. A descriptive statistics was used to analyze the impacts of major cost factors on the performance of SSLGC. The study records the overall

response rate of 55% against researches of Odeyinka, Lowe & Kaka, (2008) with 52% and Yassamis, Arditi & Mohammadi, (2002) with 54%. IBM SPSS version 21 was used to analyzed the collated data

## 5. DATA ANALYSIS AND RESULTS

Descriptive statistics was used to analyze the collated data for this study. The researchers perception level on these factors were categorized into five points likert scale ranging from factors having no severe impact on the contractors performance to factors having extremely severe impact on the performance of SSLGC, the classification is as follows; (1.00-1.50 scale) having no severe impact on the performance of contractors, (1.51-2.50 scale) having least severe impacts on the performance of contactors, (2.51-3.50 scale) having severe impacts on the contractor performance, (3.51-4.50 scale) having very severe impacts on the contactors performance, (4.51-5.00 scale) having extremely severe impacts on the performance of contractors (Oyewobi & Ogunsemi, 2010; Amoah, Ahadzie & Dansoh, 2011). This classification was adopted in this study to evaluate the impacts of these factors through the statistical mean value obtained. The factors identified were cash flow problems, fraudulent practice in the industry and environmental factors affecting construction activities. The objective of this study is to identify and assess the impacts of major factors affecting the performances of small scale contractors in the execution of local government projects in Nigeria. This objective was achieved through the use of descriptive statistics below:

### A. Cash Flow Problems

Table 1.0 shows the frequency, percentage and mean score of the impact of cash flow problems on the performance of small scale local government contractors in Nigeria. Extremely severe impacts scored the highest frequency of 114 with 31.9%, and then followed with very severe impacts having a frequency of 113 with 31.7%. The mean score for this factor was 3.77 which indicate that cash flow problems were having very severe impacts on the performance of small scale local government contractors in Nigeria. Factors with severe impacts were having a frequency of 68 with 19%, factors with least severe impacts were having a frequency of 52 with 14.6% and factors having no severe impacts were having a frequency of 10 with 2.8%, the median is 4.11 and standard deviation was 1.06 and variance was 1.13, this result shows that the cash flow problem was having a very severe impact on the performance of small scale local government contractors in Nigeria SSLGC.

Table 1 Impact of Cash Flow Problems on the Performance of Contractor

S/N	Level of Impact	Frequency	Percentage	Mean	Median	StDev	Var
1	No Severe Impact (1.00-1.50)	10	2.8	-	-	1.06	1.13
2	Least Severe Impact (1.51-2.50)	52	14.6	-	-	-	-
3	Severe Impact (2.51-3.50)	68	19.0	-	-	-	-
4	Very Severe Impact (3.51-4.50)	113	31.7	3.77	4.11	-	-
5	Extremely Severe Impact (4.51-5.00)	114	31.9	-	-	-	-
	Total	357	100	-	-	-	-

### B. Fraudulent Practice

Table 2.0 shows the frequency, percentage and means scores of the impact of fraudulent practice on the performance of small scale local government contractors in

Nigeria SSLGC. Severe impact scored the highest frequency of 125 with 35%, and then followed by very severe impact having a frequency of 113 with 31.7%. The mean score for

this factor was 3.58 which indicate that fraudulent practice were having very severe impacts on the performance of small scale local government contractors in Nigeria. Factors with no severe impacts were having a frequency of 6 with 1.7%, factors with least severe impacts were having a frequency of 38 with 10.6% and factors having extremely severe impact were having a frequency of 72 with 21%, the

median was 3.60 and standard deviation was 0.95 and variance was 0.89 this result shows that the fraudulent practice was having a very severe impact on the performance of small scale local government contractors in Nigeria.

Table 2 Impact of Fraudulent Practices on the Performance of Small Scale Local Government Contractors

S/N	Level of Impact	Frequency	Percentage	Mean	Median	StDev	Var
1	No Severe Impact (1.00-1.50)	6	1.7	-	-	0.95	0.89
2	Least Severe Impact (1.51-2.50)	38	10.6	-	-	-	-
3	Severe Impact (2.51-3.50)	125	35	-	-	-	-
4	Very Severe Impact (3.51-4.50)	113	31.7	3.58	3.60	-	-
5	Extremely Severe Impact (4.51-5.00)	75	21	-	-	-	-
	Total	357	100	-	-	-	-

### C. Environmental Factors

Table 3.0 shows the frequency, percentage, means, median, standard deviation and variance of the score of the impact of environmental factors on the performance of small scale local government contractors in Nigeria. Severe impact scored the highest frequency of 152 with 42.6%, and then followed by very severe impact having a frequency of 89 with 25%. The mean score for this factor was 3.51 which indicate that environmental factors were having very severe impacts on the performance of small scale local government contractors in Nigeria. Factors with no severe impacts were having a frequency of 4 with 1.1%, factors with least severe

impacts were having a frequency of 44 with 12.3% and factors having extremely severe impact were having a frequency of 68 with 19%, the median is 3.30 and standard deviation was 0.92 and variance was 0.85 this result shows that the environmental factors were having a very severe impact on the performance of small scale contractors in Nigeria.

Table 3 Impact of Environmental Factors on the Performance of Small Scale Local Government Contractors

S/N	Level of Impact	Frequency	Percentage	Mean	Median	StDev	Var
1	No Severe Impact (1.00-1.50)	4	1.1	-	-	0.92	0.85
2	Least Severe Impact (1.51-2.50)	44	12.3	-	-	-	-
3	Severe Impact (2.51-3.50)	152	42.6	-	3.30	-	-
4	Very Severe Impact (3.51-4.50)	89	25	3.51	-	-	-
5	Extremely Severe Impact (4.51-5.00)	68	19	-	-	-	-
	Total	357	100	-	-	-	-

## 6. DISCUSSION OF THE RESULT

A descriptive statistics was to achieve the objective of this study. An intensive review of literatures was done to explore the major factors contributing to the poor performance of small scale contractors. The major factors identified were; cash flow problems as the major factor contributing to the poor performance of small scale contractors (Ezeh, 2013; Odeyinka, Lowe & Kaka, 2008; Jafari, 2013). Five point Likert scale was used to assess these factors on the performance of small scale contractors, for the first factor cash flow problems had a mean value of 3.77 that falls within the range of factors having very severe impacts on the performance of small scale contractors.

The second factor identified as having impacts on the performance of small scale contractors was fraudulent practice (Matthew, Patrick & Denise, 2013; Ezeh, 2013). This factor had a mean value of 3.58 which also falls within the range of factors having a very severe impact on the performance of small scale local government contractors in Nigeria.

The third factor was nature of the working or construction environment that posed a problem to the performance of contractors (Iyer & Jha, 2005). This factor had a mean score of 3.51, falls under the range of factors having very severe impacts on the performance of small scale local government contractors in Nigeria. Therefore, all the three factors identified were having the same degree or impacts level the performance of small scale contractors in Nigeria.

## 7. CONCLUSIONS AND RECOMMENDATIONS

This study identified and assessed the major factors contributing to the poor performance of SSLGC in Nigeria. The study found that poor cash flow policies, fraudulent practices in the industry and nature of the construction/working environment are the major factors affecting the performance of SSLGC. The three factors were all having very severe impacts on the performance of these contractors base on (Oyewobi & Ogunsemi, 2010; Amoah, Ahadzie & Dansoh, 2011) likert scale classification and retarding the progress of the industry in Nigeria. The mean values of cash flow problems was 3.77 as the number one factor having great effect on the performance of SSLGC, then followed by fraudulent practice with 3.58 being second and lastly nature of construction environment with 3.51 as third factor influencing performance of SSLGC in Nigeria. The study recommended that the authorities of local government through the states ministry for local government affairs should formulate good cash flow policies and ensure it proper implementation, promulgate a stringent law against any individual or firms involved into any fraudulent or corruption activity in any project and lastly a detail site investigation, analysis, design and proper project documentation should be carried out before embarking at any construction project.

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