

INFLUENCE OF MATERIALS PRICE FLUCTUATION ON COST PERFORMANCE OF BUILDING CONTRACTORS IN ABUJA, NIGERIA

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ABSTRACT

The rate of fluctuation claims by contractors on prices of materials is alarming. This leads to disputes in most building projects and usually affects the cost, time and even quality performance of building projects. Fluctuation in cost building materials poses a significant threat to both the building sector and people aspiring to own houses. The study assessed influence of materials price fluctuation on performance of building contractors in Abuja, Nigeria by examining the causative factors, effects on performance of building contractors and the impact of materials price fluctuation claims on cost performance of building project. The study adopted a survey design approach using quantitative data. Data were collected through well-structured questionnaire administered on 189 respondents including small, medium and large-scale registered building contractors within Abuja using random sampling method; also 23 archival data on material price fluctuation claims on completed building projects in the study area were obtained. The collected data were analysed using Percentages, Relative Important Index (RII), Mean Item Score (MIS) and Pearson Correlation Moment. Result reveals that the main factors responsible for material Price fluctuations are; Exchange rate, Cost of transportation, Inflation of building materials, Cost of energy (electricity, gas). The study also revealed that the major effect of materials price fluctuation on performance of contractors are; cash flow problem of the projects, contractors' loss of profit, delay in project completion, increase in construction cost and poor quality of project outputs. The results further indicate that materials price fluctuation claim has a direct correlation with total project cost with a significant level (p value) of 0.01. It is recommended that drastic steps should be taken by Government to stabilise exchange rate, reduce cost of energy, regulate cost of production and transportation, and contractors should also have appropriate planning, maintain current information, payments within stipulated time and understanding of project requirement.

Keywords: Building materials, Projects, Fluctuation, Price and Contractors' performance.

INTRODUCTION

Building materials play a vital role in the construction industry as they are those materials put together in erecting buildings, materials account for between 50 to 60% of the total construction input, it constitutes the largest single input in building construction (Adedeji, 2012). The primary problems of the construction sector can be classified into two main categories. The first is related to the consequences of integrated planning and implementability, the second problem is related to deficiencies and market price fluctuation of the inputs required for the construction (Mishra and Magar, 2017).

Fluctuations in the costs of building materials in today's unstable market makes difficult to execute construction projects due to significant losses of anticipated profits (Ayeni, 2013). Nega (2008) opine that increase in costs of construction is caused by fluctuation in the cost of building materials, an increase which has a significant impact on overall budgeted cost of construction. Nega (2008) also stressed that construction cost has been the most significant consideration for the execution

of any construction project. Cost of building materials has been one of the factors prohibiting successful housing delivery in Nigeria, housing deliveries have resulted in client and contractor disputes, litigations and project abandonment and cost and time overrun (Odeh, 2002).

The prevailing unpredictable price fluctuations of materials, labour and equipment and less satisfactory practice of compensation are the major hindrances in the growth of the Nigerian construction industry; thus, the situation makes the construction contractors sustain most of the suffering and losses that could result therein (Naveen, 2015). The problems affecting Nigerian contractors and consultants were researched by Ofori (2012) and found that challenges are the same as those noted generally in reports on construction industries in other third world countries. The challenges identified by Ofori (2012) as particularly influencing the performance of Nigerian contractors include lack of ability to obtain adequate working capital, fluctuation in the cost of materials, insufficient organisation, inadequate engineering competence and poor workmanship. Other challenges include an extremely unstable business environment characterised by high inflationary trends, poor organization practices, weak organization structures (Dansoh, 2015). Difficulties in accessing project finance also affect the performance of Nigerian contractors (Badu *et al.*, 2012).

Contractor's performance can be assessed by the level of cost, time and quality of projects delivered to clients. Performance of construction firms in such a situation is essential in order to ensure quality and guarantee acceptable standards. Therefore, it is important to be familiar with the method leading to evaluate the performance of the building contractors (Iwaro and Mwashu, 2012).

In order to minimise the adverse effects of material price fluctuation on contractors Zewdu (2015) opine that the following areas have to be taken very seriously i.e. Update control information continually with current prices, indices, and trends. Vulink, Hampson and Mohammed (2014), recommend the following which includes: Contractors should be committed to undertake the project activities on time avoiding delays, closely scrutinize payment schedules, the time gap from contract agreement to commencement should be minimised, and reduce costs through improved material and financial management techniques. Eshofonie (2008) suggested that contractors, consultants, owners and regulatory bodies should work together to improve the compensation system. Eshofonie (2008) also suggest that the stability in naira exchange rate by Government should be reinforced as instability in the naira will lead to instability in material prices and subsequently affect construction prospect.

The research examined the possible factors, consequential effect of materials price fluctuation on performance of building contractors and determines the impact of materials price fluctuation claims on cost performance of building projects in Abuja, Nigeria.

FACTORS RESPONSIBLE FOR BUILDING MATERIALS PRICE FLUCTUATION

The factors responsible for fluctuations in the cost of building materials have been categorized as economic related factors, building production related factors, stakeholders' related factors and external factors (Mojekwu *et al.*, 2010).

Demand and Supply

There may be surplus supply of materials that are not all taken up at a particular time and vice versa, by so doing fluctuation threatens the prices of these materials. With a rise in demand; the price factors will dramatically increase due to the high volume of materials needed to meet the demand. This trend is directly proportional to the cost of building project under construction (Onyechi, 2010).

Energy costs

According to Oyediran (2016), energy costs have an effect on the production and transportation processes of most construction materials, the prices of electricity bills, petrol, gasoline, coal, renewables and other fuels change quickly, and are acute data points for industry professionals and citizens alike.

Raw materials and input costs

Raw materials costs along with other factors such as gas, oil and energy are the key causes of fluctuation in the prices of building materials such as cement, water proofing and roof members. The cost that goes into production will have effect on the price and quality of the product (Zewdu, 2015).

Inflation

Inflation is the general skyward trend of prices of services and goods within an economy; it is basically a measure of how the prices of goods and services increase over time, the principle behind inflation and how it affects building material prices according to Rakhra and Wilson (2017) is that there is a time lag between an increase in inflation and the effective resulting increase in building material prices.

Crude oil prices

Crude oil is the base for lots of products. These include transportation fuels such as diesel, gasoline and jet fuel; they also include fuel oils used for electricity generation and heating. Crude oil prices measure the spot price of various barrels of oil. Anderson (2011) noted that the global crude oil price is the main driver behind the instability of some building materials such as PVC, which is a polymer whose raw production material is crude oil.

Exchange rates

The exchange rate between two currencies is the amount for which one currency is exchanged for the other, and is used in determining the strength of one currency to another. The degree to which building material prices are affected by exchange rate movements depend on the types and quantities of materials being imported by a country at a specific time, the need to import the raw materials used in the production of building materials locally, and on whether local materials (such as timber, copper and steel) are internationally traded commodities (Karana *et al.*, 2010)

Import duty

Import duty is put in place to shield local producers from clients trying to outsource cheaper goods from abroad. Import duty on materials have been noted to affect the construction industry and

building material prices in countries such as Malaysia, Nigeria, India, Uganda, Kenya and Oman by raising the prices of good imported due to imbalance in export and import rate (Hamsawi, 2011).

Interest rate

The high interest rate of banks and the unpredictability in the foreign exchange market result in serious depletion of a nation's foreign exchange resources, severely affecting the industry with import dependence of about 60% of its raw materials (Jagboro and Owoeye, 2004). However, Oladipo (2012) opined that across the nation, many construction, housing and profitable real estate projects have either been abandoned half way or put on hold because of the scarcity of capital or because of the sky rocketing cost of borrowing. Aside from the increase in the cost of borrowing, high interest rate also causes reduction in spending as people are more inclined to save. Central Bank of Nigeria interest rate as at April, 2018 was 14%.

Currency devaluation

Thomas and Martin (2004) identified the major causes of fluctuation in the cost of building project as materials price increase which they pointed out “devaluation of naira” to be the major cause and suggested price control as an obvious solution in controlling it.

Ordering and delivering process

According to Briscoe (2015), the manner in which the ordering and delivery of materials are done on site contributes to the problems of fluctuation in the cost of building projects. Ideally, site managers will require materials to arrive on site just when they are needed and in required quantity to avoid wastage in one hand and shortages on the other hand.

Human factors

According to Ihuah *et al.* (2015), human factors refer to environmental, organisational, job factors and individual characteristics, which influence behaviour at work in a way which can affect health and safety". This definition includes three interrelated aspects that can lead to material price fluctuation that must be considered: the job, the individual and the organisation:

Design changes

Design change is connected to additional work, due to the absence of comprehensive briefing on the economic, functional and technical requirements of the project by the clients (Mansfield *et al.*, 2014). Abdul-Rahman (2015) emphasized that design change orders resulting in additional work can account for as much as 50% of project cost overrun. Furthermore, additional work is a significant factor contributing to price fluctuation and schedule delays in construction project

Material wastage

Wainwright (2005) in his book “Variation and Final Account Procedure” as he identified wastage of materials as one of the causes of building materials fluctuation in the construction industry. According to Nagapan *et al.* (2012) the majority of waste generated during construction is materials waste, primarily as a result of the use of un-reusable materials, leftovers and debris.

Unfortunately, this material waste amounts about 9% of the weight of materials purchased (Azis *et al.*, 2013).

Supplier default

The results of the study by Nega (2008) revealed that fraudulent practices by suppliers was the second significant factor responsible for fluctuation in construction cost as perceived by construction professionals interviewed. Supplier unable to deliver due to market condition or fraudulent practices result in delay of construction, increase in cost and subsequently use of substandard materials.

Transportation

Sinclair and Mulford (2012) noted that increased material cost is primarily due to increased transport charges. Furthermore, transport and freight costs have been identified as the factors responsible for building material price fluctuation in African countries such as Nigeria, Uganda, and Kenya (Mathews, 2009).

Planning

Eshofonie (2008) noted that planning is one of the most important factors affecting the cost of building materials. Contractors should utilise all resources in effective ways. Proper scheduling is essential in project resource utilisation, as the reverse, inadequate planning, will increase the project cost, suggesting that where there is no effective contractor scheduling and planning on site there will be construction project delays.

Market stockpile

Naveen (2015) pointed out that market stockpile is one of the major causes of fluctuating prices of materials; He attributed the fear of fluctuation to the reserves of materials and reluctance to send large quantities to the market despite surging prices that offer huge opportunity making the price go higher. As the materials are stockpiled, it increases its scarcity causing inflating prices for the available ones.

Force majeure

Force majeure otherwise known as 'Acts of God' is a term that covers a range of events, including revolution, war, riot, earthquake, landslide, fire, political and economic instability and other such risks (Nega, 2008). Where it occurs, it will result in significant fluctuation in the cost of building materials especially when reconstruction comes to mind.

Weather conditions

Weather changes contribute an enormous challenge to global warming emission of CO₂ by buildings under in use and under construction, while building materials are a significant component of any building project, climate change indirectly or directly will also have an effect on the price and use of building materials during or before building construction (Ofeogbu, 2017).

Government policies

According to Mansfield *et al.* (2014), governments may also invoke their powers to initiate or halt projects on social, political and environmental grounds which will eventually lead to fluctuation in materials. No construction work happens in a single space; rather it is subject to a group of powers from regulatory control to political intervention.

EFFECTS OF MATERIAL PRICE FLUCTUATION ON CONTRACTORS' PERFORMANCE

According to Willis (2013), every project is a dream until it is completed and to that extent, the phenomenon of fluctuation will continue to be a dreaded but inevitable incursion into most project plans. Willis (2013) further states that fluctuation is fallout of inflation which is a global economic problem that has defied all theories and measures meant to curb it. In fact, experience has shown that some clients had abandoned their projects due to staggering increase in the cost caused by fluctuation or variation or both. Escalation in contract sums can emanate from several sources including fluctuations. According to Windapo and Cattell (2013), substantial growth in the construction industry is subject to price stability in materials costs as these have increased at faster rates than the expected. Client and project contractors have been facing serious issues to maintain steady cost projection on construction projects (Akanni *et al.*, 2014). Akanni *et al.* (2014), in their study of the implications of the rising cost of building materials in Nigeria, determined fluctuation in construction costs as the most significant effect of increase in the cost building materials. This is in agreement with Windapo and Cattell (2013) who found out that on the key issue affecting the development of the construction industry in South Africa that increase in costs of building materials was a significant factor affecting development of the construction industry. Abiola (2011) noted the consequences of inflation and fluctuation in construction cost to include project abandonment, increase in construction cost, and extension of project completion time, use of substandard materials and decrease in revenue of the construction firm. Nwuba (2004), while agreeing with Abiola (2011) stated that the cost of construction which resulted from the material price fluctuation combined with other economic problems to give rise to the abandonment of much ongoing project development and aborting of many development proposals.

Price fluctuation can have effect on contractors, clients/owners and the project itself. The major effects of price fluctuation on contractors, if not well compensated, according to Abdo (2010) are profit loss of contractors, cash flow (project financing) problem of the projects, delay in project completion, poor quality of project outputs, bad contractor reputation (negative review), hindered adequate implementation of innovation by the contractor.

Increase in project abandonment

Project abandonment is the unplanned suspension of the progress of work especially at the execution stage such as the refusal or failure to complete a contract after practical completion time (Nwachukwu, 2016). Numerous construction projects are temporarily or even permanently abandoned, and according to Nwachukwu (2016), the predominance of many uncompleted and abandoned projects resulted from finance related crises and material related factors. Fluctuation and high cost of building materials are major factors that lead to uncompleted and sub-standard buildings and this has a significant effect on the industry for delivery of housing (Makinen, 2010). Also, an upward review of contract sum leads to conflicts between contractors and clients, likely

leading to cases of abandonment where investments are tied down, since such project will not be put to use at the expected time.

Cash flow problem of the projects

When contractor does not have enough capital to be able to pay its liability. Cash flow problems and shortage of working capital can in extreme circumstances push efficient and profitable firms into liquidation. It is also possible that a firm is pulled into insolvency by the failure of another firm. This “domino theory” may apply if a client becomes insolvent owing large sums of money to the contractor, or if a main contractor fails owing cash to one or more regular subcontractors (Lowe, 2017).

Contractual disputes between the parties

In the face of materials price fluctuation, contractual disputes may arise in many forms, for instance, from the supply of defective goods or services because of changes in price. They prove a time consuming and costly distraction in project execution. According to Udeh (2011), contractual disputes can quickly turn into protracted, costly and unpleasant litigation. They generally do long-term damage to the relationships of all involved and add to the overall costs of the contract.

High rate of contractors’ fraudulent practices

Contractor fraud refers to illegal business practices committed by individual contractors or contracting firms hired to construct, renovate, repair or rebuild residential properties. Azhar, Farooqui and Ahmed (2008) noticed that common contractor frauds as material price fluctuate include; asking for a substantial upfront cash advance, leaving out key project details / low-ball offers and selling of materials.

Low volume of construction product

Output of the construction industry in Nigeria is quite low when compared with the construction industry in many developed countries. Ganiyu (2016) stated that the Nigerian construction industry is faced with a number of threats, primarily affecting its contractors’ performance in sustainable housing delivery. Similarly, according to a study by Windapo *et al.* (2013) in Nigeria, millions of middle- and low-income families are being priced out of the market for home ownership due to the unpredicted price of building materials. The observations from these studies were due to the increase in the cost of building materials.

Poor quality of workmanship

According to Lam *et al.* (2010), output of quality buildings and structures is one of the attributes of a developed construction industry. Lam *et al.* (2010) further claimed that there were records of conflicts between clients and building contractors over review in contract sums, so to avoid conflicts and still be in the business, some contractors fell back upon substandard or insufficient materials for construction projects, an action which contributed to cases of building collapse. Undeniably, workmanship plays an important role in project quality (Iwaro and Mwashia, 2012).

Unemployment of construction workers

Construction industry workers are extremely varied, as the industry is comprised of a wide range of both skilled and unskilled workers (Akanni *et al.*, 2014). Ayodele and Alabi (2010) found that fluctuation in the cost of building material is killing the construction industry as many contractors are unable to accurately forecast expected profit on the project, a situation that has contributed to laying-off of workers and closure of firms in some extreme cases. Oladipo and Oni (2012) supported this notion by stating that macro-economic indicators have an effect on the cost of building materials which has contributed to unemployment.

RESEARCH METHODOLOGY

The study adopted a survey design approach using quantitative data. Data were collected through well-structured questionnaire administered to respondents and archival data were also collected. The population consisted of 250 registered small, medium and large building contractors in Abuja gotten from the Corporate Affairs Commission (CAC directory, 2020). The population was subjected to Krejcie and Morgan Table for determining sample size at 5% limit of error and at 95% confidence level. This was reduced to 152, which is the minimum sample size for this research. A total of 170 questionnaires were retrieved from 189 distributed, 162 were found valid along with 23 archival data from building contractors that keep record of fluctuation claims due to materials price fluctuations. The 162 represents an effective response rate of 95.29% and this was considered suitable for analysis.

A simple random sampling technique was adopted by assigning a consecutive number to the population (1-250), then Pseudo Random Number Generator (PRNG) was used to generate a sequence of numbers in order to allow each set of data an equal chance of being selected within the population. The collected data were analysed with the aid of MS Excel to the Percentile, Relative Important Index (RII), Mean Item Score (MIS) and Pearson Correlation Moment. Opinions of the respondent and the archival data are presented in Tables 1-4.

RESULTS AND DISCUSSION

This section presents and discusses the results of this study.

Demographic information of the respondents

Result in Table 1 shows the characteristics of the respondents. From the table, it shows that the highest number of respondents' years of experience is between 11-15 years (30.2%) followed by 6-10 years (24.7%). The highest value of executed projects handled by most of the respondents was from 51 to 100 Million (27.8%). This indicates that most of the respondents have handled construction projects involving significant sums. Majority of the respondents are holders of Bachelor's Degree with 24.1% followed by 19.8% of them holding Master's Degree. In terms of professional membership, 80% of the respondents are members of their professional bodies while only 14.8% of the entire population are none members. As a result, respondents in this study are associated with impressive academic backgrounds and experience; hence their response to the research questions can be relied upon.

Table 1: Demographic information of the respondents

Category	Classification	Frequency	Percentage
Years of experience	1-5	24	14.8
	6-10	40	24.7
	11-15	49	30.2
	16-20	26	16.0
	Above 20	23	14.1
	Total	162	100.0
Value of Executed Project	1-10 Million	35	21.6
	11-50 Million	40	24.7
	51- 100 Million	45	27.8
	101- Above	42	26.0
	Total	162	100.0
Academic qualification	OND	18	11.1
	HND	30	18.5
	PGD	28	17.3
	B.Sc./B.Tech.	39	24.1
	M.Sc./M.Tech.	32	19.8
	PHD	15	9.3
	Total	162	100.0
Professional Qualification	MNIA	35	21.6
	MNIOB	31	19.1
	MNSE	36	22.2
	MNIQS	36	22.2
	None	24	14.8
	Total	162	100.0

Source: Researcher's field survey (2020)

Factors Responsible for Material Price Fluctuations in Building Construction Projects

Table 2 indicates that exchange rate, cost of transportation, inflation of building materials and cost of energy (fuel, electricity, gas) with RII values of 0.95, 0.93, 0.92 and 0.91 respectively are ranked as the top four important factors responsible for material price fluctuations in building construction projects.

Table 2: Factors Responsible for Material Price Fluctuations in Building Construction Projects

S/N	Material Price Fluctuations Factors	RII	RANK
1	Exchange rate of currency	0.95	1
2	Cost of transportation	0.93	2
3	Inflation of building materials	0.92	3
4	Cost of energy (electricity, gas)	0.91	4
5	Government policies on materials	0.86	5
6	High import duty rates on materials	0.81	6
7	Raw materials and input costs of building materials production	0.80	7
8	Increasing interest rate	0.80	8
9	Political instability of the nation	0.77	9
10	Rapid devaluation of national currency	0.77	10
11	level of supply and demand	0.77	11

12	Unstable crude oil prices	0.76	12
13	Ordering and delivering process of building materials	0.75	13
14	Suppliers default to make materials available at the needed time	0.75	14
15	Availability of substitute product	0.74	15
16	Ineffective planning	0.72	16
17	Market stockpile of needed materials	0.71	17
18	Human factors	0.71	18
19	Frequent design changes	0.71	19
20	Frequent weather condition change	0.61	20
21	Force majeure (An act of God)	0.56	21
22	Material wastage on site	0.53	22

Source: Researcher's field survey (2020)

Consequential effects of material price fluctuation in project performance of contractors

It is evident from Table 3 that cash flow problem of the projects was ranked as the most consequential effect of material price fluctuation in project performance of contractors with MIS value of 4.70, this was followed by contractors' loss of profit with MIS value of 4.63, delay in project completion 4.61, increase in construction cost 4.54 and poor quality of project outputs 4.51 were all ranked as the most consequential effects often experienced by the building contractors in the course of material price fluctuations in projects.

However, a close look at the result in Table 3 shows that all the identified 24 effects of building materials price fluctuation had an average MIS value of 4.08. This implies that to a considerable extent all the 24 effects have high tendency to affect contractors' performance in building construction in Abuja.

Table 3: Consequential Effects of Material Price Fluctuation in Project Performance of Contractors

Consequential effects	MIS	Rnk	Effects
Cash flow (project financing) problem of the projects	4.70	1	Very high effect
Profit loss of contractors	4.63	2	Very high effect
Delay in project completion	4.61	3	Very high effect
increase in construction cost	4.54	4	Very high effect
Poor quality of project outputs	4.51	5	Very high effect
Use of substandard materials for construction	4.48	6	High effect
Building collapses due to the use less quality of materials	4.45	7	High effect
Contractual disputes between the parties	4.43	8	High effect
Bankruptcy of contractor	4.41	9	High effect
Decrease in revenue of the construction firm	4.32	10	High effect
Low volume of construction product	4.27	11	High effect
Project abandonment	4.25	12	High effect
High rate of contractors' fraudulent practices	4.23	13	High effect
Improper construction methods applied by contractor	4.11	14	High effect
Completion at the expense of other projects	4.01	15	High effect
Unemployment of construction workers	3.87	16	High effect
Bad reputation of contractor	3.80	17	High effect
Contractors ineffectiveness	3.64	18	High effect
Conflict between client and contractors	3.63	19	High effect

Affect client expectation's on quality of project delivery	3.43	20	Moderate effect
Stress on contractors	3.41	21	Moderate effect
Increase in the cost of repair	3.41	22	Moderate effect
Hindered adequate implementation of innovation	3.39	23	Moderate effect
Affect the aesthetics value of building product	3.22	24	Moderate effect

Source: Researcher's field survey (2020) Ave. 4.08

Impact of Materials Price Fluctuation Claims on Cost Performance of Building Projects

Table 4 shows that there is a very strong positive relationship between materials price fluctuation claim and total project cost (p value 0.01). This implies that constant fluctuation claims due to materials prices will lead to a corresponding fluctuation in the final project cost.

Moreover, the percentage impact of fluctuation claims to total project cost ranges from 0.52% to a maximum of 8.55% with an average of 3.85%

Table 4: Impact of Materials Price Fluctuation Claims on Cost Performance of Building Projects

Project No	Initial project cost (₹)	Final project cost (₹)	Material Fluctuation claims (₹)	Percentage Contribution
1	130,610,025.63	155,625,000.00	8,088,001	5.20
2	48,255,650.00	66,755,548.22	4,200,020	6.29
3	35,000,000.00	40,045,850.00	2,000,000	4.99
4	43,658,214.24	60,174,286.00	3555624.00	5.91
5	21,988,797.60	23,904,805.11	500555.25	2.09
6	213,648,783.60	250,000000	6,080,073	2.43
7	276,931,365.20	301,500467	3,120,000	1.03
8	87,300,000.00	116,100,000.00	5,168,000	4.45
9	1,380,000,000.00	1,500,000,000.00	36,280,021	2.42
10	22,226,680.20	28,226,365.55	1,680,000	5.95
11	19,233,000.00	31,325,225.21	2,200,009	7.02
12	100,000,000.00	145,000,000.00	8,320,000	5.74
13	500,000,550.00	523,700,000.00	12,004,540	2.29
14	1,600,800,000.00	1,790,000,400.25	28,000,605	1.56
15	740,090,000.00	760,000,350.42	18,550,000	2.44
16	31255988.00	42,732,000.00	1,480,000	3.46
17	92,000,000.00	100,300,272.00	520,000	0.52
18	40,977,574.08	46,099,770.84	2,355,087.4	5.11
19	46,083,600.00	51,844,050.00	1,500,000	2.89
20	45,512,288.00	49,201,324.00	1,800,300	3.66
21	14,200,000.00	19,800,000.00	1,254,000	6.33
22	20,100,000.00	25,789,000.00	268,000	1.04
23	6,785,230.00	8,991,694.40	397,163.7	4.42
24	87,377,000.00	106,136,000.00	2,560,000	2.41
25	142,000,000.00	150,125,200.25	6,800,000	4.53
26	60300500.00	82500054.25	2025000.22	2.45
27	23,746,966.38	30,275,961.20	2589000.00	8.55
28	30123548.58	32,495,459.50	850000.00	2.62

Source: Researcher's field survey (2020)

CONCLUSION AND RECOMMENDATIONS

This research assesses the influence of materials price fluctuation on cost performance of building contractors in Abuja, Nigeria with a view to minimising the resultant effects on contractors. Based on the findings, the study concludes that the main factors responsible for material price fluctuations are; Exchange rate, Cost of transportation, Inflation of building materials, Cost of energy (electricity, gas). The major effect of materials price fluctuation on performance of building contractors are; cash flow problem of the projects, contractors' loss of profit, delay in project completion, increase in construction cost and poor quality of project outputs. The study also revealed that a positive relationship exists between materials fluctuation claims and final project cost in the zone. However, in order to provide lasting solutions and bring about steady building material prices and avoid circumstances of constant price fluctuation, it is recommended that drastic steps should be taken by Government to stabilise naira exchange rate, reduce cost of energy, and reduce cost of production and transportation of building materials. Furthermore, contractors should have appropriate planning, maintain current information, payments within stipulated time and understanding of project requirement.

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