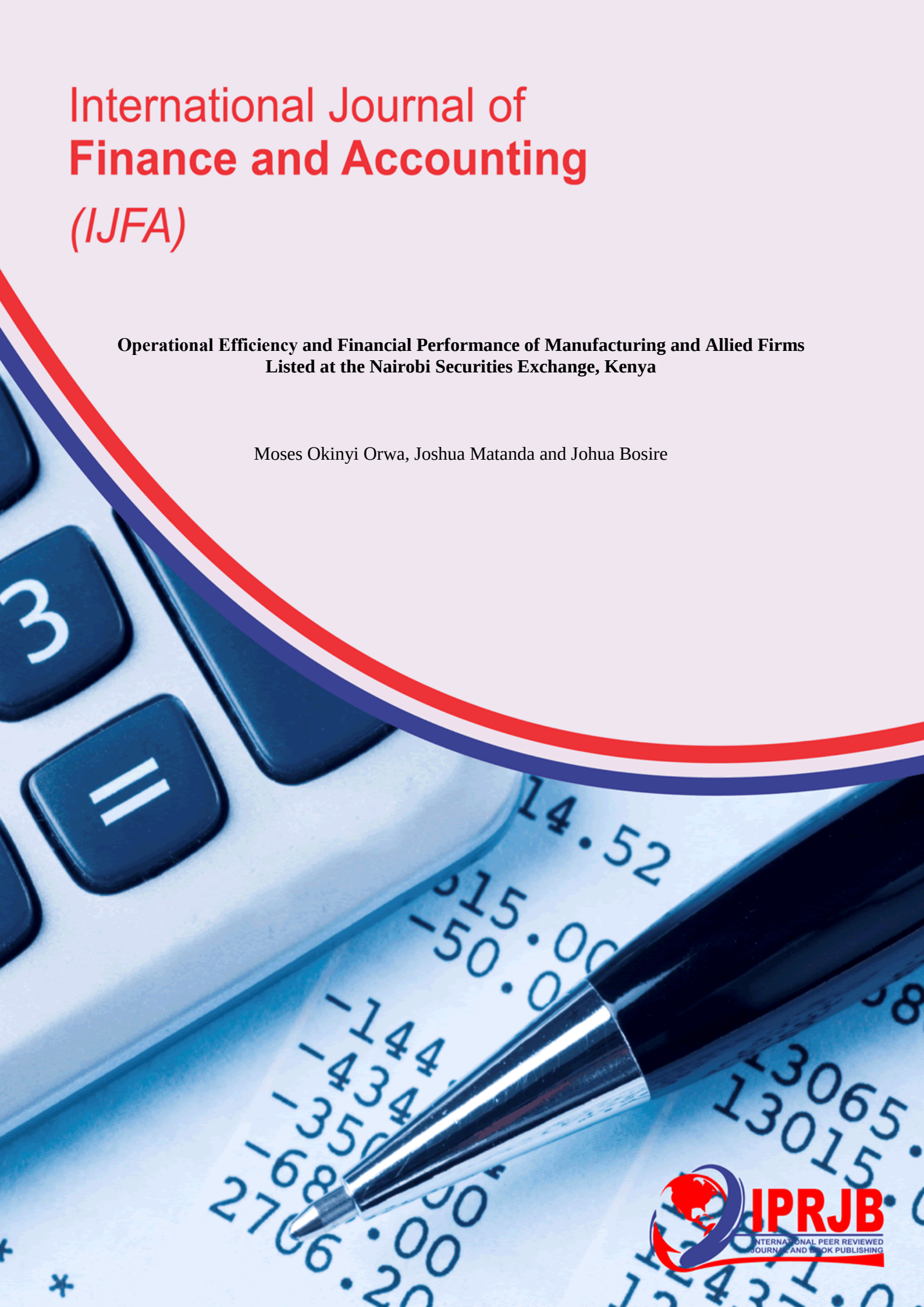
International Journal of
Finance and Accounting
(IJFA)

Operational Efficiency and Financial Performance of Manufacturing and Allied Firms Listed at the Nairobi Securities Exchange, Kenya

Moses Okinyi Orwa, Joshua Matanda and Johua Bosire



International Journal of Finance and Accounting
ISSN 2518-4113 (online)
Vol.10 Issue 6, No.3. pp. 36 - 51, 2025

www.iprjb.org

Operational Efficiency and Financial Performance of Manufacturing and Allied Firms Listed at the Nairobi Securities Exchange, Kenya

[1*]Moses Okinyi Orwa
Master's Student, Business Administration (Finance) School of Business and Economics Studies, Jomo Kenyatta University of Agriculture and Technology

[2]Joshua Matanda
Lecturer, School of Business and Economics, Jomo Kenyatta University of Agriculture and Technology

[3]Johua Bosire
Lecturer, School of Business and Economics, Jomo Kenyatta University of Agriculture and Technology

Article History

Received 9th August 2025

Received in Revised Form 12th September 2025

Accepted 13th October 2025

How to cite in APA format:

Orwa, M., Matanda, J., & Bosire, J. (2025). Operational Efficiency and Financial Performance of Manufacturing and Allied Firms Listed at the Nairobi Securities Exchange, Kenya. *International Journal of Finance and Accounting*, *10*(6), 36–51. https://doi.org/10.47604/ijfa.3536

Abstract

Purpose: A company's financial performance indicates how well it combines policies, operations, and characteristics to gain a competitive edge. It also indicates the percentage of a company's revenue that is distributed to investors. The objective was to establish the effect of operational efficiency on the financial performance of manufacturing firms listed at the Nairobi Securities Exchange. Kenya.

Methodology: The study was supported by efficient market hypothesis theory. The study employed a descriptive research design. The study targeted a population of 9 manufacturing firms listed at the Nairobi Securities Exchange in Kenya as of 31st December 2024.A census of all the 9 manufacturing firms listed on the Nairobi Securities Exchange was used as a unit of analysis. Data was gathered from secondary sources through a secondary data collection sheet. Data was sourced from financial and statistical reports released by the NSE and the KMA. Data was analyzed using descriptive and inferential statistics.

Findings: The findings of the panel regression model indicated a positive and significant effect between operational efficiency and the financial performance of manufacturing firms listed at the NSE, Kenya.

Unique Contribution to Theory, Practice and Policy: The study recommends that manufacturing firms listed at the NSE should develop strategies to establish a firm-specific optimization framework designed to enhance the financial performance of NSE-listed manufacturing firms by integrating and addressing key internal characteristics that influence profitability and sustainability. By adopting a targeted and evidence-based approach through the firm-specific optimization framework, Kenya can empower its manufacturing firms to thrive within their unique structural contexts. Such alignment is not only beneficial to individual firms but is also essential to achieving national development goals under Vision 2030 and the Bottom-Up Economic Transformation Agenda.

Keywords: *Operational Efficiency, Financial Performance, Manufacturing Firms Listed at NSE, Kenya*

INTRODUCTION

A firm's performance is influenced by both macro and microeconomic factors. According to Dioha et al. (2018), microeconomic factors are those that are controlled by management and exist within the organization. These elements include demand, manufacturing (quality), organizational culture, leadership, product, and factors of production. While micro factors can be controlled by the management, macro factors are beyond the management's control. They include social, political, and environmental factors, as well as competitors, suppliers, laws, and policies that are external to the business. Important economic variables include the GDP, stock market index, corporate tax rate, interest rates, unemployment, and the Consumer Price Index (CPI) (Dioha et al., 2018).

According to Maina (2021), the micro factors are the internal attributes of an organization that will determine its position in the competitive environment. Hintova et al. (2020) define firm-specific characteristics as those attributes that identify a company's inherent identity (age and type) or physical dimensions (size, capital, operational efficiency, and resources), as well as its strengths and weaknesses which influence the competitive strategy that is adopted by the firm. According to Mahendra et al. (2022), operational efficiency is a measure that quantifies how well a business converts costs associated with product development, sales, and marketing into income. In another words, it refers to the capacity of business managers to optimize output from all organizational resources by reducing waste and making the most use of human resources in order to provide high-quality goods and services to business clients (Kajola, Alao, Sanyaolu & Ojurongbe, 2019).

According to Nyabaga and Matanda (2020), financial performance is the financial evaluation of a company's operations, strategy, and policies. A company's financial performance is a crucial metric that investors can use to guide their investment choices (Nyabaga & Wepukhulu, 2020). Since companies are established to generate profits tudies have been done on operational efficiency and its impact on profitability (Oluitan, 2015; Jimenez-Hernandez, Palazzo & Saez-Fernandez, 2019).Other research modeled operational efficiency as a factor of financial stability (Wamalwa, Mungai & Makori, 2020). Other studies have also been done in different geographical environments with different economic sectors (Chaarani & Abiad, 2018) ;(Abobaker, 2018); (Etukudo, Okoro & John, 2022).

Moreover, some studies (Kassem & Sakr, 2018; Wambugu & Koori, 2019; Nyabaga & Matanda, 2020) show a positive relationship between operational efficiency and financial performance, others (Ercegovac et al, 2020) find no such relationship, while others indicate a negative relationship (Asongu & Odhiambo, 2020); (Chaarani & Abiad, 2018) ; (Abobaker, 2018). It is therefore imperative to give an in-depth comprehension of the effects of operational efficiency on any stakeholder trying to comprehend the business environment by empirically assessing the real effects of operational efficiency that affect financial performance without relying on past empirical evidence and data. This study, therefore, sheds light on the topic and studies the effects of operational efficiency and financial performance in the context of listed manufacturing firms in Kenya.

Statement of the Problem

In a competitive business environment, even for the best-performing firms, there exist huge boundaries to accomplishing financial performance (Gitari & Mohamed, 2021). It is especially crucial for listed manufacturing firms to work proficiently to achieve success, which is vital in propelling the country to realize its Big 4 agenda and the country's overall development

blueprint. This has not been the case, as reports indicate an unstable financial performance of listed manufacturing firms over the period. Reports by NSE (2015), NSE (2020), NSE (2023), KPMG (2019), CMA (2020), and CMA (2020-2023) have indicated a worrying performance of listed manufacturing firms in Kenya. For instance, NSE 2015 reported an average ROE of 12% in 2014, up from 9% in 2013. In 2015 and 2016, ROE rose to 10.3% and 11% respectively, only to fall to 9%, 8%, 8% and 7% in 2017, 2018, 2019, and 2020 respectively (KPMG 2019; CMA 2020). In 2021, the figures rose to 9.3% and in 2022 and 2023, they slumped again to 8.3% and 7.6% respectively (CMA 2022; CMA 2023, NSE 2023). A review of the ROE of some individual firms reveals a decline in ROE, for instance, East African Breweries' ROE declined to 12.8%, 10%, 9%, 7.9%, and 7% between 2017 and 2021. Carbacid Limited showed mixed results of 10.7%, 8.8%, 7.6%, 8.9%, and 10.1% between 2017 and 2021. Eveready East Africa reported declining ROE of 12%, 10% 10%, 8.4 % and 8% between 2015 and 2021.BOC Kenya reported a declining ROE of 9%,8.3%, 7.1%, 6.4 % and 6% between 2018 and 2022, and Flame Tree reported a declining ROE of 5%, 3.3%, 2.1% and -1.4 % between 2015 and 2020. Unga Limited showed fluctuations with ROE of 7.07%, 5.9%, 5%, and -0.55% between 2017 and 2020 (NSE, 2021).

In 2022, it warned that their profits were 25% lower than in the previous year due to the lower demand for flour (Unga Group First Quarter Report, 2022). From the aforementioned reports, it is concluded that there is a performance gap that needs to be addressed. It is not clear whether firm-specific characteristics play a role in the financial performance of these firms or whether they enhance their ability to reach their industry-set benchmarks. Besides, divergent conclusions from different scholars also point to a lack of consensus, revealing conceptual, contextual, and methodological deficiencies. Most studies on firm characteristics and their effect on financial performance have concentrated on other sectors of the economy, and other studies have been done on different geographical setups.

From a financial point of view, the results from these studies cannot be applied in all sectors since they perform very differently based on the annual reports they publish every financial year. For instance, Musah, Kong, and Osei (2019), Irungu, Muturi, Nasieku, and Ngumi (2018), and Chirchir (2024) concluded that firm-specific characteristics positively affect financial performance. Ifoastri (2020) and Vulley (2022) found no impact, while Ansari and Gowd (2017), Xuezhou et al. (2020), Gweyi, Olweny, and Oloko (2018), and Mwangi (2020) found a negative effect. Secondly, some studies have predominantly been done globally; Khan (2022) in Saudi Arabia, Pham, Nguyen, Vu, and Hoang (2020) in Vietnam, Ogieriakli and Ajao (2018) in Nigeria, and Ifoastri (2020) in Indonesia. Studies done in Kenya have concentrated on other sectors of the economy rather than listed manufacturing firms. For instance, Irungu, Muturi, Nasieku, and Ngumi (2018) studied firms listed at the NSE, Chirchir (2024) studied investment schemes in Kenya, Gweyi, Olweny, and Oloko (2018) concentrated on DT SACCOs, while Muriithi and Waweru (2017) and Nyakieni (2022) looked at commercial banks in Kenya. Also, many studies have focused on the general firm characteristics' components like size, leverage, and age, with a narrower time scope of 5 years, giving it a narrow focus. Thus, from the mentioned fluctuating statistical results and the conflicting empirical studies, this study sought to address the conceptual, contextual, and methodological gaps that exist in this topical area and establish the real effect of operational efficiency on the financial performance of manufacturing firms listed at the NSE, Kenya.

Objective of the Study

The objective was to evaluate the effect of operational efficiency and the financial performance of manufacturing firms listed at the Nairobi Securities Exchange.

Hypothesis of the Study

H0: Operational efficiency does not have a significant effect on the financial performance of manufacturing firms listed at the Nairobi Securities Exchange, Kenya.

LITERATURE REVIEW

This chapter critically examined the pertinent literature and reviewed earlier research on the topic. The chapter is divided into six sections: the theoretical framework which is explained in the first section, followed by the conceptual framework in the second section, the empirical research studies was reviewed in the third, and any research gaps that the literature had not addressed was highlighted.

Theoretical Review

Operational efficiency was explained by the Efficient Market Hypothesis Theory (EMH).The theory of EMH was developed by Eugene Fama in 1970. The fundamental tenet of the EMH hypothesis is that, regardless of the investing techniques employed, asset prices instantly reflect all available information, preventing the production of anomalous gains. Based on the amount of information the market uses, Fama (1970) distinguishes between three types of market efficiency: weak form, semi-strong form, and strong form. Operational efficiency, allocative efficiency, and price efficiency are the three types of firm efficiencies identified by Fama (1970). Operational efficiency addresses the costs associated with fund transfers. Theoretically, perfect capital markets have perfect liquidity and zero transaction costs, which implies perfect operational efficiency.

According to the EMH's weak form, asset prices take into account all pertinent historical data. According to the semi-strong version of the EMH, asset prices accurately represent all publicly available data (Fama, 1970). Public information includes not just historical asset prices but also details about the company's performance, expectations for macroeconomic variables, financial distress indicators, and any other pertinent public information. Asset pricing must completely take into account more than just historical and publicly available data in order to be considered strong in the EMH. The EMH's strong form specifically states that asset prices represent insider knowledge, or confidential information, about a company's assets.

The EMH's implications are wide-ranging. According to an investor, regardless of their level of knowledge, stock market participants shouldn't be able to make an unusual profit (Fama, 1970). According to Fama (1998), the three EMH types are typically employed in the literature as recommendations rather than definitive facts. Gill, Singh, Mathur, and Mand (2018) proposed that companies must efficiently produce their output from inputs if they hope to endure, thrive, and lessen the effects of financial distress. A further requirement for EMH to hold, according to Roche (2021), is the lack of transaction costs in securities trading, the free flow of information to all market participants, and full consensus among market participants regarding the implications of the information currently available for stock prices and the distribution of stock prices in the future.

Thus, operational efficiency can be a stand-in for competitive advantage, which influences the firm's present profitability as well as its potential performance in the future. According to this

hypothesis, an organization's efficiency plays a major role in its financial performance, as seen by the security prices, which represent the use of all available information when making investment decisions. Additionally, EMH shows that low operational efficiency can be expensive for the company and result in financial distress because of high cash outflows for operational costs. This means that firms need to be efficient in all areas, including pricing, allocation, and operations, to lessen the effects of financial distress and gain higher returns on their investment

Conceptual Framework

The relationship between the independent and the dependent variable under investigation is illustrated in the conceptual framework. The general and specific objective have been used to construct the framework. As a result, this research predicated on operational efficiency and its impact the financial performance of manufacturing companies listed at the NSE, Kenya. Consequently, the dependent variable, that is, financial performance, has been measured by Return on Equity (ROE)

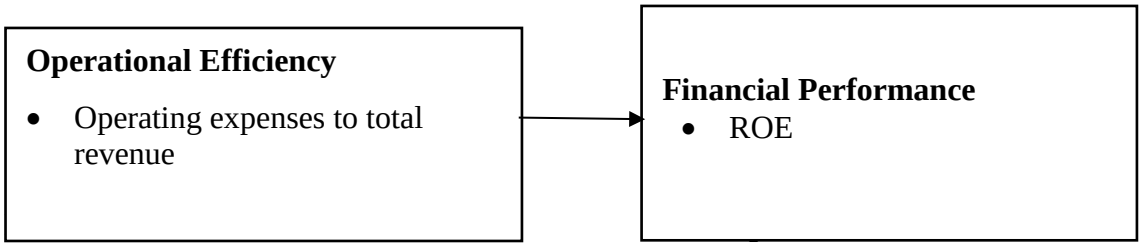


Figure 1: Conceptual Framework

Empirical Review

Khan (2022) investigated the elements that may impact Saudi commercial banks' operational efficiency. Data from Saudi-listed banks between 2010 and 2017 was used in the study. To identify the significant factors, the pooled ordinary least squares (OLS) panel data estimation technique was used with fixed effects and random effects estimations. The fixed effects estimation results were utilized for discussions based on the Hausman test results. The study found that capital adequacy, profitability, and bank size hurt Saudi banks' operating efficiency, whereas liquidity and asset quality had a favorable relationship.

Pham, Nguyen, Vu, and Hoang (2020) investigated the factors that influence the operational efficiency and efficient management of resources of listed securities firms in the Vietnam Securities Market. The research study's target population consisted of thirty registered firms. Additionally, the study used publicly available data from the 30 businesses that were registered. The researcher calculated the data using both descriptive and inferential analysis approaches and found that there was a significant and positive correlation between the variables. According to the report, companies should rearrange their assets to increase their insolvency.

Msomi and Olarewaju (2022) conducted a study on the impact of operational efficiency determinants on four major banks in South Africa. For the analysis, the System-Generalized Method of Moments (STS-GMM) approaches were utilized, and a quantitative, descriptive, correlational design was utilized. The results showed a negative correlation between operational efficiency and GDP, money supply, and profitability, and a positive correlation with the capital adequacy ratio, credit risk, inflation, and exchange rate. Therefore, in order to improve efficiency, the study suggested that bank management reduce administrative expenses,

assess the creditworthiness of consumers before granting loans, increase bank size when needed, improve intermediation, and forecast inflation.

Nyakieni (2022) looked into how operational efficiency affected Kenyan commercial banks' financial performance. The study employed an explanatory research approach and incorporated secondary consolidated panel data from the International Monetary Fund (IMF) and the Central Bank of Kenya, encompassing 40 commercial banks. The results showed a strong correlation between the financial performance of Kenyan commercial banks and operational efficiency. Based on these results, the study suggested that Kenyan banks should prioritize their internal procedures because these rules had a good impact on managerial effectiveness.

Research Gap

A comprehensive evaluation of previous research indicates several conceptual, methodological, and contextual research gaps regarding the connection between operational efficiency and the financial performance of Kenyan manufacturing firms. Irungu, Muturi, Nasieku, and Ngumi (2018) focused on companies listed at the NSE, Kenya. Gweyi, Olweny, and Oloko (2018) studied deposit-taking SACCOs in Kenya thus presenting a contextual gap. The current study will look into the listed manufacturing firms in Kenya Muriithi and Waweru (2017) study was done on commercial banks in Kenya; therefore, there is a need to investigate the manufacturing firms in Kenya.

Contextually, most studies carried out were done in other economies, which may limit the generalizability of the findings. Musah, Kong, and Osei (2019) study was done in Ghana Stock Exchange (GSE). A study by Uddin, Syed, and Saurav (2016) performed a study in Bangladesh commercial banks. A study by Judzik and Sala (2015) was done in the US and Japan. These studies were done in developed economies different from Kenya. The current study will be done in Kenya, which is a developing economy.In addition, the study by Xuezhou, Hussain, Hussain, Saad, and Butt (2020) study resulted in a negative correlation. Ifoastri (2020) concluded that there is no impact while Pham, Nguyen, Vu, and Hoang (2020) found a positive relation between operational efficiency and efficient management of resources in the Vietnam Securities Market. However, all the above studies were carried out in developed and emerging countries.

Methodologically, some studies have been limited to primary data, which may not capture current situations. The model of analysis and the period of study also varied in this study. This presented a methodological gap. Musah, Kong, and Osei (2019) study used multiple linear regression as the method of estimation. Oeta, Kiai, and Muchiri (2019) research approach was guided by a positivist and explanatory research design. The current study used a descriptive research design, therefore bridging methodological gaps. Muriithi and Waweru (2017) model of estimation was the generalized method of moments (GMM). The current study will apply the panel data regression for analysis. Muheebwa (2018) utilized primary data. The current study used secondary data, therefore bridging methodological gaps.

METHODOLOGY

The study used a descriptive research approach in order to provide a comprehensive analysis of the factors being examined (Vannette, 2018). The descriptive research design in a quantitative method served as the foundation for this investigation. The list of the 9 manufacturing firms as per the NSE Report (2024) formed the study target population. The study collected data for a period of ten years, and its geographic focus was restricted to Kenya.

International Journal of Finance and Accounting
ISSN 2518-4113 (online)
Vol.10 Issue 6, No.3. pp. 36 - 51, 2025
www.iprjb.org

Due to the small size of the population, sampling would not be helpful in this study; instead, a census method will be used, and all 9 of the targeted firms participated in the study.The researcher extracted and compiled the necessary secondary data from the financial statement using a secondary data collection sheet. The data was collected through a carefully designed data collection sheet that captured all the necessary measures of the independent and dependent variables. The annual published reports, audited annual reports, websites of listed manufacturing firms' financial statements, CMA, and NSE were the sources of data for all the variables in the study.

Upon coding, the data were imported and analyzed using STATA 18. Descriptive and inferential statistics are used to analyze the data. Panel regression analysis and Pearson's correlation analysis were examples of inferential statistical methods.The panel data analysis is preferred econometrically since it reflects changes in firm-level and the order of variables over time. i.e., it factors time variations within the cross sections. To determine the most preferred regression method, the Breusch-pagan LM test and the Hausman test were used. The overall significance of the model was evaluated using the analysis of variance using the F-statistic at the 95% confidence level. To show how independent variables affect dependent variables, the coefficient of determination (R-squared) was employed.

The regression equation that was applied is shown below.

$$Y_{it} = \beta_0 + \beta\, OE_t + \varepsilon_{it} \quad \text{.....Equation 1}$$

Where,

Y is the financial performance of manufacturing firms listed at the NSE, Kenya

β_0 represents the constant or coefficient of intercept

β represent the coefficients of the independent variables

OE represents Operational Efficiency

it represents indices for individuals and time

ε_{it} represents the error term that varies non-stochastically over i and t

Data Analysis and Presentation

This chapter mainly focuses on data analysis as stipulated in the research methodology and the study findings as set out in the research objectives. The analysis was mainly based on data obtained from statistics for correlation, descriptive statistics, and panel regression tests.

Descriptive Statistics

The study used annual data that was sourced from the NSE and KAM reports to arrive at various statistical measures. Descriptive statistics provide summaries of the sample and data measures, which aid in describing the characteristics of a particular data set (Mishra, Pandey, Singh, & Gupta, 2019). The results of the analysis are shown in Table 1.

Table 1: Descriptive Statistics

Statistics	Obs	Min	Max	Mean	SD	Skewness	Kurtosis	Sig(P-value)
Financial Performance	90	-0.473	0.715	0.117	0.715	-1.004	5.602	0.000
Operational Efficiency	90	0.070	0.458	0.430	0.012	0.235	3.234	0.000

International Journal of Finance and Accounting
ISSN 2518-4113 (online)
Vol.10 Issue 6, No.3. pp. 36 - 51, 2025
www.iprjb.org

The summary shows that manufacturing firms listed at the NSE, Kenya, have a financial performance as measured by ROE of 0.117, which is 11.7% of the ROE. Since the figure is less than 25%, it implies that the manufacturing companies listed at the NSE were not efficiently making use of shareholder capital to produce profits, pointing out any inefficiencies or challenges in their management and operations. A standard deviation of 0.715 around the mean reveals that firm-specific characteristics are divergent from each other, with values deviating from the mean to varying extents. Moreover, the minimum value of ROE reported is -0.473, and the maximum value is 0.715, which implies that some manufacturing firms listed at the NSE financial performance were generating unsatisfactory profits based on the level of assets invested (-4.73%), while some had remarkable earnings (71.5%) profits as a percentage of total assets.

The average operational efficiency as measured by operating expenses to total revenue for the observation was 0.43. This reveals that 43% of the manufacturing firms listed at the NSE, Kenya were able to efficiently utilize their resources to generate revenue The minimum and the maximum values varied from a range between 0.070 and 0.458 respectively signifying that some firm were not efficiently utilizing their resources to generate revenues (7%) while others (45.8%) showed the degree to which some of these companies are successfully controlling their expenses and resources to earn revenue. The standard deviation of 0.012 revealed a relatively small dispersion, indicating stability, thus mitigating the risk that can arise due to volatility.

Inferential Analysis

This section presents the findings from inferential analysis. The result of the inferential analysis includes correlation and inferential statistics. Pearson's correlation coefficient was employed to establish the strength and nature of the relationship, while panel regression analysis was used to determine the relationship between the dependent and independent variable.

Correlation Analysis

Correlation analysis is key in determining prevalence and relationships among variables, and to forecast events from current data and knowledge. A correlation analysis was carried out using Spearman's Rank Correlation, and the findings are presented in Table 2.

Table 2: Correlations Coefficients

		ROE	Operational Efficiency
ROE	Pearson Correlation	1.0000	
	Sig.(2- tailed)	39	
	N		
Operational Efficiency	Pearson Correlation	0. 780*	1.0000
	Sig.(2- tailed)	0.0000	
	N	9	9

* Correlation is significant at the 0.05 level (2-tailed).

** Correlation is significant at the 0.01 level (2-tailed).

The study indicated the correlation result between operational efficiency and financial performance of listed manufacturing firms to be 0.780 and a value of 0.000. In line with the second objective, the findings imply that there is a strong positive correlation between

operational efficiency and financial performance. The correlation is significant given the P value that is less than 0.05, implying that operational efficiency significantly affects the financial performance of manufacturing firms listed at the NSE, Kenya, at a 0.05 significance level. The findings are in tandem with Irwandi (2017) and Obaje and Abdullahi (2021), who agree that the ability of a firm to utilize its resources efficiently by minimizing wastes and having greater control procedures significantly affects its financial standing.

Regression Analysis

The study sought to establish the relationship between operational efficiency and the financial performance of manufacturing firms listed at the NSE, Kenya. The coefficient of determination (r^2) was applied to explain the extent of these changes. Panel regression analysis was done to obtain the R coefficient and R-squared that determined the relationship. A summary of the results is presented in Table 3.

Table 3: Model Summary

Model 1	Multiple R	R Squared	Adjusted R Square	S.E. Regression	Obs
Financial Performance	0.775a	0.601	0.584	0.432268	90

The coefficient of determination (R^2) is a statistical metric used to evaluate how well a regression model fits the observed data. Specifically, in regression analysis, it indicates the proportion of the variance in the dependent variable that is explained by the independent variables in the model, thereby reflecting the model's overall explanatory power. The finding is supported by the coefficient of determination, i.e., the R-squared of 0.601. This implies that the variation in the percentage of operational efficiency explain 60.1% of the variation in return on equity; thus, the variable had a high predictive/explanatory power on the financial performance of manufacturing firms listed at the NSE in Kenya. Other factors not included in this study model explain the remaining 39.1 % of the variation in the financial performance of manufacturing firms listed at the NSE in Kenya.

Analysis of Variance (ANOVA)

Analysis of Variance (ANOVA) was adopted to test the differences among means for the population by evaluating the amount of variation within the sample, relative to the amount of variation between the samples. The results are presented in Table 4.

Table 4: ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	62.0615	1	15.515	3.322	0.000 [b]
	Residual	18.6802	7	4.6701		
	Total	**80.7417**	**8**			

The F-statistic is a test based on the ratio of explained variance to unexplained variance in a regression model. It assesses whether the overall regression model provides a better fit to the data than a model with no independent variable. From the ANOVA results, the F-statistic was 3.22, and the corresponding P value was 0.000 (0%), which is an indication that the data was ideal for concluding the population parameters as the value of significance (p-value) was less than 5%. Therefore, we reject the null hypothesis that the model is insignificant and conclude

that operational efficiency has a significant effect on the financial performance of manufacturing firms listed at the NSE, Kenya.

Regression Coefficient Results

The study used a panel regression model to establish the effect operational efficiency and the financial performance of manufacturing firms listed at the NSE, Kenya. The results of the regression coefficients are shown in Table 5

Table 4.5: Regression Coefficient

Financial Performance	Coef.	Std. Err.	t	P>t	[95% Conf. Interval]	
					Lower Bound	Upper Bound
Operational Efficiency	0.53936	0.12577	4.29	0.000	0.07858	0.29286
_cons	7.5892	0.2172	34.94	0.007	0.04846	0.36683
sigma_u		0				
sigma_e		7.5949				
Rho		0.	(fraction of variance due to u_i)			

The output of the panel regression results is presented in Table 4.5; thus, the equation becomes;

$$Y = 7.5892 + 0.53936OE_{it}$$

Where;

Y is the financial performance

OE represents operational efficiency

it represents indices for individual firms at time t

Discussion

The corresponding null hypothesis (H_0) asserted that operational efficiency has no significant effect on the financial performance of firms listed at the NSE, Kenya. Panel regression results show that operational efficiency has a positive effect on the financial performance of manufacturing firms listed at the NSE, Kenya (β=0.53936, P=0.000). The results are also evidenced by the t-calculated value of 4.29, which was higher than the t-critical value of 1.96. The finding implies that, when holding other factors constant and operational efficiency is controlled, a unit increase in operational efficiency by manufacturing firms listed at the NSE, Kenya, will increase the financial performance of these firms by 0.53936. The increase will have a significant effect on the financial performance of these firms at the 0.05 level of significance. Therefore, the study rejected the null hypothesis and concluded that operational efficiency has a significant effect on the financial performance of manufacturing firms listed at the NSE in Kenya.

The study corroborates with studies of Pham, Nguyen, Vu, and Hoang (2020), Vulley (2022), Nyakieni (2022), and Ndolo (2015), who found that operational efficiency has a favorable effect on financial performance in diverse sectors of the economy. Ndolo (2015) asserts that efficiently utilizing assets to generate revenue leads to a higher ROE, indicating better asset management and profitability. According to Nyakieni (2022), operational efficiency is a crucial driver of business success, enabling companies to optimize their resources, deliver value to customers, and achieve sustainable growth and profitability. The finding supports the efficient

market hypothesis (EMH) (Fama 1970), which underscores the importance of operational efficiency in addressing the costs associated with fund transfers.

According to the theory, any improvement in a firm's operational efficiency (e.g., cost reduction, higher productivity) is quickly reflected in its stock price. Therefore, investors cannot consistently earn abnormal returns by analyzing operational efficiency, because the market has already priced in that information. However, Khan (2022) and Msomi and Olarewaju (2022) disagree with the findings and insist that focusing too heavily on cost reduction leads to decreased flexibility, reduced quality, or diminished innovation, ultimately harming the long-term financial performance of firms. Kinyanzui (2018) and Yousefi (2023) failed to find any significant relationship between operational efficiency and financial performance.

SUMMARY, CONCLUSION AND RECOMMENDATIONS

The findings of the study are drawn, conclusions are provided, and further suggestions are provided, which form the basis of the recommendations.

Summary

The aim of the study was to establish the effects of operational efficiency and financial performance of manufacturing firms listed at the NSE, Kenya. Regression results indicated that an increase in the operational efficiency of listed manufacturing firms in Kenya will significantly improve the financial performance of these firms. Consequently, Pearson's correlation results gave a strong positive correlation between operational efficiency and financial performance. The overall finding was that an increase in operational efficiency will significantly increase the financial performance of manufacturing firms listed at the NSE, Kenya, at a 0.05% significance level. We therefore rejected the null hypothesis and concluded that an increase in operational efficiency increases the financial performance of manufacturing firms listed at the NSE, Kenya.

Conclusion

The finding suggest that an increase in operational efficiency by these firms will significantly boost their financial performance. The study thus concludes that manufacturing firms listed at the NSE, Kenya, should increase their operational efficiency in order to boost their financial performance. By improving operational efficiency, these firms can enhance their return on equity (ROE)**,** net profit**,** and overall financial sustainability, which is critical for competitiveness in both local and global markets.

Recommendations of the Study

Operational efficiency is linked to financial control procedures that increase an organization's efficacy and efficiency. The ability of an organization to operate efficiently can be seen as minimizing waste of company resources to increase a company's production. The study recommends the establishment of shared logistics and warehousing hubs. This approach uses public-private partnerships or third-party logistics providers to co-locate or share storage infrastructure, distribution hubs, and transportation fleets across several industrial companies. Sharing logistics and warehouse facilities is a calculated step toward cost minimization, not just a convenience. This strategy improves working capital management, increases return on assets, lowers operating costs, and boosts profitability for Kenyan manufacturing companies listed on the NSE. For Kenyan manufacturing to remain financially competitive over the long

run, collaborative logistics infrastructure will be crucial as it grows both regionally and internationally.

Another recommendation is the implementation of operational benchmarking across industries. This is the systematic method of comparing a company's operational performance parameters (such as cost per unit, downtime, inventory turnover, energy consumption, and manufacturing efficiency) with those of competitors or leaders in the industry. Finding gaps, applying best practices, and putting strategic improvements into action are the goals. In addition to being a tool for enhancing internal procedures, operational benchmarking across industries also facilitates financial performance. Benchmarking offers manufacturing companies listed on the NSE a means to cut costs, increase asset productivity, and boost profitability. Businesses can improve their competitive positioning, boost shareholder value, and achieve sustainable financial development by methodically implementing the lessons learned from industry leaders.

Recommendations for Policy

Manufacturing listed at the NSE, Kenya, faces pressures from investors, regulators, and stakeholders to maintain profitability and efficiency, yet many struggle with firm-level structural inefficiencies that weaken their financial indicators, such as Return on Assets (ROA), Return on Equity (ROE), and Earnings Before Interest and Tax (EBIT). The study proposes the establishment of a Firm-Specific Optimization Framework (FSOF)**,** a national strategy designed to enhance the financial performance of NSE-listed manufacturing firms by integrating and addressing key internal characteristics that influence profitability and sustainability. By adopting a targeted and evidence-based approach through the Firm-Specific Optimization Framework (FSOF)**,** Kenya can empower its manufacturing firms to thrive within their unique structural contexts. Such alignment is not only beneficial to individual firms but is also essential to achieving national development goals under Vision 2030 and the Bottom-Up Economic Transformation Agenda (BETA).

Suggested Areas for Further Research

The study only examined a sample of listed manufacturing firms in Kenya; it failed to cover manufacturing firms in the entire Kenyan economy, including small manufacturing firms. As a result, the study recommends a replica study to be done on small or non-listed manufacturing firms in Kenya to find out whether operational efficiency would affect their financial performance. Future studies could benefit from a segmented analysis of manufacturing sub-sectors**,** such as food and beverage**,** confectionery**,** textiles**,** chemicals, and metal processing**,** to better understand the differential impact of operational efficiency on financial performance.

The study ignored nonfinancial goals, which can have a significant impact on operational efficiency, and instead only examined the financial performance of the listed manufacturing firms. To address this gap, future research is encouraged to adopt a broader performance evaluation framework that includes both financial and non-financial goals. This dual approach would offer a more holistic understanding of how firm-specific factors such as size, age, ownership structure, and capital intensity interact not only with profitability and efficiency, but also with long-term strategic priorities and stakeholder value creation. Lastly, findings of this study indicate the value of R-squared at 60.1%. This indicates that roughly 39.9% of the variance in the dependent variable is not explained by the independent variable. The study therefore recommends that more variables be considered in future studies of factors influencing financial performance.

REFERENCES

Adhaya, Z. J., Wainaina, G., & Odock, S. (2023). The Influence of Firm Characteristics on the Relationship Between Operational Innovation and Performance of Manufacturing Firms in

Ajao, M. G., & Ogieriakhi, E. (2018). Firm specific factors and performance of insurance firms in Nigeria. *Amity Journal of Finance*, *3*(1), 14-28.

Arhinful, R., Mensah, L., & Owusu-Sarfo, J. S. (2023). The Impact of capital structure on the financial performance of financial institutions in Ghana. *International Journal of Finance and Banking Research*, *9*(2), 19-29.

Akuma, J. K., Idun, A. A. A., Tackie, G., Kwaning, E. A., & Asiama, K. A. (2024). Management Accounting Practices and Financial Performance of Manufacturing Firms: Moderating Role of Information Technology Integration. *American Journal of Industrial and Business Management*, *14*(5), 800-824.

Almeida, H., & Campello, M. (2007). Financial constraints, asset tangibility, and corporate investment. *The Review of Financial Studies*, *20*(5), 1429-1460.

AlSaif, A. S. A., AlRuwaishd, S. S. S., & Samontaray, D. P. (2022). Do the Board Characteristics influence the Firm Performance? An Experience with the Capital-Intensive Industries Listed in the Saudi Stock Exchange (TADAWUL). *International Business Research*, *15*(9), 62-69.

Ambroise, L., Prim-Allaz, I., & Teyssier, C. (2018). Financial performance of servitized manufacturing firms: A configuration issue between servitization strategies and customer-oriented organizational design. *Industrial Marketing Management*, *71*, 54-68.

Ararat, M., Black, B. S., & Yurtoglu, B. B. (2017). The effect of corporate governance on Firm market value and Profitability: Time-Series evidence from Turkey. *Emerging Markets Review*, *30*, 13-19.

Asongu, S., & Odhiambo, N. M. (2020). Financial access, governance and insurance sector development in Sub-Saharan Africa. *Journal of Economic Studies*, *47*(4), 849-875.

Beneito, P., Rochina-Barrachina, M. E., & Sanchis, A. (2016). Foreign capital, credit constraints and continuity of firms' R&D. *Applied Economics Letters*, *23*(3), 157-161.

Calomiris, C. W., & Jaremski, M. (2016). Deposit insurance: theories and facts. *Annual review of financial economics*, *8*(1), 97-120.

Campello, M., & Giambona, E. (2013). Real assets and capital structure. *Journal of financial and quantitative analysis*, *48*(5), 1333-1370.

Chirchir, F. K., Kalui, F. M., & Tari, J. Firm Characteristics and Financial Performance of Non-Financial Firms Listed at Nairobi Securities Exchange, Kenya.

Curtis, P., Hanias, M., Kourtis, E., & Kourtis, M. (2021). Financial Performance Assessment of Strategy for Building Resilience and Readiness in the Hotel Sector of Greece. *International Journal of Finance, Insurance and Risk Management*, *11*(2), 3-27.

Daskalakis, N., & Psillaki, M. (2018). Do country or firm factors explain capital structure? Evidence from SMEs in France and Greece. *Applied financial economics*, *18*(2), 87-97.

Dey, R. K., Hossain, S. Z., & Rahman, R. A. (2018). Effect of corporate financial leverage on financial performance: A study on publicly traded manufacturing companies in Bangladesh. *Asian social science*, *14*(12), 124.

Dioha, C., Mohammed, N. A., & Okpanachi, J. (2018). Effect of firm characteristics on profitability of listed consumer goods companies in Nigeria.

Gill, A., Singh, M., Mathur, N., & Mand, H. S. (2018). The impact of operational efficiency on the future performance of Indian manufacturing firms. *International Journal of Economics and Finance*, *6*(10), 259-269.

Ercegovac, R., Klinac, I., & Zdrilić, I. (2020). Bank specific determinants of EU banks profitability after 2007 financial crisis. *Management: Journal of Contemporary Management Issues*, *25*(1), 89-102.

ETUKUDO, J. W., OKORO, C. C., & JOHN, J. O. (2022). FIRM CHARACTERISTICS AND FINANCIAL PERFORMANCE OF LISTED CONSUMER GOODS FIRMS. *Ulysses International Journal of Humanities and Contemporary Studies*, *3*(2), 183-202.

Fama, E. F. (1970). Efficient capital markets. *Journal of finance*, *25*(2), 383-417.

GRM, G., & Yogendrarajah, R. (2023). The impact of capital intensity & tangibility on firms financial performance: A study of Sri Lankan banking & insurance companies listed in Colombo stock exchange. *ACADEMICIA: An International Multidisciplinary Research Journal*, *3*(1).

Habib, A. M., & Shahwan, T. M. (2020). Measuring the operational and financial efficiency using a Malmquist data envelopment analysis: a case of Egyptian hospitals. *Benchmarking: An International Journal*, *27*(9), 2521-2536.

Ibrahim, U. A., & Isiaka, A. (2020). Effect of financial leverage on firm value: Evidence from selected firms quoted on the Nigerian stock exchange. *European Journal of Business and Management*, *12*(3), 124-135.

Ifoastri, M., Cahyo, T. B. N., Rahayu, Y. N., & Ratnawati, R. (2020). ROLE OF WORKING CAPITAL MANAGEMENT, CAPITAL INTENSITY IN AFFECTING THE PROFITABILITY OF MANUFACTURING COMPANY. *European Journal of Economic and Financial Research*, *4*(3).

Irwandi, S. A., Samekto, A., Arlinda, R., Nahumury, J., Ivonialita, V., & Anisa, I. A. (2022). CHARACTERISTICS OF MANAGEMENT ACCOUNTING INFORMATION SYSTEMS, PARTICIPATION IN BUDGETING, BUSINESS STRATEGY AND ENVIRONMENTAL UNCERTAINTY ON MANAGERIAL PERFORMANCE. *Eqien-Jurnal Ekonomi dan Bisnis*, *11*(04), 560-568.

Jiménez-Hernandez, I., Palazzo, G., & Sáez-Fernández, F. J. (2019). Determinants of bank efficiency: evidence from the Latin American banking industry. *Applied EconomicAnalysis*, *27*(81), 184-206.

Khan, S. (2022). Determinants of operational efficiency: the case of Saudi Banks. *Financial Internet Quarterly*, *18*(3), 11-20.

Kajola, S. O., Alao, A., Sanyaolu, W. A., & Ojurongbe, O. J. (2019). Effect of liquidity and leverage on financial performance of Nigerian listed consumer goods firms. *The journal Contemporary Economy*, *4*(3), 91-102..

Kamau, S. M. (2016). *Performance measurement practices and operational performance of manufacturing firms in Kenya* (Doctoral dissertation, University of Nairobi).

Kassem, N. M., & Sakr, A. (2018). The impact of bank-specific characteristics on the profitability of commercial banks in Egypt. *Journal of Finance and Bank Management*, *6*(2), 76-90.

Kong, Y., Musah, M., & Agyemang, A. O. (2019). Liquidity and financial performance: A correlational Analysis of Quoted Non-financial firms in Ghana. *International Journal of Trend in Scientific Research and Development (IJTSRD)*, *3*(5), 133-143.

Lanis, R., & Richardson, G. (2012). Corporate social responsibility and tax aggressiveness: An empirical analysis. *Journal of Accounting and Public policy*, *31*(1), 86-108.

Lippman, S. A., & Rumelt, R. P. (2003). A bargaining perspective on resource advantage. *Strategic management journal*, *24*(11), 1069-1086.

Lu-Andrews, R., & Yu-Thompson, Y. (2015). CEO inside debt, asset tangibility, and investment. *International Journal of Managerial Finance*, *11*(4), 451-479.

Maina, E. M. (2021). *Effect Of Bank Specific Factors On Income Diversification Of Listed Commercial Banks In Nairobi Securities Exchange* (Doctoral dissertation, Kca University).

Mandipa, G., & Sibindi, A. B. (2022). Financial performance and working capital management practices in the retail sector: empirical evidence from South Africa. *Risks*, *10*(3), 63.

Mansyur, A. I. (2021). Effectiveness of Financial Investment Risk Management of Dana Haji Indonesia. *Jurnal Ilmiah Ekonomi Islam*, *7*(3), 1785-1792.

Morton, W. A. (1939). Liquidity and solvency. *The American Economic Review*, 272-285.

Mpora, E. B., Frank, H., & Enock, O. N. (2023). The Internal Control System and the Performance of Financial Institutions in Uganda. *International Journal of Finance and Accounting*, *2*(1), 1-8.

Msomi, T. S., & Kandolo, K. M. (2023). Sustaining small and medium-sized enterprises through financial awareness, access to digital finance in South Africa. *Investment Management and Financial Innovations*, *20*(1), 317-327.

Muema, M. M. (2023). *Firm Specific Factors And Financial Performance Of Commercial And Services Firms Listed At The Nairobi Securities Exchange* (Doctoral dissertation, KCA University).

Mukui, N. (2022). *Effect of Operational Efficiency on Financial Performance of Manufacturing Firms Listed at the Nairobi Securities Exchange, Kenya* (Doctoral dissertation, University of Nairobi).

Ndolo, P. S. (2015). *The relationship between operational efficiency and financial performance of firms listed at the Nairobi Securities Exchange* (Doctoral dissertation, University of Nairobi).

Njenga, R., & Jagongo, A. (2019). Board characteristics, firm size and financial leverage of manufacturing firms listed at Nairobi Security Exchange, Kenya: Theoretical review. *International Academic Journal of Economics and Finance*, *3*(3), 418-426.

Njoroge, I. M. (2015). *The effect of liquidity on the financial performance of construction and allied companies listed at the Nairobi securities exchange* (Doctoral dissertation, University of Nairobi).

Nkundabanyanga, S. K., Mugumya, E., Nalukenge, I., Muhwezi, M., & Najjemba, G. M. (2020). Firm characteristics, innovation, financial resilience and survival of financial institutions. *Journal of Accounting in Emerging Economies*, *10*(1), 48-73

Nyabaga, Rodah Mong'ina, and Joshua Matanda Wepukhulu. "Effect of firm characteristics on financial performance of listed commercial banks in Kenya." *International Journal of Economics and Financial Issues* 10, no. 3 (2020): 255.

Nyamiobo, J. K. (2023). *Firm Characteristics on the Performance of Companies Listed at the Nairobi Securities Exchange, Kenya* (Doctoral dissertation, JKUAT-COHRED).

OBAJE, F. O., & ABDULLAHI, S. R. (2021). Moderating effect of firm size on the relationship between board structure and firm financial performance. *Journal of Good Governance and Sustainable Development in Africa*, *6*(3), 97-117.

OMERESA, E., & Frank, E. O. (2023). FIRM SPECIFIC DETERMINANTS OF ASSET TANGIBILITY: EMPHASIS ON OIL AND GAS MULTINATIONALS. *Gulf Journal of Advance Business Research*, *1*(3), 197-210.

Ouma, C. O., Makori, D., & Aluoch, M. O. (2024). Firm characteristics and financial performance of microfinance banks in Kenya. *International Academic Journal of Economics and Finance*, *4*(3), 164-193.

Wafula, N. W. (2020). Firm Characteristics and Financial Stability of Commercial Banks in Kenya. *A Submitted Thesis to Kenyatta University, Nairobi*.

WAKO, B. L. (2023). *FIRM CHARACTERISTICS AND FINANCIAL PERFORMANCE OF INSURANCE FIRMS IN NAIROBI CITY COUNTY, KENYA* (Doctoral dissertation, KENYATTA UNIVERSITY).

WAMBUGU, A. M., & KOORI, D. J. Bank Characteristics and Profitability of Commercial Banks in Kenya.

Were, A. (2016). Manufacturing in Kenya: Features, challenges and opportunities. *International Journal of Science, Management and Engineering*, *4*(6), 15-26.