Effect of Ratio Analysis on the Financial Performance of Consumer Goods Firms in Nigeria: A Study of Nestlé Nigeria Plc (2013–2023)

Ehiriudu Jude Alaoma*
Department of Accountancy, Institute of Management& Technology (IMT), Enugu.
Nwnkwo Bobby Godwin Ogbogu, PhD
Department of Accountancy, Caritas University,
Amorji- Nike, Enugu, Enugu State.
bobbyogbogu@gmail.com, 08037467964

Chibuzor Emmanuel Ifeanyi
Department of Economics, Faculty of Social Sciences,
Enugu State University of Science & Technology
ifeanyichibuzor2013@yahoo.com, 0806855893

*Corresponding author: alaomaehiriudu@gmail.com,
judeehiriudu@imt.edu.ng 08038964975, 07080147062
ISSN: 2992 -5169 (Print) Available online@http/www.bjafffsr.org

Abstract
This study examined the effect of ratio analysis on the financial performance of consumer goods firms in Nigeria, focusing on Nestle Nigeria Plc from 2013 to 2023. The specific objectives were to assess the impact of return on equity, return on assets, and net profit on inventory turnover. An ex-post facto research design was employed, using secondary data sourced from the company's financial statements. Regression analysis was conducted using EViews 8. Findings revealed that return on equity significantly affects inventory turnover, while return on assets and net profit showed no significant effect. The study concludes that performance ratio analysis plays a critical role in assessing management effectiveness in consumer goods firms. It recommends that company management should institutionalize a robust ratio analysis framework to monitor and enhance financial performance consistently.

Keywords: ratio analysis, financial performance, return on equity, return on assets, inventory turnover

Introduction

Ratio analysis expresses the relationship between two financial metrics, typically by dividing one figure by another. It serves as a critical tool in assessing how

effectively a firm utilizes its resources to generate income and sustain financial health over time (Kenton, 2019). Profitability, in particular, reflects organizational success in maximizing stakeholder value (Ugoani, 2018). Ratio analysis is widely recognized as an essential technique for evaluating business performance and making informed investment decisions (Rashid, 2018).

According to Lucey (2001), ratio analysis is a practical tool for monitoring and improving business performance, especially when conducted regularly. It highlights trends and evaluates operational efficiency and financial stability. Performance ratio analysis often focuses on metrics such as return on equity (ROE), return on assets (ROA), capital adequacy, operating efficiency, and return on investment (ROI). These indicators help in understanding cost-effectiveness and overall managerial efficiency (Neil, 2019). Although ratio analysis offers valuable insights, its reliability may be compromised by factors such as tax distortions, hidden gains or losses, fraudulent accounting practices, and poor disclosure. Misstated financial figures and audit failures—such as those seen in the Cadbury Nigeria and Enron scandals—can severely undermine the credibility of ratio analysis. Moreover, issues like poor corporate governance, window dressing, and unethical practices reduce the effectiveness of ratio analysis in enhancing management efficiency.

This study explores the effect of performance ratio analysis on management effectiveness in Nigeria's consumer goods sector, focusing on Nestle Nigeria Plc. It aims to investigate whether key ratios such as return on equity, return on assets, and net profit influence inventory turnover, a key indicator of operational efficiency. The significance of this study extends to several stakeholders. For investors, ratio analysis is vital in comparing company performance across an industry and making informed investment decisions. It allows for benchmarking against industry peers and supports strategic financial planning. Financial executives and analysts use ratio analysis to assess profitability, efficiency, internal control, and asset management—crucial areas for business sustainability. Creditors also benefit, as performance ratios help determine a firm's ability to meet its obligations. Stockholders use these metrics to assess firm performance, while prospective investors evaluate a company's financial future before committing funds.

In academic circles, this research contributes to the growing body of knowledge on financial performance measurement. It offers valuable insights to students, researchers, and scholars regarding the relationship between ratio analysis and management effectiveness in the Nigerian context.

The study focuses on Nestle Nigeria Plc, covering the period from 2013 to 2022. This timeframe ensures the availability and accessibility of reliable secondary data. The geographic scope is limited to Nigeria, specifically within the consumer goods industry, providing a focused context for evaluating the impact of financial performance metrics on managerial outcomes.

Literature Review

This literature review is structured under the following subheadings: conceptual review, theoretical review, empirical review, and summary.

Conceptual Review

This section presents scholarly perspectives on performance accounting ratios and management effectiveness.

Ratio Analysis

Ratio analysis is a financial tool that reveals relationships within accounting data, helping to evaluate both successful and poor enterprise performance (Ugoani, 2018). Ratios summarize financial performance by comparing two variables—often expressed as quotients, fractions, or percentages (Olaegbe, 2012). Dansby and Lawrence (2000) define a ratio as a fractional relationship; while Lucey (2001) emphasizes that ratios help interpret financial statements meaningfully. Lasher (1997) further notes that ratios become most useful when compared across time or between firms.

Ratio analysis simplifies complex financial data, aids in identifying operational strengths and weaknesses, and supports investment and lending decisions (Archana & Padma, 2013). Krishnan (2020) explains that the relevance of specific ratios depends on the user's objectives. For instance, investors prioritize profitability ratios, while creditors focus on liquidity and solvency (Rashid, 2018). Ratios are also employed in performance forecasting (Brigham & Ehrhardt, 2010).

Ezejiofor, *et al.* (2017) found significant differences in profitability and coverage ratios between Nigerian telecom firms and banks. Harsha *et al.* (2017) classify ratios into categories: liquidity, solvency, profitability, asset utilization, and investment potential—each assessing specific aspects of firm performance.

Return on Equity (ROE)

ROE measures how effectively management uses shareholders' equity to generate income (Ugoani, 2018; Mohammed, 2014). It serves as a benchmark for profitability and shareholder value maximization (Sanyaolu et al., 2020). It is widely used to assess financial efficiency across firms (Ryan, 2019; Ezechukwu & Amahalu, 2016). However, ROE does not capture the timing of cash flows or asset turnover (Angela, 2016). A rising ROE indicates good performance, while a decline may signal inefficiencies (Mohsin & Midra, 2015).

Return on Assets (ROA)

ROA evaluates a firm's ability to generate profit from its total assets, making it a key indicator of management performance (Ugoani, 2018). It provides a broader profitability perspective compared to equity-based metrics (Yonas & Suharto, 2021). High ROA reflects efficient asset utilization (Syamsuddin, 2009). Studies indicate firms like Nestlé Nigeria Plc and Dangote Cement maintain ROA above 10%, suggesting strong operational performance (Imhanzenobe, 2019).

Net Profit

Net profit reflects the firm's capacity to convert revenue into earnings after all expenses. It is crucial for organizational sustainability, investor confidence, and reduced reliance on debt (Oyedokun et al., 2019; Nworie & Ofoje, 2022). Operating profit captures earnings before interest and taxes, while net profit measures overall profitability (Oliver et al., 2017). Profit maximization enhances shareholder value and influences stock prices (Oyerogba et al., 2014; Mohamed & Hazem, 2015). Controlling costs, especially inventory, is critical to improving profitability (Sujoko, 2007; Oyedokun et al., 2019).

Management Effectiveness

Management effectiveness, or managerial efficiency, refers to the ability to optimize resources for achieving business objectives (Adegbie et al., 2019; Leverty & Grace, 2012). It plays a vital role in promoting growth and competitiveness. Efficient resource utilization enhances productivity and profitability (Sunday & Agubata, 2023). Given resource constraints, firms require skilled managers to avoid operational failures.

Inventory Turnover

Inventory turnover indicates how frequently inventory is sold and replenished over a period, reflecting operational efficiency (Imhanzenobe, 2019). In retail, inventory can constitute up to 50% of current assets (Yasin et al., 2013). High turnover suggests effective stock management, while excess inventory incurs opportunity and holding costs (Farooq, 2019; Van et al., 2019). Market trends and inflation also influence inventory strategies.

Empirical Review

Numerous empirical studies have investigated the relationship between financial ratios, managerial efficiency, and firm performance across various Nigerian industries. Enekwe *et al* (2013) analyzed profitability and financial ratios in the pharmaceutical sector between 2001 and 2011. Using multiple regression, they found a generally negative relationship, suggesting inefficiencies during the review period. Archana and Padma (2013), using a case study approach, revealed that liquidity ratios exceeded benchmarks, and improvements in inventory and debtor turnover reflected efficient operations and credit policies.

Mohammed (2014) conducted a case study on NBC Maiduguri Plant, concluding that ratio analysis is essential for evaluating past performance, forecasting, and supporting strategic decisions. Borhan et al. (2014) studied a chemical company from 2004–2011, finding that current, quick, and debt ratios, as well as net profit margin, were positively linked to firm performance. Enekwe (2015) assessed financial ratios in Nigeria's oil and gas industry (2008–2012) using Pearson correlation and regression. Total asset turnover, debtor turnover, and interest coverage were significantly associated with profitability, while debt-equity and creditor turnover had negative, insignificant effects. Ezekwesili (2021) focused on Nigerian banks, finding that the loan-to-deposit and current ratios significantly impacted net interest margin, highlighting the importance of credit and liquidity ratios. Ajeigbe et al. (2021) explored firm value sustainability among listed Nigerian firms using agency and signaling theory. Ratios such as ROA, asset turnover, and EPS significantly influenced firm value.

Osingor and Ezeala (2021) analyzed quoted brewery firms and found a negative relationship between the current ratio and firm performance. However, debt-equity ratio positively influenced ROA, suggesting balanced capital structures enhance performance. Ndum (2022) examined food and beverage firms from 2015 to 2020 and found that market and profitability ratios significantly impacted ROA, emphasizing their importance in performance evaluation. Sunday and

Agubata (2023) evaluated listed consumer goods firms (2015–2021). They reported that inventory turnover, accounts receivable turnover, and operating expenses had significant positive effects on performance (measured by EPS), indicating the impact of management efficiency.

The reviewed literature affirms that financial ratios—particularly ROE, ROA, and net profit—are essential in assessing management effectiveness and overall firm performance. Inventory turnover, in particular, serves as a key proxy for managerial efficiency. Despite extensive research, gap remains concerning the specific relationship between performance ratio analysis and management effectiveness in Nigerian consumer goods firms, especially Nestlé Nigeria Plc. Existing studies have not thoroughly explored the simultaneous use of ROE, ROA, and net profit as proxies for performance ratios against inventory turnover as a measure of management effectiveness. This study addresses that gap by covering the period 2013–2022 and applying a more integrated analytical framework. It contributes to the literature by adopting robust econometric techniques to examine the influence of financial ratios on management effectiveness in the Nigerian manufacturing sector.

Methodology

This study adopts an ex-post facto research design, which involves analyzing existing data to determine relationships among variables (Onwumere, 2009). This design is appropriate for examining the effect of performance ratio analysis on the levels of management effectiveness. The study focuses on **c**onsumer goods firms in Nigeria**,** with particular emphasis on Nestlé Nigeria Plc**,** one of the largest and most prominent firms in the sector, both nationally and in West Africa. The population comprises all 16 consumer goods firms listed on the Nigerian Exchange Group (NGX)**.** However, the study focuses specifically on Nestlé Nigeria Plc**.** The research covers a 10-year period (2013–2022) to ensure data adequacy and consistency. Secondary data were collected from the annual reports and financial statements of Nestlé Nigeria Plc for the specified period.

The study employs the Ordinary Least Squares (OLS) regression technique, based on the principle of Best Linear Unbiased Estimators (BLUE). Analysis was conducted using EViews version 8**.** OLS regression was chosen for its effectiveness in estimating the relationship between independent and dependent variables. Three regression models were formulated to address the research questions. The relationship among the variables is expressed in a linear form, as shown in the models presented in the next section.

$INT = f(ROE)$ . . . 1
$INT = f(ROA)$ . . . 2
$INT = f(NPR)$ . . . 3

The study's clear and specific link between the dependent and independent variables is illustrated below.

$INT = b_0 + b_1ROE + b_2\ ROA + b_3\ NPR + Ut$ . . . 4

Where,
INT= Inventory turnover

ROE=Return on equity

ROA=Return on assets

NPR= Net profit

b0 = Regression Constant
b_1, b_2 & b_3 = Regression Coefficients
U_t = Stochastic term

The study's dependent variable, representing management effectiveness, is proxied by inventory turnover (INT)**,** while the independent variables—representing components of performance ratio analysis—are proxied by return on equity (ROE)**,** return on assets (ROA)**,** and net profit (NPR).

Table 1
Measurement of Variables

Variable Type	Variable	Acronym	Measurement	Expected Effect
Dependent Variable (Management Effectiveness)	Inventory Turnover	INT	Cost of Goods Sold ÷ Average Inventory	+
Independent Variables (Performance Ratios Analysis)	Return on Equity	ROE	Profit After Tax ÷ Total Equity	+
	Return on Assets	ROA	Net Income ÷ Total Assets	+
	Net Profit Margin	NPM	Net Profit ÷ Revenue	+

Note. Positive signs (+) indicate an expected positive relationship between the variable and management effectiveness.
Source: Authors' compilation, 2025.

Results and Discussions

This presents the empirical results based on the regression models formulated in the preceding section. The interpretation and discussion of each result are aligned with the stated research objectives. This section also provides the foundation upon which the study's conclusions and recommendations are drawn.

Table 2
Raw Financial Data of Nestlé Nigeria Plc (2013–2022)

Year	Cost of Sales	Inventory (End)	Inventory (Begin)	Total Inventory	Avg. Inventory	PAT/Net Income	Total Equity	Total Assets	Revenue
2013	76,298,147	9,853,893	8,784,909	18,638,802	9,319,401	22,258,279	40,594,801	108,207,480	133,084,076
2014	82,099,051	10,956,010	9,853,893	20,809,903	10,404,952	22,235,640	35,939,643	106,062,067	143,328,982
2015	83,925,957	10,813,960	10,956,010	21,769,970	10,884,985	23,736,777	38,007,074	119,215,053	151,271,526
2016	106,583,385	20,637,750	10,813,960	31,451,710	15,725,855	7,924,968	30,878,075	169,585,932	181,910,977
2017	143,280,260	23,910,303	20,637,750	44,548,053	22,274,027	33,723,730	44,878,177	146,804,128	244,151,411
2018	152,354,445	23,124,020	23,910,303	47,034,323	23,517,162	43,008,026	50,220,486	162,334,422	266,274,621
20	155,888	33,278,	23,124,	56,402,	28,201,	45,683,	45,557,	193,374	284,035

Year	Cost of Sales	Inventory (End)	Inventory (Begin)	Total Inventory	Avg. Inventory	PAT/Net Income	Total Equity	Total Assets	Revenue
19	,473	944	020	964	482	113	630	,314	,255
2020	167,872,616	52,222,267	33,278,944	85,501,211	42,750,606	39,212,025	29,296,984	246,184,996	287,084,087
2021	219,985,914	58,964,125	52,222,267	111,186,392	55,593,196	40,037,277	21,378,208	310,238,504	351,822,329
2022	291,054,270	88,340,532	58,964,125	147,304,657	73,652,329	48,965,488	30,291,224	415,044,031	446,819,260

Source: Researcher's extraction from Annual Reports (2013–2022)

Table 3

Performance Ratios of Nestlé Nigeria Plc (2013–2022) Year	Inventory Turnover (INT)	Return on Equity (ROE)	Return on Assets (ROA)	Net Profit Margin (NPM)
2013	8.19	0.55	0.21	0.17
2014	7.89	0.62	0.21	0.16
2015	7.71	0.62	0.20	0.16
2016	6.78	0.26	0.05	0.04
2017	6.43	0.75	0.23	0.14
2018	6.48	0.86	0.26	0.16
2019	5.53	1.00	0.24	0.16
2020	3.93	1.34	0.16	0.14
2021	3.96	1.87	0.13	0.11
2022	3.95	1.62	0.12	0.11

Note. INT = Inventory Turnover; ROE = Return on Equity; ROA = Return on Assets; NPM = Net Profit Margin.
Source: Researcher's calculation (2025)

Table 4

Descriptive Statistics of Key Variables

Statistic	**INT**	**ROE**	**ROA**	**NPM**
Mean	6.08	0.95	0.18	0.13
Median	6.46	0.80	0.20	0.15
Maximum	8.19	1.87	0.26	0.17
Minimum	3.93	0.26	0.05	0.04
Std. Dev.	1.67	0.51	0.07	0.04
Skewness	-0.24	0.59	-0.71	-1.48
Kurtosis	1.59	2.22	2.61	4.37
Jarque-Bera	0.92	0.83	0.91	4.45
Probability	0.63	0.66	0.63	0.11
Sum	60.84	9.49	1.80	1.34
Sum Sq. Dev.	25.12	2.36	0.04	0.01
Observations	10	10	10	10

Source: Researcher's calculation (2025)

Table 4 presents the descriptive statistics for the variables under study in their raw form. Specifically, inventory turnover (INT), return on equity (ROE), return on assets (ROA), and net profit margin (NPM) had mean values of approximately ₦6.08 million, ₦0.95 million, ₦0.18 million, and ₦0.13 million, respectively. These figures represent the average values of the variables for Nestlé Nigeria Plc

over the 10-year period from 2013 to 2022. The table also displays the respective minimum and maximum values, showing the variability in performance over time.

The sum of squared deviations—25.12207 (INT), 2.355395 (ROE), 0.039386 (ROA), and 0.012760 (NPM)—provides a measure of how data points deviate from their respective means. The standard deviation values for INT (1.670731), ROE (0.511576), ROA (0.066153), and NPM (0.037653) further illustrate the spread of the data. Since all standard deviation values are lower than their corresponding means, this suggests relatively low variability and a consistent trend across the years, indicating moderate fluctuations around the average.

Furthermore, Table 4 provides insights into the distribution characteristics of the data series through skewness, kurtosis, and the Jarque-Bera (JB) test statistics. Ideally, a skewness value of zero indicates a perfectly symmetric distribution. In this study, INT and ROA show slight negative skewness, while ROE and NPM show positive and more pronounced negative skewness, respectively. Kurtosis values suggest a near-normal distribution for most variables, with NPM slightly leptokurtic (value > 3), indicating a sharper peak than a normal distribution.

The Jarque-Bera test statistics for INT (0.924858), ROE (0.831283), and ROA (0.911002) yield p-values of 0.629752, 0.659917, and 0.634130, respectively—all greater than the 0.05 significance level. This indicates that these variables are normally distributed. Although the JB value for NPM (4.450677) is higher, its p-value of 0.108031 still exceeds 0.05, suggesting no significant deviation from normality.

These results satisfy the normality assumption of the Ordinary Least Squares (OLS) regression technique, thus justifying its application in estimating the model.

Test of Hypotheses

The study tested three hypotheses corresponding to its specific objectives. The decision rule is as follows:

> If the p-value is less than 0.05, reject the null hypothesis (H_0) and accept the alternative hypothesis (H_1). If the p-value is greater than 0.05, accept the null hypothesis (H_0) and reject the alternative hypothesis (H_1).

The hypotheses were tested using OLS regression results, which are discussed below.

Test of Hypothesis One

H_{01}: Return on equity (ROE) has no significant effect on inventory turnover (INT) of consumer goods firms in Nigeria.

Table 5
Regression Results for Hypothesis One

Variable	Coefficient	Std. Error	t-Statistic	p-Value
ROE	-2.8915	0.5367	-5.3873	0.0007
Constant	8.8270	0.5719	15.4334	0.0000

Model summary:
$R^2 = 0.7839$, Adjusted $R^2 = 0.7569$, $F(1,8) = 29.02$, $p < .001$, Durbin-Watson = 1.665

The regression results indicate that ROE explains approximately 78.4% of the variation in inventory turnover (INT), with an adjusted R^2 of 75.7%. The negative coefficient (-2.8915) suggests that higher ROE is associated with a decrease in INT. The relationship is statistically significant, given the p-value of 0.0007, which is less than the 0.05 significance level. Therefore, we reject the null hypothesis and conclude that return on equity has a significant negative effect on inventory turnover in Nigerian consumer goods firms.

Test of Hypothesis Two

H_{02}: Return on assets (ROA) has no significant effect on inventory turnover (INT) of consumer goods firms in Nigeria.

Table 6
Regression Results for Hypothesis Two

Variable	Coefficient	Std. Error	t-Statistic	p-Value
ROA	8.9144	8.3545	1.0670	0.3171
Constant	4.4808	1.5913	2.8158	0.0226

Model summary:
$R^2 = 0.1246$, Adjusted $R^2 = 0.0152$, $F(1,8) = 1.14$, $p = .317$, Durbin-Watson = 0.259

The model shows that ROA accounts for only about 12.5% of the variation in inventory turnover, with an adjusted R^2 close to zero (0.015). The coefficient for ROA is positive (8.9144) but not statistically significant ($p = 0.317$), exceeding the 0.05 threshold. Thus, we fail to reject the null hypothesis and conclude that return on assets has no significant effect on inventory turnover in consumer goods firms in Nigeria.

Test of Hypothesis Three

H_{03}: Net profit margin (NPM) has no significant effect on inventory turnover (INT) of consumer goods firms in Nigeria.

Table 7
Regression Results for Hypothesis Three

Variable	Coefficient	Std. Error	t-Statistic	p-Value
NPM	13.2798	14.9686	0.8872	0.4009
Constant	4.3001	2.0806	2.0667	0.0726

Model summary:
$R^2 = 0.0896$, Adjusted $R^2 = -0.0242$, $F(1,8) = 0.79$, $p = .401$, Durbin-Watson = 0.247

Net profit margin explains less than 9% of the variance in inventory turnover, with a negative adjusted R^2, indicating poor model fit. The coefficient is positive but statistically insignificant ($p = 0.4009$). Therefore, we fail to reject the null hypothesis and conclude that net profit margin has no significant effect on inventory turnover in Nigerian consumer goods firms. ROE significantly affects inventory turnover, negatively influencing it. ROA and NPM do not have significant effects on inventory turnover within the sampled period.

Conclusion and Recommendations

This section draws conclusions and provides recommendations based on the findings regarding the effect of performance ratios analysis on the levels of management effectiveness in consumer goods firms in Nigeria, using Nestle Nigeria Plc over the period 2013 to 2022.

The empirical findings based on the study objectives are as follows. Return on equity (ROE) has a significant effect on inventory turnover (INT) of consumer goods firms in Nigeria, evidenced by a statistically significant p-value ($p < 0.05$). Return on assets (ROA) has no significant effect on inventory turnover, as the p-value (0.32) exceeds the 0.05 significance threshold. Similarly, net profit margin (NPM) does not significantly affect inventory turnover, with a p-value of 0.40 indicating statistical insignificance.

Businesses, governments, and other organizations increasingly rely on performance ratios derived from financial statements to monitor management effectiveness and efficiency. This management tool helps identify strengths and weaknesses in specific areas, providing opportunities for corrective action. Although financial statements such as the income statement and balance sheet present profitability and solvency, their true value lies in relating various financial items through ratios to inform effective managerial decision-making.

In light of the analysis and discussion on performance ratios in relation to business efficiency, survival, and growth, the study concludes that ROE significantly affects inventory turnover, while ROA and NPM do not show significant impacts on inventory turnover in Nigerian consumer goods firms.

Based on these findings, management of companies should institutionalize effective performance ratio mechanisms capable of tracking performance at regular intervals. Performance ratios should be applied consistently by management in consumer goods firms to enhance financial health and operational efficiency. Additionally, to maintain and restore stakeholder confidence, performance ratio reports should provide clear and relevant information.

Performance ratio analysis helps reduce wasteful spending and should be prioritized by top management in the pursuit of excellence. Sound asset and liability management is necessary to improve the solvency and overall stability of enterprises. Furthermore, all listed companies in Nigeria should be encouraged to prepare and disclose additional financial accounting indicators related to performance ratios alongside mandatory financial statements. This disclosure would offer stakeholders clearer insights into management effectiveness.

This study is limited to examining performance ratios and management effectiveness within Nigerian consumer goods firms, using data from 2013 to 2022. Conducting research in Nigeria, as in many developing countries, presents challenges such as difficulties in sourcing data. The limited availability of prior

research literature on accounting information reporting in Nigerian consumer goods firms also posed a challenge. Despite these constraints, the researcher was able to collect sufficient data, primarily through online sources, to address the research questions.

References

Abdillah, A. N. (2020). Effect of inventory turnover on the level of profitability. *Materials Science and Engineering*. https://doi.org/10.1088/1757-899X/725/1/012137

Adedeji, E. A. (2014). A tool for measuring organizational performance using ratio analysis research. *Journal of Finance and Accounting, 5*(19), 48–22.

Adegbie, F. F., Akintoye, I. R., Alu, & Chituru, N. A. (2019). Effect of managerial efficiency on corporate financial performance of quoted Nigerian firms. *European Journal of Accounting, Auditing and Finance Research, 7*(6), 12–39.

Ajeigbe, K. B., Swanepoel, T., & Janse van Vuuren, H. (2021). Firm's value sustainability via accounting ratios: The case of Nigerian listed firms. *Journal of Economic and Financial Sciences, 14*(1), 5. https://doi.org/10.4102/jef.v14i1.529

Alberti-Alhtaybat, L., Hutaibat, K., & Al-Htaybat, K. (2012). Mapping corporate disclosure theories. *Journal of Financial Reporting & Accounting, 10*(1), 73–94.

Aldridge, R. (2015). Management's report on internal control, and the accountant's response. *Managerial Auditing Journal, 9*(7), 21–28.

Andreou, P. C., Philip, D., & Robejsek, P. (2016). Bank liquidity creation and risk-taking: Does managerial ability matter? *Journal of Business Finance & Accounting, 43*(1–2), 226–259.

Angela, D. (2016). Determinants and differences of domestic and foreign commercial bank profitability (Honors thesis). University of New Hampshire. http://scholars.unh.edu/honors/285

Archana, P. S., & Padma, C. (2013). Ratio analysis is an instrument for decision making: A study. *Asia Pacific Journal of Research, I*(1), 36.

Ayandele, I. A. (2005). *Quantitative techniques for managerial decisions*. Lagos: Ugo, Cle-Print Publishers.

Barltrop, C. J., & McNaughton, D. (1997). Financial analysis. In C. J. Barltrop & D. McNaughton (Eds.), *Banking institutions in developing markets: Interpreting financial statements* (pp. 4–20). The World Bank.

Brigham, E. F., & Ehrhardt, M. C. (2010). *Financial management: Theory and practice* (13th ed.). South-Western Cengage Learning.

Brigham, E. F., & Ehrhardt, M. C. (2014). *Financial management: Theory and practice* (14th ed.). South-Western Cengage Learning.

Charlene, R. (2022). Operating profit: How to calculate, what it tells you, example. *Investopedia*. https://www.investopedia.com/terms/o/operating_profit.asp

Core, J. E. (2001). A review of the empirical disclosure literature: Discussion. *Journal of Accounting and Economics, 31*, 441–456.

Dansby, R. I. K. B. S., & Lawrence, M. D. (2000). *Paradigm college accounting* (4th ed.). Paradigm Publishing.

Enekwe, C. I. (2015). The relationship between financial ratio analysis and corporate profitability: A study of selected quoted oil and gas companies in Nigeria. *European Journal of Accounting, Auditing and Finance Research, 3*(2), 17–34.

Ezejiofor, R. A., Nwakoby, N. P., & Okoye, J. F. N. (2016). Comparative analysis of the investment decision of selected manufacturing firms and commercial banks in Nigeria. *International Journal in Management and Social Science, 4*(8), 193–220.

Farooq, U. (2019). Impact of inventory turnover on the profitability of non-financial sector firms in Pakistan. *Journal of Finance and Accounting Research, 1*(1), 34–51.

Friedman, M. (1970, September 13). The social responsibility of business is to increase its profits. *The New York Times Magazine*.

Gill, A., Mand, H. S., Obradovich, J., & Mathur, N. (2019). The impact of working capital management on the decision of production firms about the amount of dividends. *International Journal of Business and Globalisation, 22*(3), 372–388.

Harsha, V., Aruna, A., & Shilpa, T. (2017). Role of ratio analysis in business decisions. *International Journal of Scientific & Engineering Research, 8*(5), 231–237.

Hossan, F., & Habib, M. A. (2010). Performance evaluation and ratio analysis of pharmaceutical company in Bangladesh (Master's thesis). University West.

Imhanzenobe, J. O. (2019). Operational efficiency and financial sustainability of listed manufacturing companies in Nigeria. *Journal of Accounting and Taxation, 11*(1), 17–31.

Inun, A. M. (2016). Management efficiency and profitability. *Proceedings of the Third International Symposium*, 6–7.

Jakada, A. B., & Aliyu, M. S. (2015). Impact of managerial efficiency on performance of multinational corporations in Nigeria. *KASU Journal of Management Sciences, 6*(1). https://www.academia.edu/14257132/

Jamali, A. H., & Asadisadi, A. (2012). Management efficiency and profitability in Indian automobile industry. *Indian Journal of Science and Technology, 5*(5).

Krishnan, V., Mann, R., Seitzman, N., & Wittkamp, N. (2020). Hospitality and COVID-19: How long until no vacancy for US hotels? *McKinsey & Company*. https://www.mckinsey.com/industries/travel-logistics-and-infrastructure/our-insights/hospitality-and-covid-19-how-long-until-no-vacancy-for-us-hotels

Lasher, W. R. (1997). *Advanced financial accounting* (5th ed.). Pitman Publishing Co.

Lucey, T. (2001). Ratio analysis. In *Management accounting*. ELST.

Marshall, H. (2019). Return on equity. *Investopedia*. https://www.investopedia.com/terms/r/returnonequity.asp

Mohamed, K. A., & Hazem, A. (2015). Determinants of profitability: Evidence from industrial companies listed on Muscat Securities Market. *Review of European Studies, 7*(11), 303–311.

Mohammed, N. (2014). Role of ratio analysis in business decisions: A case study NBC Maiduguri Plant. *Journal of Educational and Social Research, 4*(5), 105–118.

Mohsin, A., & Midra, I. (2015). Impact of total assets and net income on return on equity of small medium. *Pakistan Institute of Learning and Living, Iqra University, Institute of Clinical Psychology*, 47–58.

Ndum, N. B. (2022). Effect of financial ratio analysis on performance of selected companies in Nigeria. *Scholarly Journal of Management Sciences Research, 1*(2), 1–12.

Ndum, N. B., & Oranefo, P. (2021). Human resource cost and financial performance: A study of quoted brewery firms in Nigeria. *International Journal of Innovative Finance and Economics Research, 9*(2), 73–84.

Neil, K. (2019). What is the meaning of operational efficiency? *Chron Small Business*. https://smallbusiness.chron.com/meaningoperational-efficiency-67982.html

Nworie, G. O., & Mba, C. J. (2022). Modelling financial performance of food and beverages companies listed on Nigerian exchange group: The firm characteristics effect. *Journal of Global Accounting, 8*(3).

Nworie, G. O., & Nwoye, U. J. (2023). Drivers of operating profit: A focus on selected firms' costs. *CECCAR Business Review, 2*, 62–72. https://doi.org/10.37945/cbr.2023.02.07

Nwude, C. N., & Okeke, C. (2018). Impact of credit risk management on the performance of selected Nigerian banks. *International Journal of Economics and Financial Issues*.

Nzotta, S. M. (2002). *Corporate financial decisions*. Olliverson Industrial Publishers.

Olaegbe, B. A. (2012). *Fundamentals of feasibility study*. Olas Publishers.

Oliver, O. I., Ugbor, R. O., & Chukwuani, V. N. (2017). Evaluation of the relationship between assets growth rate and financial performance of manufacturing firms in Nigeria. *International Journal of Managerial Studies and Research (IJMSR), 5*(10), 63–73.

Omolehinwa, A. (2002). *Work out management accounting notes and worked examples* (2nd ed.). Pan of Publishing, Inc.

Oyedokun, G. E., Egberioyinemi, E., & Tonade, M. A. (2019). Environmental accounting disclosure and firm value of industrial goods companies in Nigeria. *IOSR Journal of Economics and Finance (IOSR-JEF), 10*(1), 07–27.

Oyerogba, E. O., Olaleye, M. O., & Solomon, A. Z. (2014). Cost management practices and firm's performance of manufacturing organizations. *International Journal of Economics and Finance, 6*(6), 234–239.

Rashid, C. A. (2018). Efficiency of financial ratios analysis for evaluating companies' liquidity. *International Journal of Social Sciences & Educational Studies (IJSSES), 4*(4), 110.

Ryan, F. (2019). How to calculate return on equity. *Investopedia*. https://www.investopedia.com/ask/answers/070914/how-do-you-calculate-return-equity-roe.asp

Ugoani, J. N. N. (2018). Performance ratio analysis and management effectiveness. *Business, Management and Economics Research, 4*(12), 171–177.

Sanyaolu, W. A., Odunayo, J., Akintan, I. O., & Ogunmefun, G. T. (2020). Financial statement analysis and investment decision of Nigerian banks. *Accounting and Taxation Review, 4*(4), 32–43.

Solanke, O. O. (2007). Corporate governance issues in financial reporting. In *The Cadbury Challenge: 2nd Business Law Conference of Nigerian Bar Association* (pp. 11–13). Nigerian Bar Association.

Sujoko, U. S. (2007). Pengaruh struktur kepemilikan saham, leverage, faktor intern, dan extern terhadap nilai perusahaan. *Journal Ekonomi Manajemen*. Fakultas Ekonomi, Universitas Petra.

Sunday, D., & Agubata, N. S. (2023). Effect of management efficiency on performance of listed consumer goods companies in Nigeria. *IIARD International Journal of Economics and Business Management, 9*(3), 1–15.

Sunusi, G., Boudiab, M., & Muhammad, A. (2020). The effect of inventory turnover period on the profitability of listed Nigerian conglomerate companies. *International Journal of Financial Research, 11*(2), 287–293.

Syamsuddin, L. (2009). *Manajemen keuangan perusahaan*. PT Raja Grafindo Persada.

Van, H. T. T., Hung, D. N., Van, V. T. T., & Xuan, N. T. (2019). Managing optimal working capital and corporate performance: Evidence from Vietnam. *Asian Economic and Financial Review, 9*(9), 977–993.

Yasin, A., Gao, G., & Gaur, V. (2013). Does inventory turnover predict the future stock turnover? A retailing industry perspective (Vanderbilt Owen Graduate School of Management Research Paper No. 1971774, Johnson School Research Paper Series No. 3-2012). https://doi.org/10.2139/ssrn.1971774

Yonas, P., & Suharto, A. (2021). Effect of receivable turnover, inventory turnover on company profitability with return on assets as moderation variables. *Quest Journals Journal of Research in Business and Management, 9*(1), 81–86.