

Assessing the Influence of Cost on the Implementation of Tetfund Projects in Selected Public Universities in Nigeria

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ABSTRACT

The Academic Staff Union of University (ASUU) strike in Nigeria has highlighted the need for improved funding options for public institutions, particularly in the education sector. A study on TETFUND projects in the Southeast found that project success and cost performance are crucial for building projects. The study used a census technique, questionnaires, and content validity to confirm the instrument's inclusivity and relevance to strategic leadership and project management sustainability. The study reveals that the cost of every project is important, regardless of funding, and that cost availability has hindered any TETFund project at State universities in South-East, Nigeria. The majority of respondents strongly agreed that cost determines whether a TETFund project is completed with or without a supervisor, and that cost gives contractors more chance of income during the TETFund project period. Furthermore, the cost of the project motivates workers to complete it within an appropriate period. The analysis shows that TETFund cost has a positive effect on the completion rate of projects across State Universities in South-East, Nigeria, with an average mean value of $3.65 > 3.00$. The test of hypotheses showed that TETFund cost has no significant positive effect on the completion rate of projects across State Universities in South-East, Nigeria. The results showed that the model in this table has a statistically significant positive effect, and the alternate conclusion is accepted, as TETFund cost had a significant positive effect on the completion rate of the project across State Universities.

Keywords: Cost, Tetfund, Construction Projects, Public University

INTRODUCTION

The Nigerian government faces budgetary challenges due to the global economic downturn, which has led to a reduction in funding for higher education [1]. This has affected the quality of education and the provision of functional education. The education sector is the largest industry in Nigeria, and its funding is crucial for national change. However, The Federal Government's education expenditures are criticized for being lower than 10% of its overall expenditures, with shares ranging between 9.9 and 7.6%, with 70% to 80 percent of expenditures for recurrent activities. State governments also fund higher education, but their finances vary based on the number of institutions owned by each state [2]. The amount of funding at the institution will impact the lengths the administration can advance the institution toward accomplishing its goals, which will include constructing facilities. State institutions are particularly hard impacted by this, as federal universities receive extra funding from the federal government. To supplement government funding, state institutions must rely more on outside funding

sources. The Academic Staff Union of Institutions (ASUU) strike has highlighted the need for improved funding options for Nigeria's public institutions, [3]. The government should focus on lowering tuition, limiting its role in enforcing standards, and reducing its participation in university management to make higher education more accessible [4-6]. The ASUU needs to represent its members on governing boards to participate in decision-making and understand how money is distributed [7-8]. Collective bargaining can have advantages but also has the potential to erode support for the cause and goodwill. The federal government should pledge to devote 15%-20% of its yearly budget to education and establish a suitable fund management organization with precise guidelines. Increased competition in the university sector will guarantee quality and quick expansion [9-10]. The World Bank emphasizes that colleges must find new sources of income, live within their means, and draw on their internal reserves of initiative and creativity in the face of financial constraints [11-14]. The study aimed to assess the influence of cost on the

implementation of TETFUND projects in public universities in Nigeria.

Review of related literature

TETFUND and educational funding in Nigeria

The Federal Government of Nigeria established the TETFUND as an agency for educational intervention with the goals of supervising and advancing research funding, maintaining and developing infrastructure, and improving staff development in Nigerian public institutions, including universities, polytechnics, and colleges of education. The agency was established to close the visible gap and mitigate its detrimental impact on Nigeria's progress, given the significance of funding for educational advancement and the scarcity of resources.

A significant amount of the money controlled by TETFUND is allocated to the construction of infrastructure. Projects falling under this category include building lecture halls, offices, and classrooms as well as furnishing public institutions with computers, furniture, electricity, and supplies of literary works. Response and provision are predicated on facilities that directly affect the university community. Given that operating education requires huge capital and that TETFUND is an intervention agency, the respective institutions must nonetheless make sure that funding is found to close the funding shortfall [11]. To ensure precise and effective estimations and dynamic cost management that

Construction costs and management of educational infrastructure

A project is a group of tasks completed within a given timeframe to achieve specific objectives; it is often a one-time program with predefined start and end dates, budgets, and resource needs [9]. It is distinct from other organizational procedures and takes place outside of the company's usual, process-oriented environment. Project management is a vital component of the construction industry today, who primarily rely on it for their successful working strategies. Professional bodies like the Project Management Institute were founded to help with this development. Project management accounting encompasses traditional accounting, cost accounting, budgeting, finance, cash flow, earned value, strategy and executive decision-making, portfolio management, and other topics. Cost management is a set of planning, measuring, and reporting techniques and processes that may enhance an organization's operations and services [5]. It is seen to be crucial for increasing revenue for manufacturing companies, supporting decision-making, strengthening competitive advantage, and maximizing resource allocation. Effective cost management approaches lead to decreased working capital investment, lower

accounts for variation, inflation, currency rates, and project delays, professional support is needed for the setup of financial administration. Prudence in project management, accountability, proper monitoring, and assessment to combat corruption are the mechanisms in place to prevent project delays, cost and schedule overruns, needless public disputes, and project abandonment [9]. Some may have to look for alternative financing sources since the government's obligation to pay for higher education may be too much for them to bear on their own. Universities must lead national revitalization and economic recovery programs to mitigate the effects of the financial crisis. Instead of relying on foreign help, local financing must be raised to support education. Funding for institutions can come from endowment funds, launches, and appeals that draw wealthy people. In the construction industry, financing is a big problem as projects frequently end up costing more than they originally estimated [9]. With the establishment of additional state and federal tertiary schools, there is an increasing demand for TETFUND support. The resource-dependent hypothesis, which emphasizes resource levels and performance differences between enterprises, is based on this notion.

cost per unit, and improved process and product quality. Cost control is a vital process for businesses to maintain financial stability and achieve profitability. It involves identifying and analyzing various cost factors, such as operational expenses, production costs, and overheads, and implementing measures to reduce or optimize them, [11]. Effective cost control management leads to cost savings, improved profitability, enhanced cash flow, competitive advantage, resource optimization, strategic decision-making, operational efficiency, risk management, improved financial stability, and long-term growth. Key components of cost control include budgeting, planning, cost analysis, expense tracking, and cost reduction techniques. By understanding and implementing cost control strategies, businesses can maximize their bottom line and achieve sustainable growth. Nigeria has 264 universities as of September 2023, reflecting its significant expansion in the higher education industry [4]. However, underfunding of these institutions has led to inadequate classrooms, study spaces, understaffed staff, and subpar hostel amenities. Nigeria's higher education system has been functioning below its potential, with over 90% of 2.1

million students attending public colleges. Higher gas prices, depreciation of the Naira, and numerous other economic issues have increased the cost of higher education in the country and diminished the funds that could have been applied to sufficiently fund the institution's underfunded infrastructure. Universities predict increased fees due to meager government funding and operating costs, leading to student protests. Research on management aspects in Nigerian universities has shown a positive relationship between cost management practices and firm performance in manufacturing organizations [8]. Effective management strategies are crucial for Nigerian businesses to ensure competitive advantage and success. The study explores the Resource

Dependency Theory, which examines the link between cost management practices and firm performance in construction organizations. It focuses on environmental fit, internal conditions, and unique inputs. Research on TETFund and other management aspects in Nigerian universities has shown a positive relationship between cost management practices and efficiency. The study emphasizes the importance of resource dependence theory in understanding the relationship between cost management practices and TETFUND project performance. Consequently, it is imperative to investigate how efficient cost management is used and how it contributes to the success of TETFUND-sponsored building projects in Nigeria, with a focus on the southeast.

METHODOLOGY AND DATA ANALYSIS

The funding of Nigeria's universities has not increased consistently due to factors such as maintenance costs, increased student intake, inflation trends, and overhead costs. This has led to inadequate library resources for students to conduct meaningful research. The Nigerian Universities Commission (NUC) provides 90% of the total income to universities, with the remaining 10% generated by the universities themselves [6]. However, the government's inadequacy has been identified over time. A descriptive research design was used to gather information about the cost of projects and the completion rate of TETFUND projects in the

Southeast. The study used a census technique, questionnaires, and content validity to confirm the instrument's inclusivity and relevance to strategic leadership and project management sustainability [11]. The study concluded that achieving project success is crucial for building projects, as cost performance is crucial for project success. As the number of public tertiary institutions grows, there is an increasing demand for funding from TETFund, but resources are thinly shared among institutions, especially as more tertiary institutions are established at the state and federal levels.

Table 1: Distribution of Population

S/N	Universities	Principal Staff	Senior non-Academic	Academic Staff	Total Population
1	Enugu State University of Sci & te	5	571	960	1,536
2	Odumegwu Ojukwu University	5	421	688	1,114
3	Ebonyi State University	5	505	891	1,401
4	Abia State University	5	414	718	1,137
5	Imo State University	5	618	851	1,474
Total		25	2,529	4,108	6,662

Source: Universities Establishment Unit Internal Records, 2023

Sample Size Determination

Despite, the relevance of the study, the sample size was calculated using a suitable formula for determining the required number of respondents. This study employed a mathematical approach in the

determination of the sample size for the research. The mathematical sampling approach was based on Freund and William's statistic formula as quoted [5] which was stated below as follows;

$$n = \frac{Z^2 N(pq)}{N(e)^2 + Z^2(pq)}$$

Where n = Sample Size
 N = The population
 p = Probability of success/proportion

q = Probability of failure/proportion
 Z = Standard (error of the mean) normal deviate
 e = Limit of tolerable error (or level of significance
 N = 6,662
 p = .5
 q = (1 - .5) = .5
 Z = 1.96 confidence interval
 e = 0.03percent

$$n = \frac{(1.96)^2 \times 6,662 \times .5 \times .5}{6,662(0.03)^2 + (1.96)^2 \times .5 \times .5}$$

$$n = \frac{3.8416 \times 6,662 \times .25}{6,662(0.0009) + 3.8416 \times .25}$$

$$n = \frac{6398}{5.9958 + 0.9604} = \frac{6398}{6.9562} = 919.755 = \underline{920}$$

Table 2: Distribution and Return of Questionnaire

Universities	Distributed	No of Returned	Percent	No not Returned	Percent
1. Staff of Esut	212	200	22%	12	1%
2. Staff of Odumegwu Ojukwu Uni	154	150	16%	4	1%
3. Staff of Ebonyi State University	193	180	19%	13	1%
4. Staff of Abia State University	157	155	16%	2	2%
5. Staff of Imo State University	204	200	22%	4	0%
Total	920	885	95%	35	5%

Table 2 shows that nine hundred and twenty (920) copies of the questionnaire were distributed to the respondents from which eight hundred and eighty-

five (885) copies of questionnaire were returned representing 95% while thirty-five copies of the questionnaire (35) were not returned .

Table 3: Responses of TETfund cost on completion rate of projects across State Universities in South-East, Nigeria.

S/ N	Question items	SA 5	A 4	U 3	D 2	SD 1	Total	Mea n	Std.	Dec
1	The cost of every project is important, whether it is funded or not.	252 1260 28%	417 1668 47%	75 225 8%	78 156 9%	73 73 8%	885 3482 100%	3.93	15.5	Agree
2	Cost availability has hindered any TETfund project at the State universities.	361 1805 41%	101 404 11%	124 472 14%	54 108 6%	245 245 28%	885 3034 100%	3.43	11.7	Agree
3	Cost determines whether a TETfund project is completed with or without a supervisor.	298 1490 36%	83 432 8%	124 472 14%	51 102 6%	329 329 36%	885 2825 100%	3.13	10.2	Agree
4	Cost gives contractors more chance of income during the period of the TETfund project in universities.	281 1405 32%	135 440 15%	73 219 8%	111 222 13%	285 285 32%	885 3055 100%	2.90	8.41	Disagree
5	The cost of the project motivated workers to complete it within an appropriate period.	172 860 19%	304 1216 34%	124 472 15%	69 138 8%	216 216 24%	885 2402 100%	3.28	10.8	Agree
Total average mean/Standard deviation								3.65	11.42	

The study reveals that the cost of every project is important, regardless of funding, and that cost availability has hindered any TETFund project at State universities. The majority of respondents strongly agreed that cost determines whether a TETFund project is completed with or without a supervisor. Additionally, the majority of respondents agreed that cost gives contractors more chance of

income during the TETFund project period. Furthermore, the majority of respondents agreed that the cost of the project motivates workers to complete it within an appropriate period. The analysis shows that TETFund cost has a positive effect on the completion rate of projects across State Universities in South-East, Nigeria, with an average mean value of $3.65 > 3.00$.

Test of Hypotheses

H_{02} : TETFund cost has no significant positive effect on the completion rate of projects across State Universities in South-East, Nigeria.

Table 4: Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	1.000a	1.000	1.000	.00000

a. Predictors: (Constant), Completion rate of project

Table 5: ANOVA

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	688.997	4	344.499	657.231	.000
	Residual	.000	881	.000		
	Total	688.997	885			

a. Dependent Variable: Completion rate of project

Table 6: Coefficients

Model		Unstandardized Coefficients		Standardized Coefficients	T	Sig.
		B	Std. Error	Beta		
	(Constant)	.020	.022		.895	.371
	The cost of every project is important, whether it is funded or not.	.660	.532	.654	11.185	.000
	Cost availability has hindered any TETFund project at the State universities.	.776	.833	-.576	-22.283	.000
	Cost determines whether a TETFund project is completed with or without a supervisor.	.444	.542	.616	19.601	.000
	Cost gives contractors more chance of income during the period of the TETFund project in universities.	.695	.548	.704	52.199	.000
	The cost of the project motivated workers to complete it within an appropriate period.	.893	.741	.806	55.199	.000

TETFund cost Table shows that the F-value is the Mean Square Regression (657.231). From the

results, the model in this table has a statistically significant positive effect (Sig = .000).

Decision for Hypothesis

Given the probability value of .000 is less than 0.05 level of significance and coefficient value of .806. We

reject the null hypothesis and accept the alternate conclusion that TETFund cost had a significant

positive effect on the completion rate of the project across State Universities.

Discussion of Findings

Given the probability value of .000 is less than 0.05 level of significance and coefficient value of .806. We reject the null hypothesis and accept the alternate conclusion that TETFund cost had a significant positive effect on the completion rate of projects across State Universities [1]. This is in agreement with the study by investigates the relationship that exists between cost management practices and a firm's performance in the manufacturing organizations using data from 40 manufacturing companies listed on the Nigeria stock exchange from 2003 to 2012. The study relied on secondary data

extracted from the audited financial statements of the selected companies [2]. Direct material cost, direct labor cost, production overhead cost, and administrative overhead cost were taken as independent cost management variables while profitability (Operating profit) was taken as a dependent variable representing the firm's performance as asserted by [3]. The result indicates that a positive significant relationship exists between cost management practices and a firm's performance in the manufacturing organization.

Summary of Findings

TETFund cost had a significant positive effect on the completion rate of projects across State Universities in South-East, Nigeria ($f=657.231$, $\text{coeff}=.806$ $p < 0.000 < 0.05$). Universities in Nigeria should focus on self-sufficiency and transparency in funding, rather than relying solely on government funding. They should raise funds and attract grants while maintaining accountability and transparency. Inadequate funding for universities' operating and capital needs is inevitable, and stakeholders must be involved in financing education. Universities should increase their internal funding levels and encourage stakeholders to share in the cost of education. The Nigerian government should increase budgetary

allocations beyond the minimum 26% target, incorporating public finance, corporate finance, and individual finance. Society must also participate in providing university education, as the burden of providing education is too heavy for the Federal Government alone. The successful implementation of TETFUND projects in public universities in Nigeria depends on effective cost management, transparent financial practices, and continuous monitoring. Based on the results, the research suggested that the management of public universities guarantees that the TETFund project's costs are effectively managed and set into effect to accomplish the agency's goals.

Contributions to Knowledge

This study significantly adds to the body of knowledge by offering a model that illustrates how to evaluate the impact of cost on the execution of

TETFUND projects at selected Nigerian public universities.

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