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# Management Accounting Techniques and Firm Performance of Selected Construction Firms in Delta State, Nigeria

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**Abstract**
*This study examined the effect of management accounting techniques (MATs) on firm performance (FP) of selected construction firms in Delta State, Nigeria; this is done in respect of measures of MATs, namely;Activity-Based Costing (ABC), Strategic Analysis (SA), Performance Evaluation System (PES) and Budgeting System (BS) in relations to Firm Performance (FP)of selected construction firms in Warri, Delta State, specifically; Dozik Nigeria Ltd, Jkd Construction, Affex Global Concept Ltd and Umu-fransConstructin Company Ltd.The response from the respondents was collected with the aid of five (5) likert scale questionnaire. This study adopted descriptive survey design, as it will help the researcher in the assessment of employee's opinion using questionnaire and sampling methods. A sample size was drawn using Taro Yamaniformula was used to draw a sample size of 202.The total questionnaires distributed were two hundred and two (202), and one hundred and ninety-six (196)97.03% were retrieved and properly filled while six (6)2.97% were not properly filled and returned. Thus, the sample to be used for the study will be the total of one hundred and ninety-six (196) respondents which represent 97.03% of the sample size of two hundred and two (202). The questionnaire was code with the aid of excel spread sheet, the respondents profile was analyzed with manual simple percentage, the research questions was analyzed with the aid of descriptive statistics and correlation matrix. The hypotheses of the study were tested using the multiple regression statistical tools with the aid of SPSS version 23. The findings revealed that there is significant positive relationship between ABC and FP (0.004<0.05); there is a significant positive relationship between SA and FP (0.019<0.05); there is a significant positive relationship between PES and FP (0.044<0.05); and finally, finding provides support for result ($H0_4$) test which indicated that BS has a positive significant relationship with FP which is evident with the p-value (0.001<0.05). From the findings of the study, it can be concluded that, overall the MATs had a positive significant effect on the firm performanceof selected construction firms in Delta State, Nigeria. The report suggests that businesses may guarantee project completion on schedule by allocating sufficient resources, providing ongoing oversight and monitoring, and regularly assessing the status of projects to make sure problems that could prevent them from being completed are kept to a minimum.*

***Key Words:*** *Management, Accounting, Techniques, Firm, Performance and Construction*

## Introduction

Management accounting is an important accounting tool that helps firms use data from cost accounting, financial data, and nonfinancial data to improve their performance (Asikogu, M`Ithiria & Omurwa, 2021). According to Mbuthia and Omagwa (2019), management accounting is the process of providing managers and staff with relevant financial and nonfinancial information. This information can be used to make informed business decisions. Management accounting techniques (MATs) can be broken down into two categories: traditional and contemporary (Mbuthia &Omagwa, 2019). According to Ezenyilimba, Ezejifor&Afodigbueokwu, (2019), some examples of traditional MATs include standard costing, marginal costing, variance analysis, budgeting, and cost volume profit analysis. According to Abdul-Kader and Luther (2016), some examples of modern MATs are kaizen costing, goal costing, activity-based costing (ABC), and the balance scorecard.

According to Abdullahi (2015), the implementation of MATs is vitally important since it helps a company to prosper in a market that is highly competitive. These strategies help an organisation gain a major competitive advantage by guiding managerial action, motivating habits, and cultivating cultural values necessary to accomplish the strategic goals of the company, which typically involve higher financial performance (Adu-Gyamfi, Yusheng &Chipwere, 2020; Akpokerere&Ekane, 2022). According to the findings of Abba, Yahaya and Suleiman, N. (2018), the effective usage of machine learning analytics is critical since it can adapt to the needs of both management and the surroundings, so contributing to the betterment of the overall performance of the business. This is one of the main takeaways from their research. It has been demonstrated that the implementation of MATs can have an effect on the performance of an organisation, particularly when the emphasis is placed on non-financial metrics (Abdel-Kader, & Luther, 2016; Akpokerere& Anuya, 2020). For instance, Al-Mawali, Sharif, Rumman, Kerzan, and Liu's (2018) study discovered that the use of more MATs by construction businesses resulted in improved performance. Target costing, kaizen costing, activity-based management, cost analysis, and balance scorecards are a few MAT examples. In a further study, Kasravi and Ghasemi (2017) discovered that it was feasible to enhance organisational performance by the utilisation of both conventional and contemporary MATs.

In addition, Abdullahi (2015) highlights the fact that performance enhancement is one of the primary grounds for the company's MAT adjustments. Achimugu and Ocheni's (2015) research demonstrates a positive association between increased MAT usage and successful construction firm outcomes. This finding lends support to Abdullahi's (2015) position. According to Ajibolade (2017), numerous construction companies in both developed and developing nations have turned to the utilisation of a variety of MATs in order to boost performance.

Building and construction is a significant driver of economic expansion in Delta State, Nigeria. This sector is responsible for the creation of new jobs and the growth of Delta State's infrastructure. The complex relationship between the MATs used by construction companies in Delta State and the impact that relationship has on those companies' performance is, however, conspicuously lacking in information, even in spite of the industry's prominence (Alintah-Abel, Iheama,

&Ugochukwu, 2020). Nigeria's infrastructure development, the growth of Delta State, and the nation's employment market as a whole all depend on the construction sector. To ensure the long-term success of construction enterprises, management accounting plays a crucial role as a tool for decision-making and performance evaluation. The aim of this research is to examine the correlation between particular management accounting standards and the overall performance of a company. As a consequence of this, the current study investigated the ways in which MATs affected the productivity of certain construction businesses in the state of Delta, Nigeria.

**Statement of Research Problem**

There is a lack of empirical data that specifically addresses the relationship between the use of these techniques and the overall performance of construction companies in the region, despite the acknowledged importance of effective management accounting in decision-making and performance evaluation. The particular dynamics and difficulties present in the Nigerian business environment, such as complicated industry-specific rules, economic situations, and regulatory frameworks, exacerbate this study difficulty. Construction enterprises' capacity to optimise their financial management practises is hampered by the dearth of empirical research on the relationship between MATs and firm performance in the Delta State, which impedes their potential for competitiveness and sustainable growth.

The construction industry in Nigeria saw a historic -8% growth rate in 2015, underscoring the gravity of this situation (Ajibolade, 2017). The industry exhibits signs of subpar performance in terms of time and expense overruns, low productivity, subpar work product, and insufficient strategic planning (Alintah-Abel, Iheama, & Ugochukwu, 2020). According to Falope, Offor, and Ofurum (2019), there is a consensus that the poor performance of construction companies has raised concerns among various stakeholders. There have also been reports of the construction industry delivering high-priced, low-quality projects that are completed late, which has left customers unhappy (Tunji-Olayeni, Olusoji, Fagbenle, Omuh, & Opeyemi, 2016).

The absence of targeted research in this area leaves construction companies in Delta State without a comprehensive understanding of which MATs are most effective in improving performance metrics such as profitability, project completion time, and cost efficiency. This knowledge gap hampers the formulation of informed strategic decisions and inhibits the development of tailored management accounting practices that align with the specific needs and challenges faced by construction firms in the region.Therefore, the central research problem to be addressed in this study is: "How do the utilization and effectiveness of MATs impact the performance of selected construction companies in Delta State, Nigeria, and what specific practices can be recommended to enhance their financial management strategies?"By addressing this research problem, the study aims to contribute valuable insights to both academic scholarship and practical decision-making within the Nigerian construction industry, fostering the development of contextually relevant and effective MATs for sustainable business growth in Delta State, Nigeria.The construction industry in Delta State, Nigeria, plays a pivotal role in the regional economy, contributing significantly to employment and infrastructure development. For construction companies to grow sustainably, management accounting is essential as a tool for performance assessment and decision-making. In

Delta State, Nigeria, this study attempts to look into the relationship between particular MATs and the general performance of particular construction enterprises.

## Literature Review

### Conceptual Framework

### Management accounting techniques (MATs) and its Dimensions

MATs encompass a variety of tools and practices used by organizations to support decision-making, planning, control, and performance evaluation. These techniques can be broadly categorized into several dimensions based on their functions and applications (Al-Mawali, Sharif, Rumman, Kerzan& Liu, 2018). Here are some common dimensions of MATs:

**Costing Methods:** Job Costing: Allocating costs to specific projects or jobs. Process Costing: Allocating costs to products produced in large quantities.Activity-Based Costing (ABC): Allocating costs based on the activities that drive them (Cuypers, Hennart, Silverman &Ertug, 2021).

**Budgeting and Forecasting:** Budgeting: Creating a financial plan for a specific period, typically incorporating revenues, expenses, and cash flows.Forecasting: Estimating future financial outcomes based on historical data and trends (Disatnik& Sivan, 2016).

**Variance Analysis:** Standard Costing: Setting predetermined cost standards and analyzing the variance between actual and standard costs.Flexible Budgeting: Adjusting budgeted figures based on actual activity levels (Dugdale & Jones, 2015).

**Performance Measurement:** Key Performance Indicators (KPIs): Metrics used to assess the performance of various aspects of the organization. Balanced Scorecard: A strategic performance management tool that considers financial and non-financial measures (Omogbiya& Addah, 2016).

**Decision-Making Tools:** Cost-Volume-Profit (CVP) Analysis: Evaluating the relationship between costs, volume, and profits. Break-Even Analysis: Determining the point at which revenues equal costs. Incremental Analysis: Assessing the impact of changes in activity or costs on profitability (Falope, Offor &Ofurum, 2019).

**Capital Budgeting:** Net Present Value (NPV): Assessing the profitability of an investment by comparing the present value of cash inflows to the present value of cash outflows. Internal Rate of Return (IRR): Calculating the discount rate that makes the net present value zero (Ibarrondo-Dávila, López-Alonso & Rubio-Gámez, 2015).

**Performance Reporting:** Dashboard Reporting: Using visual representations to convey key performance metrics. Management Reporting: Providing detailed reports for internal use, often more detailed than external financial statements (Isa, &Thye, 2016).

**Strategic Management Accounting:** SWOT Analysis: Assessing internal strengths and weaknesses and external opportunities and threats. Competitor Analysis: Evaluating the financial performance of competitors (Kasravi& Ghasemi, 2017).

**Risk Management:** Risk Assessment: Identifying and assessing potential risks to the organization. Risk Mitigation: Developing strategies to minimize or manage identified risks(Mazumder, 2017)..

**Customer Profitability Analysis:** Customer-Level Costing: Allocating costs at the individual customer level to understand profitability. Time-Driven Activity-Based Costing (TDABC): Allocating costs based on the time required to perform various activities (Mazumder, 2017)..

**Strategic Cost Management:** Target Costing: Determining the desired profit margin and setting prices accordingly. Life Cycle Costing: Evaluating the total cost of a product over its entire life cycle (Mazumder, 2017).

These dimensions highlight the diverse range of MATs that organizations can employ to enhance their decision-making processes, control systems, and overall performance. The selection and integration of these techniques depend on the specific needs and objectives of the organization.

**Firm Performance**

Performance metrics serve as essential indicators of an organisation, assisting in the identification of whether process activities or outputs meet predetermined goals (Melek, 2017). The organization's strategy can be converted into a set of goals and objectives through their use, and the outcomes of the measurements show how well the plan was implemented (Ogunde, Owolabi, Olusola, Tunji-Olayeni, Amusan, Joshua, & Akhigbe, 2016). Performance metrics show the organization's key priorities and how employees should act to achieve the best possible results for the company. According to a study conducted in Nigeria in 2016, productivity, safety, on-time service delivery, and customer satisfaction with goods and services can all be used as performance indicators. A study conducted in Spain in 2015 by Ibarrondo-Dávila, López-Alonso, and Rubio-Gámez also found that performance may be measured based on the quality of projects completed, their safety, their timely delivery, productivity, and customer satisfaction.

**Theoretical Framework**
**Contingency Theory (CT)**

The study's foundation was Fred Fiedler's CT, which he created in the 1960s. According to Burns and Stalker (1961), the theory concentrates on particular important components that help financial managers choose the best approaches. According to the notion, no management accounting system can be applied uniformly and suitably to every organisation in every situation. In order to promote performance, each organisation implements unique MATs (Oladimeji & Aina, 2018). Enforcing the CT approach, Otley (1980) noted that no single, all-encompassing, definitive MATs could be applied to every organisation. But in challenging the notion, Abba, Yahaya, and Suleiman (2018) contended that firms cannot impose fit circumstances, which is why the theory is faulty.

**Transaction Cost Theory (TCT)**

The research was directed by Commons' (1931) TCT. According to the theory, the best organisational structure is one that maximises economic efficiency through minimising exchange costs in service provider negotiations. It implies that every kind of transaction results in coordination costs for project management, control, and monitoring in order to achieve high

performance (Otley, 2018). According to the theory, a decision-maker may decide to introduce transaction costs during negotiations by using accounting strategies that are in line with business performance and by differentiating these expenses from production costs (Schmidt & Finan, 2018). Nonetheless, the theory has faced criticism due to the fact that if transaction-specific assets are not valued in the market, then minimising transaction costs may not yield significant benefits (Tiruneh & Fayek, 2020). Secondly, the initiation of a transaction does not ensure that transaction negotiations would be minimised. In such a situation, expensive negotiating may also ensue. This indicates that the theory understates the expenses involved in planning a transaction (Cuypers, Hennart, Silverman, &Ertug, 2021).

**Empirical Review**

Asikogu, M'Ithiria, and Omurwa (2021) found that budgeting, strategic analysis, and activity-based costing (ABC) had an impact on corporate performance. The quantitative analysis was conducted with the 35 biggest construction companies in mind. Thirteen firms made up the sample. Data from 170 managers was gathered using a questionnaire. The research employed both inferential and descriptive statistics. The study discovered a connection between corporate performance, budgeting, and strategic analysis. ABC enhanced company performance, according to the study. The majority of businesses, according to the poll, used both internal and external analysis to improve performance. According to a poll, many companies' budgeting procedures did not include all pertinent departments. According to the report, businesses should provide more resources to ensure that projects are completed on time. The study concludes that in order to enhance the business environment and boost the performance of construction enterprises, policies should be modified through research and recurring evaluations.

The impact of management accounting practises on Ghanaian manufacturing businesses was investigated by Adu-Gyamfi, Yusheng, and Chipwere (2020) using a quantitative analysis. Regression analysis conducted with SPSS revealed that management accounting practises such as "costing system, budgetary system, performance evaluation system, strategic management, and information for decision making" are employed by the majority of manufacturing enterprises in Ghana. The performance of Ghanaian listed enterprises was positively impacted by cost analysis, performance evaluation, budgeting, strategic management, and information systems. As a result, Ghana's manufacturing businesses function better. Mazumder (2017) conducted a study that examined the relationship between Bangladeshi enterprises' performance and the assessment of MATs. According to the study, there was a positive and significant association between ABC and performance as determined by traditional costing and cash-flow analysis.

The impact of quality management on Nigerian brewery efficiency was studied by Omogbiya and Addah (2016). an extensive analysis of the breweries in Lagos State. The hypothesis was investigated in the study using regression analysis and a structured questionnaire. In general, overall quality management increased customer satisfaction, decreased product waste, and increased organisational return on investment. Salawu et al. (2015) investigated the impact of MAT adoption on agricultural companies' performance in Nigeria. Using target costing, the ABC approach was evaluated. Performance and ABC were found to have a substantial positive association.

A comparable study on management accounting practises and organisational success of manufacturing enterprises in Rivers state, Nigeria, was carried out by Betinah, Ojiabo, and Alagah (2018). The study used a structured questionnaire. The financial performance and customer satisfaction were found to be enhanced by management accounting practises. Once more, the study by Adler, Everett, and Waldron (2015) examined how MATs affected the efficiency of Chile's governmental institutions. Performance was found to have a substantial negative link with strategic analysis (internal and external environment). Likewise, Amoako (2013) investigated the relationship between MATs and the performance of SMEs in Nigeria. Performance was found to be negatively correlated with strategic analysis as determined by competitor scanning.

Subsequent to this study, Mbuthia and Omagwa (2019) investigated the relationship between budgetary control and the financial performance of Kenyan commercial banks. The study required data from primary and secondary sources. The results of this study demonstrated a strong and positive correlation between financial performances as determined by earnings per share, market share growth, and return on investment and budgetary control. Melek (2017) conducted a study on the impact of machine learning techniques (MATs) on the performance of 500 Turkish enterprises. To gauge budgeting practises, the study included expenditure auditing and budget participation. It was discovered that performance and budget practises had a good association.

## Methodology

The design method to be employed for this study is the descriptive survey design, as it will help the researcher in the assessment of staff's opinion using questionnaire and sampling methods.Furthermore, the descriptive survey method shall be adopted which involves gathering information from a subset or fraction of the population of interest through direct contact. At the same time, it is detached enough to suggest objectively and credibility in the research process. The population defines the limit within which the research findings are applicable. It must be defined in such a way that the result of the investigation can be generalized to the population. The population of the study will consists of employee of the selected construction firms in Delta State (Dozik Nigeria Ltd, Jkd Construction, Affex Global Concept Ltd and Umu-fransConstructin Company Ltd). The aggregate number of persons from which the study sample will be drawn is estimated at 407 employees, all of which are employees of the various selectedconstruction firms in Delta State. This is shown in Table 3.1:

**Table 3.1: Showing the population of construction firms for the study.**

| S/N | Firms | Description | Address | Population |
|---|---|---|---|---|
| 1 | Dozik Nigeria Ltd | Construction Companies | Behind Trailer Park by NPA NEW port Gate, Warri Delta State | 86 |
| 2 | Jkd Construction | Construction Companies | 102 ,Okuragba Avenue, Warri Central, Delta, Nigeria | 78 |
| 3 | Affex Global Concept Ltd. | Building Constructors, Buil | 8 Mcc Rd, Off Enerhen Rd, Enerhen, Box 955 Effurum-Warri Delta State | 119 |

| | | | | |
|---|---|---|---|---|
| | | ding Materials and Equipment | | |
| 4 | Umu-frans Constructin Company Ltd | Building Constructors, Civil Engineering, Construction Companies | 93 hospital rd .opp.new lay out junc.Ekpan, Effurun Warri, Delta State | 127 |
| **Total** | | | | **407** |

**Source: Staff Record Book from Selected Construction Firms, Delta State, Nigeria**

The sample size of any research study refers to the representation of the population from which it is being drawn according to Agbonifoh and Yomere (1999). For the purpose of this research, the appropriate number of representation of the population for the study was determined using the Taro Yamani sample size formula thus:

$$n = \frac{N}{1 + N(e)^2}$$

Where n = sample size sought

e = level of significance

N = population size

Working reveals the desired sample size thus:

$$n = \frac{407}{1 + 407(0.05)^2}$$

$$n = \frac{407}{1 + 407(0.0025)}$$

$$n = \frac{407}{1+1.0175}$$

$$n = \frac{407}{2.0175} = 202$$

Sample size n = 202

Questionnaire was the main instrument to be employed for data collection. The questionnaire is divided into two sections (A & B). The section A contains questions relating to the respondents` profile while the section B concerns other questions on the constructs of entrepreneurial innovativeness strategies and competitiveness of SMEs. The introductory letter or covering letter was designed to motivate respondents to provide honest and needed responses to the survey instrument. The questionnaire that will be use will consist of five (5) point likert-type questions ranging from a 1-Strongly Disagree to 5- Strongly Agree. It was suitable for this study because it is particularly suitable for measuring attitudes towards an object or for obtaining the response evaluation of an object.

Statistical techniques of data analysis were applied in the study which will includes, descriptive statistics and regression analysis. The descriptive statistics include frequency distribution, measures of central tendency (mean) and measures of variation (standard deviation). The results presented in tables. While inferential statistical technique that was used is multiple regressions. It will use for the purpose of ascertaining the strength of relationship that exist among variables, determine to what extent the independent variables[Management Accounting Techniques (MATs) proxied withActivity-Based Costing (ABC), Strategic Analysis (SA), Performance Evaluation System (PES) and Budgeting System (BS)] accounted for change on the dependent variable {Firm Performance (FP)}, as well as to test the statistical significance that exists among variable respectively. They will employ using the statistical package for social science (SPSS) software version 23.

## Results and Discussion

The questionnaire as stated earlier was administered to employees of selected construction firms in Warri, Delta State, specifically; Dozik Nigeria Ltd, Jkd Construction, Affex Global Concept Ltd and Umu-fransConstructin Company Ltd. The total questionnaires distributed were two hundred and two (202), and one hundred and ninety-six (196)97.03% were retrieved and properly filled while six (6)2.97% were not properly filled and returned. This response was excellent and representative of the population and conforms to Cooper & Schindler (2014) stipulation that a response rate of 50% is adequate for analysis and reporting; a rate of 60% is good and a response rate of 70% and above is excellent. Thus, the sample to be used for the study will be the total of one hundred and ninety-six (196) respondents which represent 97.03% of the sample size of two hundred and two (202).

**Table: 4.1 Response from Distributed Questionnaire (Personal Information of Respondents)**

| S/N | Variables | Frequency | Percentage (%) |
|---|---|---|---|
| 1. | **Gender** | | |
| | Male | 78 | 39.80 |
| | Female | 118 | 60.20 |
| | | **196** | **100** |
| 2. | **Marital Status** | | |
| | Married | 89 | 45.41 |
| | Single | 98 | 50 |
| | Divorced | 9 | 4.59 |
| | | **196** | **100** |

| | | | |
|---|---|---|---|
| 3 | **Age** | | |
| | 18-25 years | 87 | 44.39 |
| | 26-35 years | 66 | 33.67 |
| | 36-45years | 31 | 15.82 |
| | 45 and Above | 12 | 6.12 |
| | | **196** | **100** |
| 4. | **Work Experience** | | |
| | 0-5years | 107 | 54.59 |
| | 6-10years | 49 | 25 |
| | 11-15years | 34 | 17.35 |
| | 16 and above | 6 | 3.06 |
| | | **196** | |
| 5 | **Designation (Level of Management)** | | |
| | Top level | 37 | 18.88 |
| | Middle | 58 | 29.59 |
| | Low | 101 | 51.53 |
| | | **196** | **100** |

***Source: Researchers Field Survey, 2024.***

In Table 4.1 showing the demographic characteristics of employees of selected SMEs firms in Asaba, Delta State, specifically; Dozik Nigeria Ltd, Jkd Construction, Affex Global Concept Ltd and Umu-fransConstructin Company Ltd in Warri, Delta State, Nigeria. It can be observed that the Table 41 above sought to determine the respondents' gender. It was established that 60.78% of the respondents were male while 39.80% of the respondents were female. This showed that respondents were evenly distributed across the gender divide although there were more male than female respondents. Also, Out of the 196 respondents, 89(45.41%) are married, 9(47.59%) are married, 98(50%) are singles while 9(4.59%) are divorced. In terms of age, it showed that 87(44.39%) are within the range of 18-25, 66(33.67%) are with the range of 26-35years, 31(15.82%) are in the range of 36-45 while the rest are 45years and above, which stood at 12(6.12%). Further, the work experience of the respondents indicated that 107(54.59%) has the work of experience in the range of 0-5years, 49(25%) has the work experience of the range of 6-10 years, 34(17.35%) has the work experience with range of 11-15years while 6(3.06%) has the work experience of 16 years and above. Finally, the level management indicated that employees in the lower management constituted the modal score of the total respondents that filled the questionnaire with 101(51.53%).

**Table 4.2: Descriptive Statistics**

| | N | Minimum | Maximum | Mean | Std. Deviation |
|---|---|---|---|---|---|
| ABC | 196 | 12 | 20 | 16.89 | 1.941 |
| SA | 196 | 12 | 20 | 16.05 | 2.156 |
| PES | 196 | 12 | 20 | 16.28 | 1.858 |
| BS | 196 | 11 | 20 | 16.12 | 2.016 |
| FP | 196 | 11 | 20 | 16.12 | 2.024 |

| | | | | | |
|---|---|---|---|---|---|
| Valid N (listwise) | 196 | | | | |

**Source: SPSS Output, 2024.**

The descriptive statistics are displayed in Table 4.2 and include the mean, minimum, maximum, and Std. Dev. values for the various variables that were employed in this investigation. The study included independent variables, ABC, SA, PES, and BS, to assess MATs. These variables were discussed separately, and the same was done for the dependent variable (FP), which is construction firms in Delta State, Nigeria. The results from ABC showed that the mean was 16.89, the Std. Dev. was 1.941, and the gap between the maximum and minimum values was 8. Since the mean value is higher than the Std. Dev. number, it may be inferred that there is a considerable deal of variance in ABC. This demonstrates that the chosen construction companies in Delta State support ABC. The mean and Std. Dev. of SA are 2.156 and 16.05, respectively, with a minimum value of 12 and a maximum value of 20. Given that Delta State's construction enterprises mostly operate through the SA, as indicated by the fact that the mean value of 16.18 exceeds the Std. Dev. of 2.162. With an 8-point variation between the maximum and minimum values, PES showed a mean of 16.28 and a Std. Dev. of 1.858. Given that the PES is one of Delta State's primary strengths in construction and that its mean value of 16.28 is higher than the Std. Dev. of 1.858, it is likely that the PES contributes significantly to the state's competitive advantage. The average value reported by BS was 16.12, while the Std. Dev. was 2.016. The discrepancy between the highest and lowest values was 9. Since the mean value is higher than the Std. Dev., this suggests that there is a significant amount of variance in BS. The difference between the maximum and smallest values was 9, and FP ultimately shows a mean of 16.12 and a Std. Dev. of 2.024. This suggests that, with a volatility of 202.4%, the FP fluctuates dramatically over time.

Table 4.3: **Correlations**

| | | FP | ABC | SA | PES | BS |
|---|---|---|---|---|---|---|
| Pearson Correlation | FP | 1.000 | | | | |
| | ABC | .395 | 1.000 | | | |
| | SA | .309 | .443 | 1.000 | | |
| | PES | .331 | .532 | .501 | 1.000 | |
| | BS | .581 | .402 | .293 | .336 | 1.000 |

**Source: SPSS Output, 2024.**

The correlation matrix in Table 4.3, showed the coefficient of the type of relationship that exist between the independent variables {ABC, SA, PES and BS} in relation to the dependent variable {FP}. ABC has a coefficient of (r=0.395>0.05) which reveals that ABC has strong positive correlation with FP, this implies that an increase in ABC would have positive effects on FPof construction firms in Delta State. SA has a coefficient of (r=0.309>0.05) which reveals that SA has strong positive correlation with FP, this implies that an increase in SA would have positive effects on FPof construction firms in Delta State. PES has a coefficient of (r=0.331>0.05) which reveals that PES has strong positive correlation with FP, this implies that an increase in SA would have positive effects on FPof construction firms in Delta State. BS has a coefficient of (r=0.581>0.05) which reveals that BS has strong positive correlation with FP, this implies that an

increase in BS would have positive effects on FPof construction firms in Delta State.The study is focused on enhancing FPthrough MATs. The results of the correlation analysis involving all the indicators of MATs reported positive correlation coefficient values among the measures. This indicated that they are appropriate measures of MATs.

**Table 4.4: Multiple Regression Analysis of Measures of MATs and FP of Construction Firms in Delta State**

**Coefficients[a]**

| Model | | Unstandardized Coefficients | | Standardized Coefficients | T | Sig. |
|---|---|---|---|---|---|---|
| | | B | Std. Error | Beta | | |
| 1 | (Constant) | .028 | .013 | | 2.154 | .025 |
| | ABC | .008 | .003 | .006 | 2.667 | .004 |
| | SA | .034 | .016 | .031 | 2.125 | .019 |
| | PES | .012 | .006 | .011 | 2.000 | .044 |
| | BS | .082 | .016 | .079 | 5.125 | .001 |

a. Dependent Variable: FP

**Model Summary[b]**

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
|---|---|---|---|---|---|
| 1 | .981[a] | .962 | .961 | .398 | 1.938 |

a. Predictors: (Constant), ABC, BS, PES, SA
b. Dependent Variable: FP

**ANOVA[a]**

| Model | | Sum of Squares | df | Mean Square | F | Sig. |
|---|---|---|---|---|---|---|
| 1 | Regression | 768.784 | 4 | 192.196 | 1212.444 | .000[b] |
| | Residual | 30.277 | 191 | .159 | | |
| | Total | 799.061 | 195 | | | |

a. Dependent Variable: FP
b. Predictors: (Constant), ABC, BS, PES, SA

**Source: SPSS Output, 2024.**

The impact of MATs on FP of construction enterprises in Delta State, Nigeria, was documented by the results of the multiple regression analysis. The four MAT measurement variables—ABC, SA, PES, and BS—showed a statistically significant positive impact on the financial performance of construction companies in Delta State, Nigeria.

With a regression coefficient of ($\beta$=0.006) and a P-value of (P=0.004<0.05), the results supported the H1 test result that showed ABC has a significant beneficial impact on the financial performance of construction enterprises in Delta State, Nigeria. Because it is less than 0.05 (5%), the computed p-value of 0.004 is significant. It also indicates that the confidence interval, or level of confidence,

is 99.6% higher than the 95% acceptable threshold. The null hypothesis (Ho1), which claims that there is no meaningful association between ABC and FP of construction enterprises in Delta State, Nigeria, is thus rejected, and we accept the alternative hypothesis instead. This suggests that for construction companies in Delta State, Nigeria, a 1% increase in ABC would result in a 0.6% change in FP; a regression coefficient of 0.006 makes this clear. This is in line with transaction cost theory, which states that a decision-maker may choose to separate these costs from production costs and use accounting techniques that are consistent with business performance to introduce transaction costs during negotiations (Schmidt & Finan, 2018). The hypothesis has been criticised, however, because it may not be beneficial to minimise transaction costs if transaction-specific assets are not valued in the market (Tiruneh & Fayek, 2020). The empirical results of Mazumder (2017), Asikogu, M'Ithiria, and Omurwa (2021), and Adu-Gyamfi, Yusheng, and Chipwere (2020) are consistent with this.

Furthermore, the results corroborated the H2 test finding, which showed that SA significantly improves the FP of construction companies in Delta State, Nigeria ($\beta$=0.031; P=0.019<0.05). Because it is less than 0.05 (5%), the computed p-value of 0.019 is significant. Furthermore, it indicates that the confidence interval (degree of confidence) exceeds the acceptable 95% threshold by 98.1%. The null hypothesis (H02), which claims that there is no meaningful association between SA and FP of construction enterprises in Delta State, Nigeria, is thus rejected, and we accept the alternative hypothesis instead. This suggests that a 1% increase in SA would cause a 3.1% change in FP for construction companies in Delta State, Nigeria; a regression coefficient of 0.031 makes this clear. This aligns with the way contingency theory focuses on specific elements that are crucial in assisting financial managers in selecting the most effective strategies. Asikogu, M'Ithiria, and Omurwa (2021), Betinah, Ojiabo, and Alagah (2018), and Adu-Gyamfi, Yusheng, and Chipwere (2020) have all produced empirical data that are consistent with this.

Additionally, the results supported the H3 test result, which showed that PES and FP of construction companies in Delta State, Nigeria, have a strong positive association ($\beta$=0.011; P=0.044<0.05). Because it is less than 0.05 (5%), the computed p-value of 0.044 is significant. Therefore, the null hypothesis (Ho3), which claims that there is no meaningful association between PES and FP of construction enterprises in Delta State, Nigeria, is rejected by the study, which accepted the alternative hypothesis. This suggests that a 1% increase in PES would cause a 1.1% shift in the financial performance of construction companies in Delta State, Nigeria; a regression coefficient of 0.011 makes this clear. By enforcing the contingency approach, it was impossible to apply a single, comprehensive, and definitive accounting technique to every company. However, in refuting the idea, Abba, Yahaya, and Suleiman (2018) argued that the theory is flawed since firms cannot force appropriate circumstances. According to Mbuthia and Omagwa (2019) as well as Adu-Gyamfi, Yusheng, and Chipwere (2020), this is the case.

Ultimately, the results validated the H4 test result, which showed a noteworthy positive correlation ($\beta$=0.079; P=0.001<0.05) between the FP and BS of construction companies in Delta State, Nigeria. Because it is less than 0.05 (5%), the computed p-value of 0.001 is significant. It also indicates that the confidence interval, or level of confidence, is 99.9% higher than the 95% acceptable threshold. The null hypothesis (Ho4), which claims that there is no meaningful association between BS and FP of construction enterprises in Delta State, Nigeria, is thus rejected,

and we accept the alternative hypothesis. This suggests that a 1% increase in BS would cause a 7.9% change in FP for construction companies in Delta State, Nigeria; a regression coefficient of 0.079 makes this clear. No management accounting system can be implemented consistently and appropriately to every business in every situation, claims the contingency hypothesis. To enhance performance, every business employs distinct MATs (Oladimeji & Aina, 2018). The empirical results of Adu-Gyamfi, Yusheng, and Chipwere (2020) and Asikogu, M'Ithiria, and Omurwa (2021) are consistent with this.

The correlation coefficient (R) of the regression is 0.981 (98%) in Table 4.4, the model summary table. This suggests that there is a strong positive association between the independent variables [ABC, SA, PES, and BS] and the dependent variable (FP) of construction enterprises in Delta State, Nigeria. With a co-efficient of determination (R2) of 96% (0.962), the independent variables (ABC, SA, PES, and BS) account for 96% of the variation in FP of construction businesses in Delta State, Nigeria, leaving the remaining 4% of the variation unexplained by the model. The substantial positive link is further validated, as evidenced by the 96% R2 value. The adjusted R2 calculates the model's goodness of fit. This illustrates how well the model fits data and provides a 96-way explanation of how the dependent variable relates to the independent variables. The remaining 4% is referred to as the error term and other unaccounted-for factors. Given that the Durbin Watson computed value of 1.938 is less than "2," the above data provides clear evidence of serial or autocorrelation. Finally, the model's overall significance is displayed in Anova Table 4.4, where F(1212.444) and an estimated p-value of 0.000 are shown. This demonstrates the soundness of the model by demonstrating how all the independent variables—ABC, SA, PES, and BS—jointly affect the FP of construction companies in Delta State, Nigeria.

**Conclusion and Recommendations**

The majority of building projects did not finish within the allotted period. Inadequate financial and personnel resources may have contributed to the project's delayed completion. The survey comes to the conclusion that most businesses did not use lifecycle and standard costing to help with pricing decisions and to create income to boost business performance. This study examined the effect of Management accounting techniques (MATs) on firm performance (FP) of selected construction firms in Delta State, Nigeria; this is done in respect of measures of MATs, namely;Activity-Based Costing (ABC), Strategic Analysis (SA), Performance Evaluation System (PES) and Budgeting System (BS) in relations to Firm Performance (FP)of selected construction firms in Warri, Delta State, specifically; Dozik Nigeria Ltd, Jkd Construction, Affex Global Concept Ltd and Umu-fransConstructin Company Ltd.The response from the respondents was collected with the aid of five (5) likert scale questionnaire. This study adopted descriptive survey design, as it will help the researcher in the assessment of employee's opinion using questionnaire and sampling methods. A sample size was drawn using Taro Yamaniformula was used to draw a sample size of 202.The total questionnaires distributed were two hundred and two (202), and one hundred and ninety-six (196)97.03% were retrieved and properly filled while six (6)2.97% were not properly filled and returned. Consequently, a total of 186 respondents was the sample used for the study, accounting for 97.03% of the study's 2000 sample size. With the use of an Excel spreadsheet, the questionnaire was coded; a manual simple percentage analysis was used to analysethe respondent profile; and a correlation matrix and descriptive statistics were utilised to analyse the research topics. Statistical procedures for multiple regression were used to assess the

study's hypotheses with the assistance of SPSS version 23. The results showed that FP and ABC had a significant positive relationship (0.004<0.05); SA and FP had a significant positive relationship (0.019<0.05); PES and FP had a significant positive relationship (0.044<0.05); and, lastly, the results supported result (H04) test, which showed that BS and FP had a positive significant relationship, as demonstrated by the p-value (0.001<0.05). According to the study's findings, MATs generally had a considerable favourable impact on the business performance of a subset of Nigeria's Delta State's construction firms. The report suggests that businesses may guarantee project completion on schedule by allocating sufficient resources, providing ongoing oversight and monitoring, and regularly assessing the status of projects to make sure problems that could prevent them from being completed are kept to a minimum. To improve their knowledge and abilities for implementing projects successfully, organisations should also make sure that all staff members, and the project team in particular, regularly participate in role-based internal training. According to the report, institutional frameworks and policies for construction enterprises should be modified in order to create a favourable business climate that will enable the companies to realise improved performance. For example, the government can conduct studies, assess the situation, and develop policies that are flexible in order to The report suggests that businesses may guarantee project completion on schedule by allocating sufficient resources, providing ongoing oversight and monitoring, and regularly assessing the status of projects to make sure problems that could prevent them from being completed are kept to a minimum. To improve their knowledge and abilities for implementing projects successfully, organisations should also make sure that all staff members and the project team in particular, regularly participate in role-based internal training. According to the report, institutional frameworks and policies for construction enterprises should be modified in order to create a favourable business climate that will enable the companies to realise improved performance.

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