Scope
Volume 14 Number 02 June 2024

Project Finance Factors and Financial Performance of Selected Construction Companies in North-Central Nigeria: An Impact Assessement

Alu Joseph Abani & Dr. Frank Alaba Ogedengbe
Department of Business Administration, Nile University of Nigeria, Abuja
Orcid Id: 0009-0007-1701-4440
Orcid Id: 0000-0001-8896-7352

Abstract: The importance of construction organizations growth to the economic development of any nation remains integral as it constitutes majorly to the developmental stride of any nation. This study investigates the impact of financial factors of Cost Valuation Reconciliation (CVR) and Schedule Management (SMG) on the ROA and ROE of selected construction companies in North Central Nigeria. This study administered 102 semi-structured question to the requisite construction professionals in the considered construction organizations of which the same amount was properly filled and returned resulting into a 100 percent response rate. The applied methodologies entail descriptive statistics and inferential statistic of multivariate regression model. The result shows that that cost valuation reconciliation is not statistically significant with return on asset at 0.922 and return on equity at 0.744 while it was also found that the level of significance revealed that schedule management is not statistically significant with return on asset at 0.410 and return on equity at 0.454. This study recommended that contractors should prioritize directing their project monitoring and control efforts towards enhancing the overall results of their projects as incorporating the important personnel into the planning and control processes from the beginning and maintaining their involvement consistently will enhance the efficacy and precision of planning which affects the outcome of the project.

Keywords: Cost Valuation Reconciliation (CVR), North-Central, ROA, ROE Schedule Management (SMG)

1.0 Introduction

Effective cost management is crucial in building projects, as the success of the project is often evaluated solely based on cost performance. Research conducted in Qatar

between 2000 and 2013 found that there was a cost overrun of approximately 54% (Senoucia et al., 2016). Companies increasingly require the identification and understanding of costs, as well as the factors that drive these costs and their associated behaviors. The project incurs indirect or overhead expenses that range from 8% to 15% of the total construction costs. The magnitude of these costs depends on the complexity of the project, and they have the potential to increase at a quicker pace than direct costs. Major construction companies experienced a substantial rise of over 77% in project overhead costs, with 9.8% remaining unchanged and only 3.2% decreasing. Usually, the accounting department is responsible for managing the expenses of building projects. However, because of the time delay in the accounting process, there is a delayed response to changing conditions. Furthermore, the management of construction performance, cost, and accounting follows distinct and independent procedures, lacking an integrated strategy.

In the conventional approach, there is no direct cause-and-effect relationship between expenses and activities and job components. Additionally, the categories are determined by the resources utilized rather than the user's components and activities. Furthermore, overhead costs are set at a predetermined amount and do not have a direct connection to building operations. Additionally, there is limited understanding of the variations in costs. However, the majority of executives lack comprehension of accounting reports due to their analytical nature and lack of connection to services and goods (Castro Silva et al., 2014). For the past forty years, earned value management has been utilized to forecast and manage costs. Tools and techniques, such as earned value management, are used to manage and control costs. These methods assess cost performance by measuring earned value (EV), planned value (PV), cost performance index (CPI), and cost variation (CV). The work breakdown structure (WBS) is utilized as a fundamental element in this technique for task planning. In addition to the labor breakdown structure, the project also utilizes the organizational breakdown structure (OBS) to assign specific organizational responsibilities to project tasks.

The Earned Value Management (EVM) system has inherent limitations, as it relies on previous data as the most reliable information and is subject to several uncertainties during the early stages. Cost control, estimation, and budgeting of remaining works are determined using historical performance indicators, which may lead to mistakes. By analyzing the earned value indicators, the management can compute the cost deviation for each activity and project, specifically for direct expenses. This analysis can be done by studying activity or accounting data, allowing the management to identify the underlying reasons and causes of the deviations. Nevertheless, the process of reviewing many reports

that encompass various control and accounting frameworks and their correlation to physical progress requires a significant amount of time. Indirect costs in the context of the EVM system refer to routine activities that cannot be directly linked to specific activities or projects. These costs need to be budgeted and controlled separately at the operational or organizational management level. Indirect costs are typically managed in overhead caches that are based on the organization's accounting process.

This study aims to thoroughly analyze the impact of project cost control techniques on the financial performance of selected construction companies in North Central Nigeria. The construction industry is crucial for economic development, and efficient management of project expenses is vital for achieving sustainable financial results. Nevertheless, the complex interplay of project cost control and its direct relationship with the financial well-being of construction companies in the given area necessitate a comprehensive examination. The region of North Central Nigeria is distinct due to its varied economic elements and complex projects. Gaining insight into the way particular cost management measures affect the financial indicators of construction enterprises in this area is essential for making well-informed decisions and promoting progress in the sector. An in-depth investigation is necessary to address potential problems such as exceeding the budget, misallocating resources, and ensuring the financial viability of these organizations. This research seeks to address knowledge gaps by thoroughly investigating the relationship between project cost management measures and the financial sustainability of certain construction enterprises. The study seeks to identify significant issues and possibilities in order to offer practical insights that help improve the financial resilience and overall performance of construction companies operating in North Central Nigeria.

The Nigerian economy and manufacturing enterprises have had substantial adverse effects from the COVID-19 pandemic and other global economic trends, requiring them to demonstrate resilience and adaptability. These challenges have resulted in major consequences (Abbas & Burhan, 2022). Financial volatility and regulatory frameworks in Nigeria can hinder enterprises from operating optimally (Adeleke & Owolabi, 2019). Nigeria's manufacturing industry faces a huge issue in effectively managing abandoned projects and expenses, which has a substantial impact on the performance of enterprises in North Central Nigeria (Adetunji et al., 2019). Despite the utilization of several cost management approaches, firms in Nigeria still face vulnerability (Owolabi et al., 2018). They face significant challenges related to project cost control, which include activities such as cost variance analysis, earned value analysis, cost valuation reconciliation, and schedule management. The shortcomings of firms hinder the efficient allocation of resources and financial intermediation, impeding efforts to enhance people's well-being

and stimulate economic expansion (Ifeanyi & Adindu, 2023). The influence of project cost control on firms' credit, liquidity, profitability, and solvency in Nigeria is not well understood. Therefore, there is an urgent need to gain insight into how these controls affect the performance of enterprises in these areas (Igwe et al., 2022).

If the issues with financial performance and project cost control persist, it might potentially endanger the overall stability of Nigeria's economy. The diminished manufacturing sector can have a detrimental effect on the broader economy due to its vital role in fostering economic growth and advancement. The presence of numerous unfinished projects and subpar performance has the potential to erode investor confidence in Nigeria's manufacturing industry (Gao & Goodrum, 2022). The nation's ability to attract investments may be compromised by a decrease in foreign direct investment (FDI) and the outflow of capital. Manufacturing corporations play a crucial role in the production planning and quality control of individuals and businesses. If organizations encounter difficulties in managing the risk related to project expenses, they may adopt a more cautious approach to their output. This cautiousness has the potential to hinder economic activity and growth, especially for small firms. A consistently elevated level of non-performing projects can exert pressure on enterprises' financial statements, so constraining their ability to deliver high-quality products to the productive sections of the economy. This can lead to a decrease in the number of finished projects, a deceleration in the economy, and further deterioration in asset quality. Furthermore, the reduction in economic activity caused by the limited availability of credit may lead to job cuts in many sectors, ultimately impacting the general condition of the economy. Multiple studies conducted in Nigeria have demonstrated that effective project cost control significantly impacts the financial success of specific construction enterprises. Ebekozien (2022), Egwunatum et al. (2022), Iyagba and Onyia (2022), as well as Kaming et al. (2022), Kumar and Varghese (2022), and Obi et al. (2021) have presented a dissenting viewpoint. Similarly, Ogunmakinde et al. (2019) utilized primary data, whereas Okafor et al. (2022) employed secondary data in comparable research. This study aims to investigate the impact impact of Cost Valuation Reconciliation (CVR) and Schedule Management (SMG) on the ROA and ROE of selected construction companies in North Central Nigeria.

1.1 Objectives

To examine the impact of Cost Valuation Reconciliation (CVR) on the ROA and ROE of selected construction companies in North Central Nigeria.

To determine the impact of Schedule Management (SMG) on the ROA and ROE of selected construction companies in North Central Nigeria.

1.2Hypotheses

H_{01}: There is no significant statistical impact of CVR on the ROA and ROE of selected construction companies in North Central Nigeria.

H_{02}: There is no significant statistical impact of SMG on the ROA and ROE of selected construction companies in North Central Nigeria.

2.0 Literature Review

2.1 Cost Value Reconciliation (CVR)

The process of consistently assessing and communicating the profitability of a building project is referred to as CVR. By conducting a cost-revenue analysis at a specific date, one can ascertain the net gain or loss of the project up to that point. Okoroh et al. (2017) argue that the utilization of CVR (Cost Value Reconciliation) in the subcontracting construction industry is an essential element of cost management for effectively controlling the finances of building projects. However, despite the advantages it offers, subcontracting organizations often do not make substantial use of it. This phenomenon is considered usual due to the perception that subcontractors from small and medium-sized companies often lack the necessary resources, financial means, and technical expertise to effectively implement the technique (Igwe et al., 2022). Cost-Value Reconciliation (CVR) is a systematic procedure designed to synchronize expenses and worth inside an organization. This method has a substantial influence on the financial performance. Enhancing the precision of financial reporting enhances the level of openness and trustworthiness when communicating the company's financial status to stakeholders. Additionally, it aids in more effective cost management, mitigating budget excesses and exerting a good impact on overall financial results. Furthermore, this procedure improves cost-efficiency and operational performance by allocating resources in an efficient manner. Reliable information empowers decision-makers to properly deploy resources and undertake critical initiatives in order to achieve financial objectives. Customer happiness and loyalty have a direct impact on financial performance, resulting in more sales and a more robust market reputation. Regular reconciliation enables the proactive identification and management of risks, ensuring the protection of profitability and financial well-being. Cost Value Reconciliation is crucial for ensuring financial stability, promoting effectiveness, and ensuring that costs are in line with the value produced. This enhances the long-term viability of companies. (Poorhassan, 2020). Corporate value realization (CVR) plays a vital role in improving a company's financial performance by enabling effective management of costs, operational efficiency, and informed strategic decision-making (Pudael et al., 2022). CVR, by a thorough comparison of expected costs and actual expenditures, helps prevent budget overruns and fosters financial stability.

Furthermore, when resource allocation is aligned with the targeted value generation, it improves efficiency and has a beneficial effect on profitability (Putri et al., 2020). Accurate insights from CVR enable educated decision-making, which is crucial for pursuing strategic goals and attaining financial success. Moreover, CVR serves to reduce risks and protect against financial losses. According to Rouzana et al. (2020), the firm's overall financial success is greatly influenced by customer happiness and revenue generation. In conclusion, the diligent implementation of CVR principles lays a strong groundwork for achieving lasting financial stability.

2.2 Schedule Management (SMG)

SMGis a crucial element in project management, since it requires careful and detailed planning, organization, and control of work scheduling in order to achieve project goals. The approach begins by creating a Work Breakdown Structure (WBS) to divide the project into smaller, more manageable tasks (Salihu et al., 2022). Properly sequencing these tasks and identifying their relationships are crucial for allocating resources and determining task duration. Critical Path Analysis is utilized to determine the order of essential actions required to complete the project in the shortest possible duration (Salleh et al., 2023). Resource allocation entails the efficient and effective administration of human, material, and equipment resources, taking into account any limitations or constraints. Project managers make estimations of work durations, monitor progress, and utilize methods such as crashing or fast-tracking to improve the timetable. Efficient communication is crucial for disseminating the project timeline and any alterations to the team and stakeholders. Continuous monitoring and control ensure that the project stays on track, efficiently completes tasks, and meets overall objectives within the planned period (Seidu et al., 2022). In addition to managing costs, project managers must give special consideration to monitoring the project schedule. Due to the time-sensitive nature of building projects, contractual agreements necessitate careful consideration of timetables. Delayed development, facility utilization, or other occurrences can lead to increased expenses in a broader context (Sharma et al., 2021). Just as realistic prices are compared to budgeted expenses, real activity durations can be compared to projected durations. It is crucial to calculate the duration required to execute particular jobs during this approach (Shahin et al., 2022). Efficient schedule management has a substantial influence on the financial performance of companies. It facilitates cost management, decreases expenses, and optimizes resource allocation by preventing delays. Adhering to project deadlines improves client satisfaction, resulting in increased repeat business and good referrals, which immediately impacts income (Efebeli, 2021). Minimizing penalties and maximizing rewards are additional factors that lead to favorable financial results. Punctual completion of projects enhances a company's competitive edge in the market,

hence attracting additional prospects and customers. It improves operational efficiency, minimizes downtime and idle resources, and has a beneficial influence on production and cost-effectiveness (Ellis et al., 2021). Optimizing scheduling can reduce financing requirements and their associated expenses, thereby positively impacting the company's financial performance. Adhering to contractual deadlines is crucial for maintaining healthy relationships and preventing disagreements, which in turn protects financial performance. Ultimately, proficient schedule management yields financial advantages by ensuring cost containment, revenue generation, market competitiveness, and operational efficiency (Essilfie, 2021). The correlation between schedule management and financial performance is of great significance, since it directly impacts factors such as cost effectiveness, resource allocation, and revenue creation (Gitonga, 2022). Effective scheduling prevents delays, hence reducing extra costs and optimizing resource utilization. Consequently, this has a favorable effect on cost management and the overall financial effectiveness (Chandanshive & Kambekar, 2021). In addition, delivering projects on time improves client satisfaction, leading to increased repeat business and referrals, which directly impact revenue and market competitiveness. Furthermore, enhancing operational productivity can be achieved by minimizing periods of inactivity and unutilized resources, thereby leading to a favorable impact on the company's cost framework. Moreover, strict compliance with project timelines aids in preventing monetary sanctions and potentially results in rewards, therefore enhancing specific project results and overall financial efficacy (Habtamu, 2022).

2.3 Financial Performance

Financial performance assesses the effectiveness of a corporation in utilizing its resources to generate revenue (Apochi et al., 2022). Every business, including banks, strives to optimize its profitability. The banking sector's ability to endure unfavorable shocks, maintain financial system stability, and provide satisfactory returns to shareholders is largely attributed to the lucrative financial performance of banks (Ntivuguruzwa et al., 2020). A bank's strong profitability indicates its effective management of revenues, assets, and investments in its operational activities, resulting in financial benefit. Assessing financial performance is crucial in the field of financial management. Financial performance indexes are independent and unbiased with respect to the unit of analysis. The indexes meticulously assess several performance aspects and externally verify their accuracy (Imeokparia et al., 2021). The financial performance indicators can be categorized into many groups such as accounting metrics, market metrics, growth metrics, hybrid accounting metrics, company survival metrics, and operational measures (Dhamotharan et al., 2020). The financial statements are created in accordance with the company's accounting principles, which include the balance sheet and are acknowledged

(Mehmood & De Luca, 2023). Academics employ accounting standards due to their numerous benefits. Initially, these indices serve as the most readily accessible gauge of a company's financial performance (Adeghe et al., 2019). Furthermore, the research demonstrates a strong correlation between a company's accounting performance and its important economic returns (Cho et al., 2019). Furthermore, the accounting metrics pertain to the factual evaluation of the company's performance as presented in its statement of financial position (Bekele, 2023). However, academics have recently identified certain limitations of accounting systems, contrasting with the aforementioned benefits. A major drawback of accounting standards is their focus on the historical performance of the organization. Therefore, these indicators provide just a minimal advantage in terms of directly assessing and examining future performance (Prasetiawatia & Sudanab, 2019). Furthermore, when establishing the framework for each company's accounting concept, the implementation of accounting measures enables corporations to strategically influence the returns connected with them. For example, a company's choice of inventory calculation method, expense calculation method, or amortization programs has an impact on the corresponding accounting figures and can be compared with other organizations (Arsew et al., 2020). Due to variations in accounting standards across different nations, it is important to exercise caution when comparing firms' countries using accounting-based indexes (Wang and Wang, 2020). Despite these potential drawbacks, accounting-based measurements continue to be the most widely used financial performance indicator across industries. Adetunji et al. (2019) reported in a thorough literature study that accounting metrics constitute more than 40% of the company performance indicators utilized by academics. Scientists employ a diverse array of indicators as components of the accounting metrics.

In a separate literature review, Ahmeds et al. (2021) identified additional accounting metrics commonly employed by academic researchers to gauge company performance. These metrics include earnings before interest, taxes, depreciation, and amortization (EBITDA), earnings and taxes before interest (EBIT), and return on equity invested. Hence, it was expected that the researchers would have provided some information about the comparative utilization of these markers in the examined regions. In addition to accounting measures, market-based metrics are also considered a crucial set of financial performance indicators by researchers. Market-based metrics assess the valuation of a business by considering exchange rates or ratios prevalent in the market. Thus, these methods are exclusive to state-owned corporations, private equity firms, or companies sold through intermediaries. They can potentially offer valuable transaction data to academic researchers (Onsongo et al., 2020). The authors (Koller et al., 2010) argue that market-based indicators are the most accurate measure of a company's economic value.

Academics have a strong affinity for market-based measurements due to distinct rationales. Market-based measures differ from accounting-based metrics in that they represent the projected future cash inflows and outflows of a business, taking into account the time value of money. This approach is highlighted by Butt (2023). Hence, the market-based index demonstrates the utilization of existing uncertainties and potential future business prospects (Dhamotharan et al., 2020). Furthermore, market-based measurements are the most accurate way to assess the value of a company's intangible assets, as stated by Abubakar (2020). Furthermore, market measures are considered to be free from any subjective assessments made by management, in contrast to accounting metrics. Ultimately, when considering the assumption of efficient financial markets, market-based indicators may indicate the reverberation of changes in the market. The company's economic value is attributed to the acts taken by its management (EkaningtyasWidiastuti, 2023). Putri et al. (2020), examine financial performance from the viewpoints of accounting-based and market-based measurements. Accounting-based and market-based measurements were regarded as dependent variables in the assessment of financial success. Accounting-based criteria, including return on assets (ROA), profits per share (EPS), return on equity (ROE), and return on sale (ROS), are used to evaluate financial performance. Return on Assets (ROA) and Earnings per Share (EPS) are suitable and comprehensible financial ratios for evaluating the performance of any corporate entity. Lelissa and Kuhil (2018) established a connection between ROA (Return on Assets) and ROE (Return on Equity) with the key elements of the statement of financial status. The majority of structured performance studies include Return on Assets (ROA) and Return on Equity (ROE) as metrics. These metrics are used to emphasize the entity's capacity to generate revenue from both conventional and non-conventional services (Arhinful and Radmehr, 2023).

Return on Assets (ROA) is a metric used to assess how effectively a company utilizes its capital. The calculation involves dividing the net income by the book value of shareholder equity (Bekele, 2023; Nyebar et al., 2023). Return on assets (ROA) is a financial metric that measures the profitability of an organization by calculating the profit made per unit of assets. It is a key indicator of management's effectiveness in utilizing the company's financial and natural investment resources to generate profits (Arsew et al., 2020). The firm's policy decisions and economic and regulatory considerations determine the function of any corporate organization, irrespective of its industry (Nyebar et al., 2023). Arsew et al. (2020) define ROA as a financial indicator obtained by dividing a company's earnings or net income by the total value of its assets (Bekele, 2023). They stated that Return on Assets (ROA) is employed to assess management's proficiency in generating profits from the company's assets. The ROA (Return on Assets) figure serves as a measure

for investors to assess the firm's efficiency in generating income from its investments. A higher ROA figure is desirable as it signifies that the company is maximizing its returns on investment. An advantage of the return on assets (ROA) computation is the simplicity in understanding the outcomes. Companies within the same industry can be subjected to comparative study. According to CBN (2010), ROA assesses the scope for earnings to offset losses relative to Capital or loan and asset portfolio, and it is measured as $\frac{\text{PAT}}{\text{Total assets}} \times 100$

Arhinful et al. (2023) define Return on Assets (ROA) as a crucial profitability indicator ratio that quantifies the income generated by a company from its total assets. The ratio aids in evaluating the efficiency of a company's management in utilizing its assets to create income and assessing the effectiveness of resource usage. A higher return on assets (ROA) signifies the company's efficient conversion of capital into income, rendering it a significant statistic for investors (Arhinful et al., 2023). Nawaz et al. (2023) assert that the Return on Assets (ROA) is a favored metric for evaluating financial performance due to its simplicity in computation and clarity in interpretation. Additional academics corroborate the claim and declare that the majority of organizations' management favors the utilization of ROA due to its ability to effectively oversee and regulate asset use (Nawaz et al., 2023; Arhinful et al., 2023). Nawaz and Ohlrogge (2023) contend that unlike other metrics like Return on Equity (ROE), Return on Assets (ROA) takes into account a company's debt. One notable disadvantage of this approach is that corporations have the ability to manipulate the return on assets measure by decreasing the assets reported on the balance sheet (Arhinful et al., 2023). Nawaz (2023) contended that the return on assets (ROA) evaluates a company's operational efficiency in relation to its investments, regardless of whether the company employed debt or equity capital to fund those investments. Singh (2023) supports the argument that ROA is not a dependable measure of efficiency when considered on its own. Without considering other indicators, it is possible for this information to present a distorted and inaccurate perspective of corporate activities, thereby failing to provide a comprehensive understanding. However, the disadvantages do not diminish the fact that ROA is a measure of how well a company manages its shareholders' funds in terms of effectiveness and efficiency.

Market-based Measurement examines the bank's performance by analyzing its stock market valuation (Nawaz et al., 2023). Illustrative instances include Tobin's Q and earnings per share, as referenced by Oluwalaiye et al. (2020) and Arhinful et al. (2023). Investors have increasingly recognized the need of utilizing market indicators to inform their decision-making process (Neves et al., 2020). Nawaz et al. (2023) argued that numerous companies are using a remuneration system for managers that is tied to market

indicators in order to optimize shareholder value. One advantage of the market-based approach is that the valuation data obtained from it accurately represents market knowledge and the bank's future possibilities, which can be forecasted in the present (Ntivuguruzwa et al., 2020). Abubakar et al. (2020) stated that while predicting future profitability, it is necessary to consider market values in the study. The Tobin's-Q ratio, obtained by dividing the sum of the market value of equity and the book value of debt by the book value of total assets, can provide the required reflection. According to Uddin et al. (2020), when Tobin's q is below 1, it suggests that the firm is undervalued since the expected market value of its assets is lower than their book value. Conversely, when Tobin's q is above 1, it indicates that the value of the firm's assets is projected to be higher than their book value. According to Abubakar et al. (2020), considering company performance indicators such as market value provides a more comprehensive understanding compared to solely focusing on profitability ratios. This is because it also takes into account the anticipated future worth of the firm. Conversely, earnings per share (EPS) quantifies the amount of profit assigned to each existing share (Ebaid, 2023). EPS is widely regarded by investors and financial analysts as a crucial metric for evaluating the market value of a stock and determining whether it is worth purchasing. A bank's profitability is generally seen as stronger when its earnings per share (EPS) is higher. Conversely, a decrease in EPS tends to result in a lower market price for the stock. This relationship between EPS and market price is supported by Ebaid (2023). According to Arhinful et al. (2023), the price-earnings ratio, which is used to assess the value of a stock, is obtained by dividing the market price of a stock by its earnings per share (EPS).

According to CBN (2010), it is measured as:

Profit attributable to ordinary shareholders (after deduction of debenture int. and tax)

weighed the average number of shares in the issue. Earnings per share (EPS) is a financial metric that measures a company's profitability by dividing its total earnings by the number of shares it has issued. This represents a distinct deviation from the prior investigations conducted in this field of inquiry. This is advantageous because utilizing EPS would be highly appealing to the investing public given the significant impact of EPS on share price fluctuations and investment choices. Earnings per share (EPS) is widely regarded as the most crucial determinant of share price, business value, performance incentive schemes, and negotiations related to mergers and acquisitions. The majority of investors base their investing decisions on the EPS (Emmanuel et al., 2023). When analyzing stocks of firms in the same industry, the investing public typically regards EPS (earnings per share) and share price as important indicators for making strategic decisions. A higher earnings per share (EPS) is more desirable as it indicates a greater return on the investment made in buying the shares. Insufficient earnings per share (EPS)

can have a negative impact on stock prices, leading to a decrease in consumer confidence, a decline in sales, and finally, a reduction in earnings per share (Ahmed et al., 2021). EPS, or Earnings Per Share, is a straightforward and easily comprehensible measure that may be used to evaluate a company's financial performance. It can also serve as a basis for a compensation system, where management may receive recognition for achieving good EPS growth. Ahmed et al. (2021) confirmed that EPS and EPS growth remain highly significant in contemporary share valuing practices. The individual ascribed the preoccupation with EPS to the fact that EPS effectively encapsulates the profits created for shareholders, and the perspective of shareholders is appealing to both investors and management.

According to Apochi et al. (2022), EPS is considered the most popular and widely utilized benchmark for financial performance. A survey conducted on 400 financial executives in the USA revealed that the majority of them believed that earnings were the most crucial performance measure they reported to external parties. The straightforwardness of calculating EPS and its simple comprehension have made it popular among both current and prospective investors (Gitonga, 2022). Nevertheless, there is a contention that EPS should take into consideration the stock cost and accurately reflect the total cost of operating a company. The management's focus on short-term goals may lead to a neglect of important long-term strategic factors such as the sustainability and growth of future cash flow, the potential for industry development, the company's competitive position, and technological advancements, all of which contribute to the overall value of the company (Habtamu, 2022). Financial performance is a multifaceted process that entails evaluating the interaction between the environment, internal operations, and external actions (Nyebar et al., 2023). Analyzing accounting information is the main approach for assessing the financial performance of a business. Nawaz et al. (2023) stated that financial ratios are commonly employed to evaluate the performance of a company entity. Financial ratios offer a comprehensive insight into a company's financial condition as they are derived from accounting information found in the company's balance sheets and financial statements (Liu & Huang, 2022). Barth et al. (2013) state that operating efficiency is a crucial aspect of bank performance evaluation, as identified by numerous researches. According to Igwe et al. (2022), ex-ante and ex-post spreads can provide valuable information for cost analysis and control in assessing efficiency. In further elaboration, Nawaz et al. (2023) argued that the analysis could utilize ex-post spreads, which are the revenues generated from operations (such as mark-up, rent-to-own, deferred sale, and service charges) minus the expenses incurred in carrying out these activities, as an effective indicator. Many studies commonly utilize accounting data from a business's

financial statement to calculate the ex-post spread and profitability measure (Abubakar et al., 2020; CBN, 2010).

2.4 Relationship between Project Cost Control and Financial Performance

The manufacturing and construction sectors are widely considered to be among the industries with the least number of regulations (Klingelhöfer& Sun, 2019; Atellu et al., 2021). Insufficiently regulated companies are anticipated to have lower efficiency, resulting in reduced profitability, increased risk of bankruptcy, lower valuations, and limited dividends for shareholders. In contrast, well-regulated businesses are expected to operate at an optimal level of efficiency, have lower bankruptcy risks, higher valuations, and distribute more dividends to their shareholders (Lelissa& Kuhil, 2018). According to Atellu et al. (2021), implementing cost control management in enterprises can have several advantages, including increased access to finance, reduced cost of capital, improved performance, and better treatment of stakeholders. Conversely, it has been asserted that inadequate management of project costs in the manufacturing industry can impede growth and innovation and result in unregulated and uncalculated risk-taking, ultimately leading to subpar performance and systemic problems. Conversely, effective regulation can enhance investor trust and the availability of funds in the market (Anginer et al., 2018). Richard et al. (2009) believed that a company's profitability, as a measure of financial performance, is affected by various factors. These factors include management decisions and policy objectives, such as liquidity levels, provisioning policy, solvency, expense management, company size, as well as external factors like industrial structural factors (ownership, market concentration, and stock market development) and other macroeconomic-factors.

The increase in the number of construction enterprises and rapid growth in construction intermediation and project cost systems, along with unlimited opportunities in the mobilization and distribution of capital, has become increasingly intricate (Ajao &Oseyomon, 2019). Furthermore, the relaxation of restrictions in the building industry, increased competitiveness, and the resulting vulnerabilities have made regulation unavoidable. These advancements necessitate the requirement to manage costs in the company's operations and safeguard the cash of the shareholders. Thus, transaction cost serves as a moderating effect. The impact of cost on the operations of construction businesses can only be observed through the financial performance of these companies (Klingelhöfer& Sun, 2019; Atellu., 2021).The Iron Triangle in project management symbolizes the three essential limitations that project managers must cross in order to achieve effective project outcomes. The Iron Triangle consists of three distinct sides:

Scope: The scope of a project encompasses the specific features, deliverables, and objectives that the project intends to achieve. Modifications in the extent of the project can have repercussions on other facets, such as the duration and expenditure.

Time (Schedule): This refers to the designated timeframe or period set aside for the completion of the project. The project's success is highly dependent on adhering to strict time limitations, as any deviations from the plan can have significant consequences. Cost (Budget): This pertains to the monetary resources assigned to the project. Adhering to the budget is crucial for the success of the project, and exceeding the allocated costs might negatively impact other aspects of the project.

The Iron Triangle metaphor highlights the interdependence of these three limitations. Modifying one aspect of the triangle frequently necessitates compromises in the remaining elements. Expanding the scope, for instance, could prolong the timeframe or necessitate extra resources, so affecting the project's cost. Project managers must skillfully juggle and oversee these limitations in order to efficiently attain the project's goals.

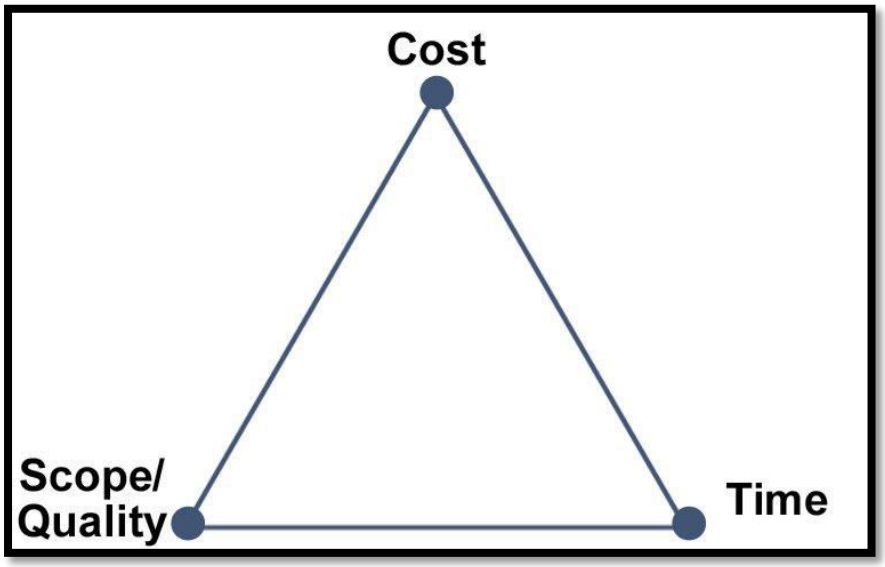

Figure 1: The iron triangle of Project Management.

2.5 Empirical Review of Related Studies

Iheanacho (2023) examines the efficacy of cost control methods employed in road development projects within Owerri Metropolis. The construction sector in Nigeria plays a vital role in the nation's economy, however it frequently encounters obstacles such as schedule delays and exceeding budgetary limits. The study revealed that, on average, only

6 out of 19 cost control measures are utilized in road construction projects within the Owerri Metropolis of Imo state, Nigeria. The most efficient cost control technique utilized in road construction projects is Cash Flow Analysis. The approaches of Cost Value Reconciliation and Valuation of Work in Progress were ranked as the second and third most effective methods for cost reduction, respectively. Enhance the usage of existing tools and technology: The study revealed that a lack of familiarity with the use of available tools and technology poses a difficulty in implementing cost control approaches. Hence, it is advisable to augment the expertise and proficiency of civil engineers and other relevant parties in properly harnessing these instruments and technologies.

Kermanshachi and Pamidimukkala (2023) investigated the examination of cost and schedule overruns in major industrial projects. The objective of the study is to find indications of these cost overruns and assess their reliability. A survey was undertaken among specialists in the building business to collect their input on the most significant indicators. The acquired data underwent statistical tests, resulting in the compilation of a list of significant indicators. The resilience of these indicators was assessed using the extreme bound analysis approach. The findings revealed multiple indications for both cost and schedule overruns, offering significant information for decision makers in building projects. To optimize resource allocation, decision makers should prioritize the key indicators reported in the study for effective and efficient allocation of resources. Implementing an efficient change management method is crucial for efficiently managing time and budget, ultimately resulting in improved schedule performance.

Le and Sutrisna (2023) examine the creation of a project cost control system (PCCS) specifically designed for construction projects. The study used descriptive analysis and Partial Least Squares Structural Equation Modelling (PLS-SEM) to assess the present level of development of PCCS and examine the connections between its components. In addition, an importance-performance matrix analysis (IPMA) is carried out to identify areas for improvement and prioritize specific actions. The study's findings offer valuable insights into the interconnections within PCCS and propose potential areas for enhancement. The study employed a mixed-methods research methodology, integrating both inductive and deductive methodologies. In the initial phase, we conducted semi-structured interviews with seasoned experts to collect data on the project cost control process and the factors that facilitate it. The study's main discoveries involve the creation of a maturity evaluation model for PCCS, comprising five distinct stages of maturity. The study additionally identified the factors and subordinate processes that contribute to the level of development of PCCS. The study's findings indicate a direct correlation between the maturity level of PCCS and its enablers and sub-processes. The study additionally

discovered that specific factors had a more significant influence on the overall effectiveness of PCCS. The report offers suggestions to decision-makers on how to enhance their project cost management processes, based on the findings. The recommendations entail implementing the maturity assessment methodology to evaluate the existing practices, determining improvement measures to attain a greater degree of maturity in PCCS, and allocating resources to the most important enablers.

Irawan et al., (2023) examined the application of the Earned Value Analysis technique in the construction sector. The study especially centers on the Lau Simeme Dam Construction Project, which encountered significant delays in its completion. The article employs a methodology that involves the following phases to examine the use of the Earned Value Analysis method in the construction industry: doing a comprehensive literature review to enhance understanding of the research issue and identify the research problem. The article's findings indicate that the Earned Value Analysis approach is a highly successful tool for analyzing cost and time performance in the construction sector. Through the utilization of this approach, project managers are able to monitor the advancement of a project and make comparisons to the predetermined timetable and financial plan. The study facilitates the identification of any discrepancies or divergences in terms of cost and schedule, enabling prompt implementation of corrective measures. The essay proposes the utilization of temporary job shifts to effectively manage a workforce with a low workload. This can aid in achieving workload equilibrium and optimizing-resource-allocation.

Wang and Wang, (2020) emphasized the significance of cost management in engineering construction projects. The text examines the difficulties encountered in managing cost control and offers solutions to tackle them. The essay proposes enhancing cost control through the implementation of strategies such as boosting market research, fostering expertise in cost management, and strengthening oversight and regulation. The statement underscores the importance of construction companies giving priority to cost control in order to improve project quality and competitiveness. The research paper examines the significance of cost control in engineering building projects and emphasizes various challenges encountered in cost control management. The findings indicate a lack of thorough market research for sourcing raw materials. The cost of procuring raw materials constitutes a substantial component of the overall project building cost. Insufficient research regarding the brand, price, and quality of raw materials might result in increased costs and inefficiencies. Insufficient presence of skilled cost management personnel: Successful cost management necessitates the involvement of seasoned individuals with extensive knowledge and competence. Unfortunately, numerous

organizations fail to prioritize the training and development of individuals with expertise in cost control, hence impeding the effective implementation of cost control methods.

In their 2022 publication, Judson and Paul examined established variables that contribute to the financial unpredictability of construction endeavors. The index provides a measure of the significance of these issues, determined by the expert opinions of professionals in the building sector. The index highlights cash flow issues, subpar performance by contractors, and inadequate site management and oversight as the primary contributing reasons. The validity of the index is confirmed by case studies conducted by the Comptroller and Auditor General of India. In addition, the essay provides suggestions for dealing with the five most significant sources of uncertainty. A survey was devised to collect the perspectives of industry professionals who possess over 25 years of expertise. The participants were instructed to assess their level of agreement for each uncertainty element using a Likert scale, which ranged from "strongly agree" to "strongly disagree". Subsequently, the RII approach was utilized to examine and evaluate the responses. The RII value for each uncertainty factor was computed using the formula RII = (W/A) / N, where W represents the weighting assigned by the respondents, A is the maximum weight (5 in this instance), and N represents the total number of respondents. The RII scale spans from 0 to 1, with higher numbers denoting increased significance. Enhance the cooperation between the client's team and the designer's team to improve the translation of client's needs into plans.

A study conducted by Ahmed et al. (2022) investigated the correlation between project cost control methods and enablers in the construction sector in Iraq. A research methodology that utilizes quantitative data and follows a cross-sectional research design. The researchers utilized a self-administered survey questionnaire to gather data. The study concludes that the pre-control system has a notable and advantageous impact on the in-control system. The controlling system has a significant and advantageous effect on the subsequent control system. The pre-control system exerts a beneficial and substantial impact on the post-control system. Enablers have a positive and substantial influence on the in-control system, pre-control system, and post-control system. The study suggested that enhancing the pre-control system can improve the in-control system, which then leads to the enhancement of the post-control system. Moreover, the existence of enablers is essential for the efficiency of the control systems.

Habtamu (2022) examined the assessment of Project Cost Management Practices: The Case of Selected Real Estate Companies in Addis Ababa" include the following: Project resource planning practices: The study identified gaps in the use of required inputs

during resource planning, indicating a need for improvement in this area. Project cost estimating practices: The research revealed shortcomings in the cost estimating practices of real estate development companies in Addis Ababa, suggesting the need for interventions to enhance accuracy and reliability. Project cost budgeting practices: The study found areas that require improvement in the cost budgeting practices of real estate development companies, indicating the need for better planning and allocation of project costs. Project cost control practices: The research highlighted the need for better cost control practices among real estate development companies in Addis Ababa, suggesting the importance of monitoring and managing project costs effectively.

In their study, Hammed et al. (2022) examined how project cost management affects the success of construction firms in Lagos State, Nigeria. The researchers employed a survey research design and gathered data using structured questionnaires. The study included 57 project managers and 240 clients of construction firms. The questionnaire used in the study was validated through content and construct validity. The findings indicate a moderate positive correlation between project cost management and client satisfaction. It is crucial for construction firms to prioritize cost control of project budgets from inception to completion as an integral part of their organizational strategy.

In a study conducted by Gitonga (2022), the connection between project cost management and the performance of urban road projects in Kenya was examined. The study revealed that these projects have encountered difficulties including delays, excessive costs, and subpar quality. To conduct the research, a descriptive survey was employed, and data was gathered from 202 professionals in the construction industry. The study suggests that construction firms should prioritize strengthening project cost management. Specifically, management should concentrate on improving resource acquisition, cost estimation, cost budgeting, and cost control.

Hasan et al. (2021) discussed the use of the Earned Value Method (EVM) for cost and schedule control in construction project monitoring. It emphasizes the importance of efficient construction management in contributing to the progress of a society and a nation. The methodology used in the study involves conducting a survey among under-constructed residential building projects in Khulna, Bangladesh. The survey conducted among under-constructed residential building projects in Khulna, Bangladesh found that approximately 63% of the projects do not use any tools for monitoring their construction progress. Only about 12% of the projects rely on field supervision and manual record-keeping. The survey also revealed that many activities were completed with extra cost, leading to time overruns. The analysis of the projects using Earned Value Management

(EVM) showed differences between actual cost (AC), earned value (EV), and planned value (PV) becoming larger after the second month of construction. The survey highlighted the need for an efficient and automated tool for monitoring and controlling construction projects in Bangladesh. These recommends the use of Earned Value Management (EVM) as an effective technique for monitoring and controlling construction projects in Bangladesh. EVM integrates project scope, cost, and schedule to measure the actual work completed on a project and predict cost and completion timeline. By implementing EVM, project managers can track project progress, performance, and forecasting, and take early corrective actions if deviations from the plan are identified.

Alabi et al. (2021) conducted a study on the cost control techniques employed in road construction projects in FCT Abuja, Nigeria. The study found that Cash Flow Analysis is the most efficient cost control technique and emphasized the close connection between cost control techniques and project delivery. The study also identified challenges such as insufficient awareness of available tools and technology, lack of financial commitment, and fluctuating prices of raw materials. The study recommends the involvement of Quantity Surveyors in road construction and the implementation of training programs for employees. In conclusion, the study highlights the significant impact of cost control techniques on the delivery of road construction projects.

Kurniawan et al. (2021) examined the assessment of time and cost control in construction projects using the Earned Value Analysis and Crash Project Method. The focus was specifically on a case study involving the construction of a public junior high school in Surabaya. The objective of the research was to compare the duration and cost after acceleration, employing network planning and calculating cost and schedule variances as the research method. The construction project for State Junior High School 1 Surabaya was completed in 34 weeks, with a contract value of Rp. 6,661,509,141.00. The application of Variance Analysis and Result Value Concept in Microsoft Excel revealed a cost variance of - Rp. 2,488,159 at week 34.

Efebeli (2021) study examined methods for decreasing project cost overruns in the oil and gas construction sector. The study highlighted the importance of strategic leadership in minimizing cost overruns. Project managers must offer precise guidance, efficient communication, and proactive decision-making to ensure that the project remains on schedule and within budget. Strategic leadership entails anticipating potential problems, addressing them promptly, and making well-informed choices to mitigate cost overruns. The study suggests that by implementing these strategies, project managers in the oil and

gas construction industry can enhance project cost performance and decrease the occurrence of cost overruns.

In a study conducted by Essilfie (2021), the author investigated the difficulties related to project cost performance in Ghana. The objective of the study was to pinpoint the reasons behind inadequate project cost performance, the obstacles in attaining high project cost performance, and the methods for enhancing project cost performance. Data was gathered through a well-organized questionnaire and analyzed using the Relative Importance Index. The study revealed that contractor's site management, material and machinery issues, insufficient resources for cost management, and inadequate budgeting and forecasting approaches were notable factors that impacted project cost performance in Ghana.

Banihashemi et al. (2021) conducted a study on construction project scheduling problems, specifically focusing on the trade-off between time, cost, and quality. They implemented a fuzzy SWARA-TOPSIS approach and observed significant improvements in the overall project objectives. The approach allowed for the selection of the most optimal execution mode for each project activity, considering the trade-off between time, cost, and quality. As a result, the projects were completed in shorter durations and at lower costs, while achieving higher quality. This approach opens up new opportunities for research and knowledge development in the field of construction project scheduling. The study recommends considering other types of precedence relationships, using uncertain data such as grey data, applying alternative decision-making methods, and comparing the results with the methods proposed in the study.

Chicoca and Utomo (2019) discussed the perception of developers regarding cost drivers that influence project cost performance in high-rise residential developments in Surabaya, Indonesia. The research employed an exploratory, survey, and descriptive research design. The data collection procedure involved the use of a questionnaire divided into three parts. Part A collected general information about the respondents, Part B asked about the extent of the highlighted cost drivers on Surabaya high-rise apartment development, and Part C investigated the significance of cost drivers on project cost performance. project managers should not only consider the past record of costs but also future revenues, future costs, and project technical problems. This suggests that project managers should have a comprehensive understanding of potential risks and uncertainties in order to allocate contingency costs effectively. Additionally, the study emphasizes the importance of identifying cost deviations and exploring cost-saving

opportunities. These practices can help project managers better manage project costs and allocate contingency funds appropriately.

3.0 Research Methodology

3.1 Research Design

This study will utilize a cross-sectional survey research design. This design is chosen because the study requires gathering data through a structured questionnaire that will be given to the managers or CEOs of selected construction companies in North Central Nigeria. The cross-sectional survey research design is employed because it is a method that effectively describes the characteristics of a large population across various geographical locations. This design offers a broad capacity, ensuring a more precise sample for gathering targeted results and drawing conclusions to make informed decisions. The cross-sectional survey research design offers the advantage of ensuring anonymity, enabling respondents to provide more candid and valid answers. This anonymity creates a platform for more honest and unambiguous responses compared to other research methods, particularly when it is explicitly stated that the survey answers will be kept completely confidential.

3.2 Population of the Study

The study would include a population consisting of specifically chosen construction enterprises in the North Central region of Nigeria. The demographics referred to are individuals who have positions of authority and leadership in the construction industry, such as executives and chief executive officers. This includes individuals responsible for strategic planning, general management, marketing, sales, and finance. The researcher employed a stratified sampling technique (Fellows and Lin, 2015), to select 20 organizations that effectively represented the overall target populationand the population giving the managerial levels in the Department is as follows:

Table 1: Selected Construction Companies in North Central, Nigeria

Names of construction companies	STATE	Managers/CEOs
AG Vison Construction Nig. Ltd	Kogi	12
Dantata&Sawoe Construction Company Nig. Ltd	Kwara	10
Ceezali Nig. Ltd	Niger	16
Dumez Nig. Ltd.	Benue	11
Kadeyprime Group Ltd.	Plateau	12
Kingfem Nig. Ltd	Nasarawa	19
Kouris Construction Nig. Ltd.	Abuja	22

Total	**102**

Source: Researchers Computation, (2023)

3.3 Sampling Techniques and Sample Size

The sampling technique used in this study will be both the purposive and census sampling technique. The census sampling technique is adopted because the population is small, and the availability of the MDs/CEOs are always at hand to be reached.Thus, the total population of the general managers, marketing managers, sales managers, and finance managers of AG Vison Construction Nig. Ltd, Dantata&Sawoe Construction Company Nig. Ltd, Ceezali Nig. Ltd, Dumez Nig. Ltd, Kadeyprime Group Ltd, Kingfem Nig. Ltd, Kouris Construction Nig. Ltd.in the construction companies is not up to four hundred therefore, the study will not employ any formula to reduce the population. The entire 102 MDs/CEOs were issued questionnaire.

3.4 Method of Data Collection and Analysis

The data collection approach employed in this study is a questionnaire (Bougie and Sekaran, 2010), which is distributed to the respondents (MDs or CEOs) and involves the gathering of primary data. The utilization of primary sources of data is essential in presenting a study of this nature and other research data that is derived from original data generated by the individuals involved in the subject area of research (Abdulai and Anash, 2014). Additionally, questionnaires are a viable method for gathering substantial volumes of information from a significant number of respondents within a brief timeframe, while also being very cost-effective.This study adopted the multiple regression method which is used to ascertain the cause-and-effect relationship between the dependent variables and independent variables. The dependent variable is measured by effectiveness (that is how effective has the selected construction companies in North Central Nigeria perform after applying project cost control). It is worthy to note that the study adopted the model of Morgan et al. (2017), with a slight modification to suit the adaptation of this study. The mathematical method or model is expressed in the study as follows (Frank, 2015):

$Y = f(X_1,X_2,\ldots\ldots\ldots\ldots X_n)$ ..... equation (1)

$Y_1 = \beta o + \beta_1 X_1 + \beta_2 X_2 + \ldots\ldots\ldots\ldots X_n\ldots\ldots\ldots$ equation (2)

$Y_2 = \beta o + \beta_1 X_1 + \beta_2 X_2 + \ldots\ldots\ldots\ldots X_n\ldots\ldots\ldots$ equation (3)

Where:

Y = Dependent Variable of the study

$X_1\ldots\ldots X_n$ = Independent variable of the study

Substituting the variable of this current study into equation 1 above, we have:

ROA = f (CVR, SMG) ..... (4)

ROE = f (CVR, SMG) ..... (5)

Where:

ROA = Return on Asset

ROE = Return on Equity

CVR = Cost Valuation Reconciliation

SMG = Schedule Management

ß = Independent variable

α = Intercept

ε = Error terms

The model can be expressed mathematically as:

$ROA = \beta_0 + \beta_1 CVR + \beta_2 SMG + \varepsilon$ ..... (5)

$ROE = \beta_0 + \beta_1 CVR + \beta_2 SMG + \varepsilon$ ..... (6)

A regression model will be stated in terms of a connection between the predictors and independent variables, X and the response (Performance of construction companies) Y

3.5 Reliability of Instrument

The questionnaire was assessed to determine its reliability. The questionnaire's reliability should exceed an Alpha value of 0.6, as stated by Creswell and Creswell (2018). The questionnaires were subjected to testing to verify the accuracy of the responses, and the table below displays the reliability value of the variables. All variables included in this study will have a score higher than the Alpha value of 0.6. Each variable scored between 0.73 or 73% and 0.84 or 84%, which was the predetermined threshold.

Table 2: Scale Reliability of Variables

Variables	Cronbach's Alpha
CVR	0.81
SMG	0.72
ROA	0.76
ROE	0.71

Source: Survey Questionnaire, (2024)

4.0 Analysis and Results

4.1 Respondents Profiles

Table 3 shows the profile of the respondents, the gender of the respondents entails 83 males and 19 females delineating a response rate of 81 and 19 percent respectively. This means that the male gender dominates the Nigerian construction sector reason of which is not unconnected to the muscular and strenuous nature of the construction jobs (Muhammed et al., 2022a). The age of the respondents encompasses 25 – 35 years (15), 26 –

45 years (50), 46 – 55 years (30), and 56 & above years (7) depicting a response rate of 15, 49, 29 and 7 percent correspondingly. Also, academic qualification includes BSc/HND (10), MSc/MBA (72) and DBA/PhD (20) representing a response rate of 9, 71, and 20 percent congruently. Furthermore, the participating construction companies includes AG Vision Construction Nig. Ltd (12), Dantata&Sawoe Construction Company Nig. Ltd (10), Ceezali Nig. Ltd (16), Dumez Nig. Ltd. (11), Kadeyprime Group Ltd. (12), Kingfem Nig. Ltd (19) and Kouris Construction Nig. Ltd (22) which represents a response rate of 12, 10, 16, 11, 12, 18 and 21 consistently.

Table 3: Respondents Profile

Variables	**Frequency**	**Percentage**
Gender Section		
Male	83	81
Female	19	19
Total	102	100
Age Section		
25-35 years	15	15
36-45 years	50	49
46-55 years	30	29
56 & above	7	7
Total	102	100
Academic Qualification		
BSc/HND	10	9
MSc/MBA	72	71
DBA/PhD	20	20
Total	102	100
Participating Construction Companies		
AG Vision Construction Nig. Ltd	12	12
Dantata and Sawoe Construction Company Nig. Ltd	10	10
Ceezali Nig. Ltd	16	16
Dumez Nig. Ltd.	11	11
Kadeyprime Group Ltd.	12	12
Kingfem Nig. Ltd	19	18
Kouris Construction Nig. Ltd.	22	21
Total	102	100

Source: Author's Computation, (2024)

4.2 Normality Test

The true normality of the data, Kolmogorov-Smirnovand Shapiro-Wilk tests were performed, taking 0.05 as the level of significance according to the table 4. The purpose of these tests is to determine if the data are statistically significantly different from the normal distribution, and higher than 0.05 implies it is not statistically different from the normal distribution (Saunders et al., 2023). Hence, in the normality table, Kolmogorov-Smirnov test has revealed that cost valuation reconciliation is 0.233, and schedule management is 0.450. In addition, the Shapiro-Wilk test has revealed that cost valuation reconciliation is 0.324, and schedule management is 0.466. Since all these values are higher than 0.05, we conclude that the data are normally distributed because they are not statistically different from the normal distribution.

Table 4: Tests of Normality

	Kolmogorov-Smirnov[a]			**Shapiro-Wilk**		
	Statistic	**Df**	**Sig.**	**Statistic**	**Df**	**Sig.**
Cost Valuation Analysis	.255	102	.233	.753	102	.324
Schedule Management	.299	102	.450	.796	102	.466

Source: Author's Computation, (2024)

4.3 Cost Valuation Reconciliation (CVR)

Table 5 explains the analysis of the data obtained from the respondents where a question was asked them if the profit/loss of each project is publicized to the team members in their company, and 68 respondents representing 66.7% believed it is strongly untrue, 23 respondents representing 22.5% believed it is untrue, 2 respondents representing 2% neither true nor untrue, 5 respondents representing 4.9% believed it is true, and 4 respondents representing 3.9% believed it is strongly true. This finding has revealed that the profit/loss made from each project is not publicized to the team members in the companies surveyed. Also, includedwas a question asked on if the team members of their company are trained on how to avoid wastages during project execution, and 34 respondents representing 33.3% believed it is strongly untrue, 46 respondents representing 45.1% believed it is untrue, 6 respondents representing 5.9% neither true nor untrue, 10 respondents representing 9.8% believed it is true, and 6 respondents representing 5.9% believed it is strongly true. This finding has revealed that the team members of the company surveyed are not trained on how to avoid wastages during project execution.

Similarly, if the managers of their company implement cost management strategy during project executions, and 67 respondents representing 65.7% believed it is strongly true, 11 respondents representing 10.8% believed it is true, 4 respondents representing 3.9% neither true nor untrue, 9 respondents representing 8.8% believed it is untrue, and 11 respondents representing 10.8% believed it is strongly untrue. This finding has also revealed that the managers of the companies surveyed implement cost management strategy during project executions.

Table 5: CVR Questions

		Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
Profit/loss of each project is publicized to the team members in your company					
Valid	Strongly True	4	3.9	3.9	3.9
	True	5	4.9	4.9	8.8
	Neither true nor untrue	2	2.0	2.0	10.8
	Untrue	23	22.5	22.5	33.3
	Strongly Untrue	68	66.7	66.7	100.0
	Total	102	100.0	100.0	
Team members are trained on how to avoid wastages during project execution					
Valid	Strongly True	6	5.9	5.9	5.9
	True	10	9.8	9.8	15.7
	Neither true nor untrue	6	5.9	5.9	21.6
	Untrue	46	45.1	45.1	66.7
	Strongly Untrue	34	33.3	33.3	100.0
	Total	102	100.0	100.0	
Managers implement cost management strategy during project executions					
Valid	Strongly True	67	65.7	65.7	65.7
	True	11	10.8	10.8	76.5
	Neither true nor untrue	4	3.9	3.9	80.4
	Untrue	9	8.8	8.8	89.2
	Strongly Untrue	11	10.8	10.8	100.0
	Total	102	100.0	100.0	

Source: Author's Computation, (2024)

4.4 Schedule Management (SMG)

Table 6presents the analysis of the data obtained from the respondents where a question was asked them if the managers of their company prepare time-table for each project, and 66 respondents representing 64.7% believed it is strongly true, 20 respondents representing 19.6% believed it is true, 4 respondents representing 3.9% neither true nor untrue, 7 respondents representing 6.9% believed it is untrue, and 5 respondents representing 4.9% believed it is strongly untrue. This finding has confirmed that the managers of the companies prepare time-table for each project before execution. Also asked was a question on if their company always fail to deliver projects to clients within the contractual agreement, and 55 respondents representing 53.9% believed it is strongly untrue, 30 respondents representing 29.4% believed it is untrue, 6 respondents representing 5.9% neither true nor untrue, 7 respondents representing 6.9% believed it is true, and 3 respondents representing 2.9% believed it is strongly true. This finding has confirmed that companies surveyed always deliver projects to clients within the contractual agreement.Equally asked was a follow-up question on if their company always incur additional cost for delayed project development, and 63 respondents representing 61.8% believed it is strongly untrue, 19 respondents representing 18.6% believed it is untrue, 3 respondents representing 2.9% neither true nor untrue, 10 respondents representing 9.8% believed it is true, and 7 respondents representing 6.9% believed it is strongly true. This finding has shown that companies surveyed do not incur additional cost because they always deliver projects to clients within the deadline.

Table 6: SMG Questions

		Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
Managers prepare time-table for each project in your organization					
Valid	Strongly True	66	64.7	64.7	64.7
	True	20	19.6	19.6	84.3
	Neither true nor untrue	4	3.9	3.9	88.2
	Untrue	7	6.9	6.9	95.1
	Strongly Untrue	5	4.9	4.9	100.0
	Total	102	100.0	100.0	
Your company always fail to deliver projects to clients within the contractual agreement					
Valid	Strongly True	3	2.9	2.9	2.9

	True	8	7.8	7.8	10.8
	Neither true nor untrue	6	5.9	5.9	16.7
	Untrue	30	29.4	29.4	46.1
	Strongly Untrue	55	53.9	53.9	100.0
	Total	102	100.0	100.0	
Your company always incur additional cost for delayed project development					
Valid	Strongly True	7	6.9	6.9	6.9
	True	10	9.8	9.8	16.7
	Neither true nor untrue	3	2.9	2.9	19.6
	Untrue	19	18.6	18.6	38.2
	Strongly Untrue	63	61.8	61.8	100.0
	Total	102	100.0	100.0	

Source: Author's Computation, (2024)

4.5 ROA

Table7 is focused on analyzing the data obtained from the respondents where they were asked iftheir managers minimize their company's cost to increase their annual profit, and 62 respondents representing 60.8% believed it is strongly true, 27 respondents representing 26.5% believed it is true, 2 respondents representing 2% neither true nor untrue, 5 respondents representing 4.9% believed it is untrue, and 6 respondents representing 5.9% believed it is strongly untrue. This finding has shown that the managers of the companies surveyed minimize their company's cost to increase their annual profit.Another question asked was on if their managers handle their company's resources to increase their profit, and 42 respondents representing 41.2% believed it is strongly true, 38 respondents representing 37.3% believed it is true, 2 respondents representing 2% neither true nor untrue, 13 respondents representing 12.7% believed it is untrue, and 7 respondents representing 6.9% believed it is strongly untrue. This outcome has revealed that the managers of the companies surveyed handle their company's resources to increase their profit.

Table 7: ROA for the Variables

		Frequency	Percent	Valid Percent	Cumulative Percent
Your managers minimize your company's cost to increase your annual profit					
Valid	Strongly True	62	60.8	60.8	60.8
	True	27	26.5	26.5	87.3
	Neither true nor untrue	2	2.0	2.0	89.2
	Untrue	5	4.9	4.9	94.1
	Strongly Untrue	6	5.9	5.9	100.0
	Total	102	100.0	100.0	
Your managers handle your company's resources to increase your profit					
Valid	Strongly True	42	41.2	41.2	41.2
	True	38	37.3	37.3	78.4
	Neither true nor untrue	2	2.0	2.0	80.4
	Untrue	13	12.7	12.7	93.1
	Strongly Untrue	7	6.9	6.9	100.0
	Total	102	100.0	100.0	

Source: Author's Computation, (2024)

4.6 ROE

Table 8focuses on analyzing the data obtained from the respondents where they were asked if their managersshare key performance index of their company with the investors, and 71 respondents representing 69.6% believed it is strongly true, 13 respondents representing 12.7% believed it is true, 5 respondents representing 4.9% neither true nor untrue, 5 respondents representing 4.9% believed it is untrue, and 8 respondents representing 7.8% believed it is strongly untrue. This outcome has proven that the managers of the companies surveyedshare their key performance index with the investors. Another question was on if investors of their company receive record of financial performance, and 60 respondents representing 58.8% believed it is strongly true, 12 respondents representing 11.8% believed it is true, 5 respondents representing 4.9% neither true nor untrue, 14 respondents representing 13.7% believed it is untrue, and 11 respondents representing 10.8% believed it is strongly untrue. This outcome has revealed

that the investors of the companies surveyed receive record of financial performance.Furthermore, a question was asked on if their company's investors complain of poor financial performance, and 66 respondents representing 64.7% believed it is strongly untrue, 13 respondents representing 12.7% believed it is untrue, 2 respondents representing 2% neither true nor untrue, 11 respondents representing 10.8% believed it is true, and 10 respondents representing 9.8% believed it is strongly true. This outcome has proven that the investors of the companies surveyed do not complain of poor financial performance due to their increased performance.

Table 8: ROE for the Variables

		Frequency	**Percent**	**Valid Percent**	**Cumulative Percent**
Managers share key performance index of your company with the investors					
Valid	Strongly True	71	69.6	69.6	69.6
	True	13	12.7	12.7	82.4
	Neither true nor untrue	5	4.9	4.9	87.3
	Untrue	5	4.9	4.9	92.2
	Strongly Untrue	8	7.8	7.8	100.0
	Total	102	100.0	100.0	
Investors receive record of financial performance in your company					
Valid	Strongly True	60	58.8	58.8	58.8
	True	12	11.8	11.8	70.6
	Neither true nor untrue	5	4.9	4.9	75.5
	Untrue	14	13.7	13.7	89.2
	Strongly Untrue	11	10.8	10.8	100.0
	Total	102	100.0	100.0	
Investors complain of poor financial performance in your company					
Valid	Strongly True	10	9.8	9.8	9.8
	True	11	10.8	10.8	20.6
	Neither true nor untrue	2	2.0	2.0	22.5
	Untrue	13	12.7	12.7	35.3
	Strongly Untrue	66	64.7	64.7	100.0
	Total	102	100.0	100.0	

Source: Author's Computation, (2024)

4.7 Multivariate Regression Model

H_{01}: There is no significant statistical impact of CVR on the ROA and ROE of selected construction companies in North Central Nigeria.

Cost valuation reconciliation has no significant effect on thereturn on asset and return on equity of the selected construction companies in North Central Nigeria. This outcome was arrived at due to the empirical evidence obtained from the various statistical tests to support this finding. In the frequency distribution ofcost valuation reconciliation variable, it was found that the profit/loss made from each project in the seven construction companies surveyed is not always publicized to the team members,and team members are also not trained on how to avoid wastages during project execution.the level of significance in the multivariate regression table has revealed that cost valuation reconciliation is not statistically significant with return on asset at 0.922 and return on equity at 0.744, leading to the acceptance of $H_{0,}$ which implies that cost valuation reconciliation has no significant effect on thereturn on asset and return on equity of the selected construction companies in North Central Nigeria. According to Abubakar et al. (2020), the absence of a CVR procedure can lead to unnoticed financial losses in construction projects of any scale, negatively impacting the financial performance of your construction company, and the reconciliation of cost values enables the reporting of a contract's profitability over its entire duration (Seidu et al., 2022). This situation could indicate that your construction projects are exceeding the budget significantly before any action can be taken. This not only impacts the profitability of the specific contract but also affects the overall performance of your construction company which means that the construction organization use it, and this further causes damage your reputation within the industry in many instances. Consequently, without a CVR process in place, it becomes challenging to meet your clients' expectations for a profitable contractor who can complete projects on schedule and within budget which are constantly encountered by these organizations (Okoroh and Ezeokoli, 2017).By not conducting CVRs, one navigates the project without insight and only learns of its profitability and total cost upon completion, which can be untimely. This lack of information can be detrimental for the client, who remains unaware of the ongoing and future financial obligations towards the project (Ellis et al., 2021), which can place the construction company at a high risk of bankruptcy, as it affects 25% of businesses in this sector. However, having this information in advance enables the construction organizations to notify its clients in advance or secure financing from financial institutions. This proactive approach allows the company to address

potential cash flow problems and bankruptcy risks promptly, considering that cost overruns occur in 90% of construction projects, the importance of this information becomes even more evident (Ahmed et al., 2021).

H_{02}: There is no significant statistical impact of SMG on the ROA and ROE of selected construction companies in North Central Nigeria.

Schedule management has no significant effect on thereturn on asset and return on equity of the selected construction companies in North Central Nigeria. This outcome was equally arrived at due to the empirical evidence obtained from the various statistical tests to support this finding. In the frequency distribution ofschedule management variable, it was found that the seven construction companies surveyed always prepare time-table for each project before execution, and they always deliver completed projects within the deadline.The level of significance in the multivariate regression table has revealed that schedule management is not statistically significant with return on asset at 0.410 and return on equity at 0.454, leading to the acceptance of $H_{0,}$ which implies that schedule management has no significant effect on thereturn on asset and return on equity of the selected construction companies in North Central Nigeria. According to Alabi (2021), cost overruns can have a substantial influence on a project in various ways, such as budget restrictions which occur when there are cost overruns that put pressure on the project budget and lead to a decrease in financing for other necessary tasks. This can result in project delays or reductions in project scope, leading to a decrease in the quality of the final product and potentially reducing the profitability of the company (Gitonga, 2022). If a project has delays in its timeframes, it can lead to a cost overrun and affect the total completion date of the project. This delay can lead to missed opportunities or decreased revenue (Habtamu, 2022). Another factor to consider when falling behind schedule is that the time spent on finishing a delayed project might prevent businesses and teams from securing larger and more lucrative projects (Muhammed et al., 2022b). The loss of stakeholder confidence, which is also linked to cost overruns, can have a detrimental influence on stakeholders' perception of the project team's competence in properly managing the project. This can result in a deficiency of support from stakeholders and a decline in morale among team members (Butt, 2023). The project team and the organization as a whole may suffer reputation damage due to expense overruns. This can have a significant impact on future prospects for securing money, forming partnerships, or engaging in collaboration. Exceeding the budget can lead to legal and contractual complications, such as contract violations or legal conflicts. This can lead to supplementary expenses and setbacks in the project (Adetunji et al., 2019).

Table 9: Coefficients[a]

Model		95.0% Confidence Interval for B	
		Unstandardized Coefficients	**Standardized Coefficients**
1	(Constant)	1.124	4.492
	CVR	-.427	-.185
	SMA	-.062	-.150

a. Dependent Variables: ROA, ROE

Source: Author's Computation, (2024)

Table 10: Multivariate Regression Model

Independent Variables	Dependent Variables	Type III Sum of Squares	Df	Mean Square	F test	Sig.
Corrected Model	ROA	284.583[a]	5	56.917	758.542	.000
	ROE	462.904[b]	5	92.581	288.607	.000
Intercept	ROA	.822	1	.822	10.951	.001
	ROE	1.651	1	1.651	5.147	.026
CVR	ROA	1.889	1	1.889	25.177	.922
	ROE	.673	1	.673	2.097	.744
SMA	ROA	.051	1	.051	.686	.410
	ROE	.181	1	.181	.564	.454
Error	ROA	7.203	96	.075		
	ROE	30.795	96	.321		
Total	ROA	1046.750	102			
	ROE	3165.111	102			
Corrected Total	ROA	291.787	101			
	ROE	493.699	101			

a. R Squared = .975 (Adjusted R Squared = .974)

Source: Author's Computation, (2024)

5.0 Conclusion and Recommendations

This study thatproject finance factors and financial performance of selected construction companies in North-Central Nigeria with focus on the impact assessment results that the level of significance of the multivariate regression revealed that cost valuation reconciliation is not statistically significant with return on asset at 0.922 and return on equity at 0.744while it was also found that the level of significance revealed that schedule management is not statistically significant with return on asset at 0.410 and return on equity at 0.454. This study concluded that there is no significant impact of cost variance reconciliation and schedule management on the ROA and ROE of the companies because of their lack of application to the project delivery success of their organizations in many cases. This study thus, recommends that;

1. Contractors should prioritize directing their project monitoring and control efforts towards enhancing the overall results of their projects. Nevertheless, incorporating the important personnel into the planning and control processes from the beginning and maintaining their involvement consistently will enhance the efficacy and precision of planning.
2. In order to mitigate the risks associated with cost management procedures in the construction project phase, construction project managers must implement a rigorous approach to ensure that project cost management techniques are sufficiently accounted for throughout the project's duration while involving all stakeholders at the early stages of the project to prevent and secure their comprehension and ownership of cost control strategies.
3. Construction organizations should rigorously apply efficient project cost control strategies. This will enable project managers to attain financial transparency, make well-informed judgments, and uphold the financial well-being of their projects. In the end, this will help ensure the successful completion of the project while staying within the specified budgetary limits.
4.The consultant, in collaboration with the client, should strive to choose a suitable contractor to carry out the project. Choosing an unsuitable and inexperienced contractor increases the likelihood of project failure, particularly in terms of cost.
5. It is also recommended that construction organizations should allocate the same level of effort to managing schedules as is dedicated to managing changes.

References

1. Abbas, N. N., & Burhan, A. M. (2022). Investigating the causes of poor cost control in Iraqi construction projects. Engineering, Technology & Applied Science Research, 12(1), 8075-8079.

2. Abdulai, R. T., & Anash, A. O. (2014). Essential Ingredients of a Good Research Proposal for Undergraduate and Postgraduate Students in Social Sciences. Sage publications, 1(1), 1-15.
3. Abubakar, A., Utari, G. A., & Azwar, P. (2020). Early warning indicators and optimal policies for mitigating economic crises: Evidence from meta-analysis. Bulletin of Monetary Economics and Banking, 23(2), 269-294.
4. Adeleke, A. Q., & Owolabi, J. D. (2019). Cost overrun in Nigerian construction industry: Causes and effects. International Journal of Scientific & Technology Research, 8(10), 57-63.
5. Adetunji, A. R., Oke, A. E., & Akindele, O. I. (2019). Cost overrun in Nigerian construction projects: A review of the causes and solutions. International Journal of Construction Management, 19(5), 365-380.
6. Ahmed, W., Khan, H. H., Rauf, A., Ulhaq, S., Bano, S., Sarwar, B. & Durrani, M. N. (2021). Simultaneous equation estimation in finance and corporate financial decision: Empirical evidence from Pakistan stock exchange. The Journal of Asian Finance, Economics and Business, 8(3), 11-21.
7. Ahmed, S. I., Hasoon, A., Raheema, H. A., Qusai, N., Salih, B. M., Elwan, M. H., ... & Hakki, M. (2022). The interrelationship between project cost control system and enablers: a study on Iraq construction industry. The Journal of Modern Project Management, 10(2), 374-383.
8. Ajao, M. G., &Oseyomon, E. P. (2019). Credit risk management and performance of deposit money banks in Nigeria. African Review of Economics and Finance, 11(1), 178-198.
9. Alabi, S. S. (2021). Assessment of Cost Control Techniques on Road Construction Project Delivery in FCT Abuja, Nigeria (Doctoral dissertation).
10. Anginer, D., Demirguc-Kunt, A., Huizinga, H., & Ma, K. (2018). Corporate governance of banks and financial stability. Journal of Financial Economics, 130(2), 327-346.
11. Apochi, J. G., Mohammed, S. G., Onyabe, J. M., & Yahaya, O. A. (2022). Does corporate governance improve financial performance? Empirical evidence from Africa listed consumer retailing companies. Management Studies, 12(1), 111-124.
12. Arhinful, R., & Radmehr, M. (2023). The impact of financial leverage on the financial performance of the firms listed on the Tokyo stock exchange. SAGE Open, 13(4), 21582440231204099.
13. Arsew, V. T., Kisman, Z., &Sawitri, N. N. (2020). Analysis of the Effect of Loan to Deposit Ratio, Non-Performing Loans and Capital Adequacy Ratio on Return on Assets with Good Corporate Governance as Intervening Variable in Banking

Companies Listed in the Corporate Governance Perception Index (CGPI) for the Period 2014–2018. Journal of Economics and Business, 3(1).

14. Atellu, A. R., Muriu, P., & Sule, O. (2021). Do bank regulations matter for financial stability? Evidence from a developing economy. Journal of Financial Regulation and Compliance, 29(5), 514-532.
15. Banihashemi, S. A., Khalilzadeh, M., Antucheviciene, J., &Šaparauskas, J. (2021). Trading off time–cost–quality in construction project scheduling problems with fuzzy SWARA–TOPSIS approach. Buildings, 11(9), 387.
16. Barth, J. R., Caprio Jr, G., & Levine, R. (2013). Bank regulation and supervision in 180 countries from 1999 to 2011. Journal of Financial Economic Policy, 5(2), 111-219.
17. Bekele, N. (2023). Causes of cost over-run in construction project: the case of accommodation and training center construction project of the Kaizen Institute (Doctoral dissertation, ST. Mary's University).
18. Bougie, R., & Sekaran, U. (2010). Research methods for business: A skill building approach (5th ed.). West Sussex, UK: John Wiley & Sons Ltd.
19. Bryman, A., 2015. Social research methods (5th ed.). Oxford, UK: Oxford university press.
20. Butt, A. S. (2023). Impact of requirements planning on the success of the public residential projects in Pakistan. Journal of Housing and the Built Environment, 38(3), 1313-1351.
21. Castro Silva, W., Rocha, A. M., & Oliveira Melo, A. (2014).Management and Internal Control System: An Analysis of AccountingOffices Located in Belo Horizonte, MG, Brazil, andIts Metropolitan Area, Using the Four-Stage Model of Kaplan and Cooper. International Journal of Finance and Accounting,3(3), 162-173.
22. Cho, K., Kim, J., & Kim, T. (2019). Decision support method for estimating monetary value of post-renovation office buildings. Canadian Journal of Civil Engineering, 46(12), 1103-1113.
23. Chandanshive, V. B., &Kambekar, A. R. (2021). Prediction of building construction project cost using support vector machine. Industrial Engineering and Strategic Management, 1(1), 31-42.
24. Creswell, J. W., & Creswell, D. J. (2018). Research Design: Qualitative, Quantitative, and Mixed Methods Approaches (5th ed.). London: Sage Publications.
25. Dhamotharan, D., Selvam, M., Sigo, M. O., & Ramasamy, V. (2020). Relationship between corporate social performance and financial performance of private sector banks in india. International Journal of Psychosocial Rehabilitation, 24(06).Ebekozien, A. (2020). Corrupt acts in the Nigerian construction industry: is the ruling party fighting corruption? Journal of Contemporary African Studies, 38(3), 348-365.

26. Ebaid, I. E. S. (2023). Nexus between sustainability reporting and corporate financial performance: evidence from an emerging market. International Journal of Law and Management, 65(2), 152-171.
27. Ebekozien, A. (2020). Corrupt acts in the Nigerian construction industry: is the ruling party fighting corruption? Journal of Contemporary African Studies, 38(3), 348-365.
28. Efebeli, T. V. (2021). Strategies for Reducing Project Cost Overruns in the Oil and Gas Construction Industry (Doctoral dissertation, Walden University).
29. Egwunatum, S. I., Anumudu, A. C., Eze, E. C., &Awodele, I. A. (2022). Total quality management (TQM) implementation in the Nigerian construction industry. Engineering, Construction and Architectural Management, 29(1), 354-382.
30. EkaningtyasWidiastuti, S. (2023). Financial Risk Analysis On Financial Performance In Sub Sector Coal Mining Companies On Indonesian Stock Exchange. Epra International Journal of Economic and Business Review (JEBR), 11(2), 6-19.
31. Ellis, J., Edwards, D. J., Thwala, W. D., Ejohwomu, O., Ameyaw, E. E., & Shelbourn, M. (2021). A case study of a negotiated tender within a small-to-medium construction contractor: modelling project cost variance. Buildings, 11(6), 260-265.
32. Essilfie, J. (2021). A study of the challenges associated with project cost performance in Ghana (Doctoral dissertation).
33. Fellows, R. F., & Lin, A. M. (2015). Research methods for construction. (1st ed.). New Jersey, USA: John Wiley & Sons.
34. Frank, H. E. (2015). Regression Modeling Strategies: With Applications to Linear Models, Logistic and Ordinal Regression, and Survival Analysis (2nd ed.). Newyork: Springer.
35. Gao, Y., & Goodrum, P. M. (2022). A comparative study of cost overruns in the United States and China construction projects. International Journal of Construction Management, 18(1), 20-32.
36. Gitonga, J. M. (2022). Project cost management and performance of urban road projects in Kenya. Journal of Entrepreneurship & Project Management, 2(5), 21-28.
37. Habtamu, H. (2022). Assessment of project cost management practices: the case of selected real estate companies in Addis Ababa (Doctoral dissertation, ST. Mary's University).
38. Hammed, O. G., Fagbenro, A. H., & Oshin, I. I. (2022). Impact of project cost management on project success of select construction firms in Lagos State, Nigeria. Journal of Management and Social Sciences, 7(1), 213-220.
39. Hasan, R., Chowdhury, S. A., & Akter, J. (2021). Construction project monitoring: The cost and schedule control by Earned Value Method (EVM). Journal of Technology Management and Business, 8(1), 1-9.

40. Ifeanyi, B. N.&Adindu, C. (2023). Supply-chain quality management and building material industry performance in north-central Nigeria projects: a systematic literature review. Journal of economics and allied research, 8(1), 186-197.
41. Igwe, U. S., Mohamed, S. F., Dzahir, M. A. M., Yusof, Z. M., & Khiyon, N. A. (2022). Towards an automated resource model framework for post-contract cost control of construction projects. International Journal of Construction Management, 22(16), 3088–3097.
42. Iheanacho, I. U. (2023). Assessing the effect of cost control techniques used in road construction project delivery (Owerri metropolis). NAU department of Civil Engineering final Year Project & Postgraduate Portal, 2(1), 1-12.
43. ImeokpariaL., David, A., & Olubukola, F. (2021). Effect of Financial Leverage on Financial Performance: A Comparative Study of Deposit Money Banks and Manufacturing Companies in Nigeria. Global Journal of Accounting, 7(1), 37-46.
44. Irawan, D., Sadalia, I., & Muda, I. (2023). Earned Value Analysis Method As A Cost And Time Performance Analysis (Case Study LAU SIMEME DAM Construction Project KSO Between PT. Wijaya Karya Persero. Tbk and PT. Bumi Karsa). International Journal of Educational Review, Law And Social Sciences (IJERLAS), 3(2), 676-690.
45. Iyagba, R. R., & Onyia, P. C. (2022). Evaluation of project cost control techniques used in the Nigerian construction industry. Journal of Engineering, Project, and Production Management, 8(1), 39-49.
46. Judson, L., & Paul, V. (2022). Known Uncertainty Factors Affecting Building Construction Project Cost. NICMAR Journal of Construction Management, 37(4).
47. Kaming, P. F., Olomolaiye, P. O., Holt, G. D., & Harris, F. C. (2022). Factors influencing construction time and cost overruns on high-rise projects in Indonesia. Construction Management and Economics, 31(10), 1017–1026.
48. Kermanshachi, S., &Pamidimukkala, A. (2023). Robustness Analysis of Total Project Cost and Schedule Delay and Overrun Indicators of Heavy Industrial Projects. Journal of Legal Affairs and Dispute Resolution in Engineering and Construction, 15(2), 04523005.
49. Klingelhöfer, J., & Sun, R. (2019). Macroprudential policy, central banks and financial stability: Evidence from China. Journal of International Money and Finance, 93, 19-41.
50. Koller, T., Goedhart, M., & Wessels, D. (2010). Valuation: measuring and managing the value of companies (Vol. 499). john Wiley and sons.
51. Kumar, A., & Varghese, R. (2022). Construction project cost control: A review. International Journal of Research in Engineering and Technology, 5(1), 1-6.

52. Kurniawan, M. I., Wulandari, D. A. R., &Tistogondo, J. (2021). Evaluation of construction project time and cost control based on earned value and crash project method. Neutron, 21(1), 20-26
53. Le, A. T. H., &Sutrisna, M. (2023). Project cost control system and enabling-factors model: PLS-SEM approach and importance-performance map analysis. Engineering, Construction and Architectural Management.
54. Lelissa, T. B., & Kuhil, A. M. (2018). Empirical Evidence on the Impact of Bank Specific Factors on the Commercial Banks Performance: The Camel Model and Case of Ethiopian Banks. Global Journal of Management and Business Research: C Finance, 18(5), 18-30.
55. Liu, H., & Huang, W. (2022). Sustainable financing and financial risk management of financial institutions—Case study on Chinese banks. Sustainability, 14(15), 9786.
56. Mehmood, A., & De Luca, F. (2023). Financial distress prediction in private firms: developing a model for troubled debt restructuring. Journal of Applied Accounting Research.
57. Muhammed O. A., Aribisala, F. A., Mobayo, J. O. & Aboh, E. M. (2022a). Assessment of Barriers to women Entrepreneurial Opportunities Success within the Built Environment. European Journal of Humanities and Educational Advancements, pp 137 – 146. Retrieved form scholarzest.com
58. Muhammed, A. O., Siyaka, H. O., Adindu, C. C., & Muhammed, A. A. (2022b).Appraising the causes and effects of construction materials price fluctuationon Built Environment project delivery in Abuja metropolis. Proceedings ofthe 2nd International Azerbaijan Congress on Life, Social, Health and ArtSciences, pp 715 – 734.
59. Nawaz, A., Chen, J., &Su, X. (2023). Factors in critical management practices for construction projects waste predictors to C&DW minimization and maximization. Journal of King Saud University-Science, 35(2), 102512.
60. Nawaz, Tasawar, and Oliver Ohlrogge. 2023. Clarifying the impact of corporate governance and intellectual capital on financial performance: A longitudinal study of Deutsche Bank (1957–2019). International Journal of Finance & Economics 28: 3808–23.
61. Neves, R., Cho, H., & Zhang, J. (2020). Techno-economic analysis of geothermal system in residential building in Memphis, Tennessee. Journal of Building Engineering, 27, 100993.
62. Ntivuguruzwa, S. P., Ndikubwimana, J. B., Angelique, D., MPIRANYA, J., Mpambara, F., & HABIMANA, F. (2020). Effect of Financial Risk Management on the Performance of Insurance Companies in Rwanda (2015-2019). Available at SSRN 3597471.

63. Nyebar, A., Obalade, A. A., &Muzindutsi, P. F. (2023). Effectiveness of Credit Risks Management Policies Used by Ghanaian Commercial Banks in Agricultural Financing. In Financial Sector Development in Ghana: Exploring Bank Stability, Financing Models, and Development Challenges for Sustainable Financial Markets (pp. 231-264). Cham: Springer International Publishing.
64. Obi, L. I., Arif, M., Awuzie, B., Islam, R., Gupta, A. D., & Walton, R. (2021). Critical success factors for cost management in public-housing projects. Construction Innovation, 21(4), 625–647.
65. Ogunmakinde, O. E., Sher, W., & Maund, K. (2019). An assessment of material waste disposal methods in the Nigerian construction industry. Recycling, 4(1), 13.
66. Okafor, C. C., Ani, U. S., & Ugwu, O. (2022). Evaluation of supply chain management lapses in Nigeria's construction industry. International Journal of Construction Education and Research, 18(2), 103-122.
67. Okoroh, M. I., &Ezeokoli, F. O. (2017). Impact of cost control techniques on construction project performance in Nigeria. Journal of Construction Business and Management, 1(1), 1-13.
68. Oluwalaiye, O. B., Akintola, A. F., & Adeoye, A. A. (2020). Impact of Monetary and Fiscal Policies in Combating Inflation in Nigeria (1984-2014). The International Journal of Humanities & Social Studies.
69. Owolabi, M. O., Sarfo, F., Akinyemi, R., Gebregziabher, M., Akpa, O., Akpalu, A., ... & Mensah, Y. (2018). Dominant modifiable risk factors for stroke in Ghana and Nigeria (SIREN): a case-control study. The Lancet Global Health, 6(4), e436-e446.
70. Owolabi, M. O., Sarfo, F., Akinyemi, R., Gebregziabher, M., Akpa, O., Akpalu, A., ... & Mensah, Y. (2018). Dominant modifiable risk factors for stroke in Ghana and Nigeria (SIREN): a case-control study. The Lancet Global Health, 6(4), e436-e446.
71. Prasetiawatia, U., &Sudanab, I. M. (2019). Business Risk, Financial Risk and Firm Performance an Empirical Study of Indonesian Manufacturing Sector. Jurnal Ekonomi dan Bisnis Airlangga Volume, 29(1).
72. Poorhassan, S. (2020). Information technology for project cost management (Case study: Soufian cement co, iran). International Journal of Finance & Managerial Accounting, 4(16), 39-49.
73. Pudael, I., Latief, R. U., & Burhanuddin, S. (2022). Study on the implementation of the combination of 2 BIM and ERP systems to improve project cost estimation accuracy at the auction stage. In IOP Conference Series: Earth and Environmental Science 1117(1), p. 012013. IOP Publishing.
74. Putri, C. G., Rimawan, E., Rachman, L. A., &Utomo, P. M. (2020). Causes of variation order and the impact on project cost building in sudirman. International Journal of Innovation Science Research Technology, 5(7), 356-363.

75. Richard, P. J., Devinney, T. M., Yip, G. S., & Johnson, G. (2009). Measuring organizational performance: Towards methodological best practice. Journal of management, 35(3), 718-804.
76. Rouzana, A., Oktari, R. S., & Dharma, W. (2020). The impact of green construction factors on project cost in Banda Aceh. International Journal of Scientific Research and Engineering Development 3(4), 1-11
77. Salihu, A. A., Ibrahim, Y., & Muhammad, S. (2022) Impact of labour productivity factors on construction project cost and time.
78. Salleh, H., Wang, R., Affandi, N. Z. H., & Abdul-Samad, Z. (2023). Selecting a standard set of attributes for the development of machine learning models of building project cost estimation. Planning Malaysia, 21
79. Seidu, R. D., Jin, R., Chen, Y., Young, B., &Ebohon, O. (2022). Construction infrastructure project cost overrun and cost control/management techniques. In ASOCSA 16th Built Environment International Conference. ASOCSA.
80. Senoucia, A., Ismailb, A., & Eldina, N. (2016). Time Delay and Cost Overrun in Qatari Public Construction Projects. Procedia Engineering, 164, 368-375.
81. Shahin, F., Elias, W., Rosenfeld, Y., & Toledo, T. (2022). An optimization model for highway work zones considering safety, mobility, and project cost. Sustainability, 14(3), 1442.
82. Singh, K., Singh, A., & Prakash, P. (2023). Policy actions for developing the infrastructure sector: Learnings from the Indian experience. Journal of Public Affairs, 23(1), e2837.
83. Uddin, S., Ong, S., Lu, H., & Matous, P. (2023). Integrating machine learning and network analytics to model project cost, time and quality performance. Production Planning & Control, 1-15.
84. Wang, Q., & Wang, B. (2020). Research on the correlation between the project cost system and the construction management level. In Journal of Physics: Conference Series 1648 (3) 032018 IOP Publishing.