Impact of lease financing on the financial performance of listed firms in Kenya

ABSTRACT

The financial performance of manufacturing firms listed on the Nairobi Securities Exchange (NSE) has experienced fluctuations, with some firms stagnating or declining, raising concerns among stakeholders such as the government, investors, and shareholders. To address this, some firms are exploring lease financing to reduce asset acquisition costs. This study investigated the effect of lease financing on the financial performance of listed manufacturing firms, focusing on operating leases, finance leases, and leverage financing, while also examining the moderating effect of liquidity. The study was guided by Financial Contracting Theory, Walker's Theory of Profit, Liquidity Preference Theory, and Trade-off Theory. A descriptive research design was employed, analyzing secondary data from 2017 to 2022 for all eight listed manufacturing firms. Using EVIEWS, descriptive and inferential analyses, including regression and correlation, were conducted alongside diagnostic tests. The findings revealed that operating leases and leverage financing positively and significantly influenced financial performance, whereas finance leases and liquidity had a negative yet significant impact. Liquidity was determined to be an independent factor rather than a moderating variable. The study recommends increased adoption of operating leases and leverage financing to improve financial performance, while advising caution in the use of finance leases. Further research is encouraged to investigate lease financing in other sectors, ensuring current insights and wider applicability in this area.

Key Words: *Diagnostic tests, Finance lease, financial performance, Liquidity, Operating lease*

1.0 INTRODUCTION

The manufacturing sector experienced notable changes in performance between 2016 and 2021. After a marginal growth of 2.7% in 2020 due to the pandemic, the value of output rose by 13.2% in 2021, signaling recovery. However, prior to 2020, the sector's GDP contribution declined significantly from 9.3% in 2016 to 7.6% in 2020, reflecting poor financial performance (KAM, 2022). Many manufacturing firms reported lower-than-projected profits, with some listed on the Nairobi Securities Exchange (NSE) experiencing financial distress and cash flow challenges (Gladys, 2021). Globally, the manufacturing sector serves as an economic backbone for developed nations like China, the USA, Germany, Japan, and India, contributing significantly to GDP, employment, and wealth creation. These nations prioritized manufacturing through cost-cutting strategies and financial arrangements before the COVID-19 pandemic. However, the pandemic led to reduced demand and supply of manufactured goods globally, disrupting the sector (Liu, et al 2021).

In Africa, the manufacturing sector lags behind industrialized nations in exports and income. Despite a forecasted increase in spending on manufacturing to $666.3 billion by 2030, the sector faces challenges such as fluctuating performance, Brexit impacts, and the COVID-19 pandemic (Signé, 2018). While manufacturing exports from Africa grew at an average annual rate of 9.5%, this is significantly lower than global standards (McMillan & Zeufack, 2022). Additionally, premature deindustrialization has occurred in several African countries due to lower income levels compared to developed nations (Nguimkeu & Zeufack, 2019). Shifting focus from agriculture to manufacturing has contributed to growth in some low-income countries, though progress remains uneven across the continent.

Kenya’s manufacturing sector, a key component of the Big Four Agenda, faced significant challenges from the COVID-19 pandemic, including high input costs, expensive financing, and competition from developed nations. By 2020, the sector's GDP contribution stood at 7.7%, reflecting pandemic-related setbacks (Odhiambo, et al, 2020). The pandemic affected different sectors variably, with some increasing production to meet rising demands and others reducing output due to decreased demand. Comparatively, Ethiopia’s manufacturing sector, contributing 4% to GDP, faced similar challenges, emphasizing the widespread impact of the pandemic on African economies (Deloitte, 2020). Overall, while global manufacturing sectors show resilience and prioritize innovation, Africa’s manufacturing performance remains constrained by economic, financial, and policy challenges. Addressing these barriers and investing in industrialization is critical for the continent to compete with more advanced economies.

Leasing allows firms to acquire high-value assets at reduced costs for an agreed period, lowering financial expenses and increasing revenue generated from these assets. This economic importance stems from leasing’s global adoption as an alternative to rigid financial loans for medium- and long-term financing (Alkhazaleh & Mohammad Al-Dwiry, 2018). IFRS 16 governs lease accounting, requiring firms to report operating leases as right-of-use assets under non-current assets and lease liabilities under current or non-current liabilities. Right-of-use refers to the lessee’s ability to operate an asset to gain financial benefits, while lease liability is treated as a financial liability per IFRS 16 (Muumbi, 2014). Leasing, as an alternative to outright asset purchase, is often employed for acquiring high-value assets. However, highly leveraged firms face greater bankruptcy risks, while low-levered firms have minor risks of insolvency (Chemosit, 2021). Leverage and profitability ratios are crucial considerations, with the debt-to-asset ratio serving as a key metric in this study. This ratio, previously used by Chemosit (2021) and Judy (2019), highlights the role of lease finance as an asset acquisition tool. This study examines the impact of right-of-use assets (operating leases) and lease liabilities (finance leases) on firms’ financial performance.

The performance of companies is a key focus for both internal and external users. Internal users, such as staff, assess a company’s well-being, while external users, including creditors and investors, evaluate its viability for investment or lending. Statistically, many manufacturing firms listed on the NSE have experienced stagnating or

declining profitability. Companies like Unga Plc, Flame Tree Plc, and Eveready Plc have reported losses during certain periods, while others such as EABL, BAT, BOC, and Carbacid Plc have also faced profit declines (KNBS, 2022; KAM, 2022). A firm's net income directly impacts the capital available for reinvestment, making profitability a primary goal. Achieving high net income often involves cost-cutting and increasing output or total income. Financial management strategies, such as asset acquisition through operating or finance leases and leveraging, enable firms to acquire high-value assets that generate income while spreading costs over time. These approaches help enhance income while managing associated costs (Mutua & Atheru, 2020; Wagana & Karanja, 2017). Financial performance is ultimately measured by how well a firm achieves its monetary objectives, using predetermined financial standards to evaluate its success in meeting targets (Chukwu & Wadike, 2018).

Financial managers must balance maintaining a minimum cash reserve without holding excess cash to settle short-term operational obligations. Liquidity ensures smooth daily operations by enabling firms to meet obligations as they fall due (Egbuhuzor & Ugo, 2021). However, findings reveal that the current ratio negatively affects return on assets (ROA) and net profit margin. Musah and Kong (2019) found no significant relationship between liquidity and return on equity (ROE) or return on capital employed but emphasized the importance of monetary policies to maintain adequate liquidity and an effective capital structure. According to Markonah, et al (2020), liquidity is vital for settling short-term obligations, securing loans, financial planning, and daily activities. However, their findings, aligned with Dirman (2020), suggest liquidity does not influence investors' decisions or prevent financial distress. Contrarily, the liquidity preference theory posits that poor liquidity management can lead to bankruptcy, while firms with liquid assets generally maintain good working capital and cash reserves. The relationship between liquidity and profitability depends on capital investments and returns. Liquidity ratios, such as the current ratio, assess a firm's ability to meet short-term obligations, with a ratio above 1.0 signaling reduced bankruptcy risk. Prior studies employing this tool include Jihadi et al. (2021) and others.

The Nairobi Securities Exchange (NSE) is the leading securities trading platform in East Africa, playing a vital role for investors, creditors, brokers, and the economy by providing insights into major firms' performance. Established in 1954, the NSE is regulated by the Capital Markets Authority (CMA) and is a member of the World Federation of Exchanges. As of 2020, the NSE had a market capitalization of KSh2.34 trillion and reported a net profit increase from KSh80.2 million in 2019 to KSh87.7 million. By October 2022, 65 firms were listed, grouped into 12 sectors, each contributing to GDP, wealth creation, and employment. Among these, the manufacturing sector stands out for its potential and higher multiplier effect. Recognized as a cornerstone of Kenya's economy, manufacturing is prioritized in national blueprints such as Vision 2030, the Big Four Agenda, and the Kenya Industrial Transformation Programme (KITP). These initiatives aim to increase the sector's contribution to GDP, which remains below 10%, despite the target of 15% outlined by Wagana and Karanja (2017). Challenges like low productivity and weak financial performance hinder progress, but the sector's potential for national output and employment underscores its critical need for investment and focus, particularly among NSE-listed firms.

1.1 Research Problem

The financial performance of manufacturing firms is reflected in their contribution to GDP, which has been stagnating and recently declined due to international relations and high operational costs. Audited data from company websites reveal continuous losses for some firms, such as Eveready, Flame Tree, and Unga, during the research period, while Carbacid experienced consistent profit reductions from 2017 to 2019. Firms like EABL, BAT, and BOC displayed fluctuating profit margins during the same period. Empirical studies offer varied findings based on different contexts and methodologies. For example, Chemosit (2021) found that debt ratios influenced revenue in the energy and petroleum sector, while Kant (2018) identified a positive relationship between leverage and profitability in manufacturing firms listed on the NYSE, a highly developed securities market.

Okonji (2019) linked liquidity risk to stock returns, finding a negative relationship, highlighting the need to explore liquidity's direct or moderating effects on financial performance. Conceptual gaps exist as previous studies, such as those by Idagitsa (2019), Marenya (2020), and Audax (2018), focused on financial leverage, working capital, and financial factors in varying fields. Additionally, earlier research on lease financing by Kibuu (2015), Muumbi (2014), and Munene (2014) generalized findings across all NSE-listed firms without isolating the manufacturing sector. These studies, conducted over five years ago, lacked recent financial insights and did not incorporate moderating variables critical to financial performance. Given these contextual, conceptual, and methodological gaps, as well as inconsistencies in existing findings, there is a pressing need for recent, sector-specific research in manufacturing to address these gaps and explore the moderating effects of leverage financing on financial performance.

1.2 Research Objective

This study was guided by the following general objective to: identify the effect of lease financing on financial performance of manufacturing companies listed at Nairobi securities exchange, Kenya

The specific objectives were to: establish the link between operating lease and financial performance of manufacturing companies listed at Nairobi securities exchange, Kenya, establish the link between finance lease and financial performance of manufacturing companies listed at Nairobi securities exchange, Kenya, establish the link between leverage finance and financial performance of manufacturing companies listed at Nairobi securities exchange, Kenya and to establish the moderating influence of liquidity on the association between lease financing and financial performance of manufacturing firms listed at Nairobi securities exchange, Kenya.

1.3 Research Hypothesis

This study was guided by the following Research Hypothesis.

Ho1: There is no substantial link between operating lease and financial performance of manufacturing companies listed at Nairobi Securities Exchange, Kenya.

Ho2: There is no substantial link between finance lease and financial performance of manufacturing companies listed at Nairobi Securities Exchange, Kenya.

Ho3: There is no substantial link between leverage finance and financial performance of manufacturing companies listed at Nairobi Securities Exchange, Kenya.

Ho4: There is no substantial moderating influence of liquidity on the association between lease financing and financial performance of manufacturing firms listed at Nairobi securities exchange, Kenya.

1.4 Justification of the Study

This research offers significant benefits to various stakeholders, including the Kenya Association of Manufacturers (KAM), the Leasing Association of Kenya, and the Capital Markets Authority (CMA). It provides insights for policy development aimed at enhancing lease transaction processes and improving lease financing knowledge among manufacturing firms, which will help alleviate their financing challenges. Additionally, the research supports the CMA in setting effective listing requirements for firms. The study contributes to existing theoretical and empirical literature by comparing lease financing to other financing methods, such as debt financing or hire purchase, and expanding the understanding and adoption of lease financing in Kenya. The findings also benefit the manufacturing sector and other industries facing financing challenges by providing

insights into asset-based financing, enabling clearer comparisons with alternative financing options. Moreover, the research helps management and stakeholders in the manufacturing sector understand the true value of assets, assess return on investment, and gauge the liquidity position of their firms, which is essential for attracting investors and trade creditors. Finally, the research supports the government's efforts to boost the manufacturing sector's contribution to Kenya's GDP, aligning with the Vision 2030 development goals.

2.0 LITERATURE REVIEW

The Impact of Capital Structure on Firm Performance

This study reviews the theories underpinning the research variables, including finance lease, operating lease, leverage finance, and liquidity. The theories have been previously employed by researchers in various studies and are essential in understanding the research context.

Developed by Kenneth Arrow in the 1960s, the Financial Contracting Theory explores the agreements made between borrowers and lenders. Rooted in general equilibrium theory failures, it incorporates ideas from economic principles and incomplete contracting theory. Vauhkonen (2004) posits that internal firm staff often possess more information about the firm's ability to meet liabilities than creditors. This information asymmetry influences business risk, investment decisions, and the cost of contracting, thereby shaping the choice between leasing and outright asset purchases (Owiro, 2017). Researchers such as Muumbi (2014), Kibuu (2015), Mburu and Ngatia (2017), Munga and Ayuma (2013), and Mungami (2013) have applied this theory in their empirical studies.

The theory has significantly contributed to corporate finance by providing insights into optimal financial contracts. Following Jensen and Meckling's (1976) foundational work, the theory has helped reduce contractual conflicts between managers and external financiers, as explained by Roberts and Sufi (2009). It emphasizes legal agreements and requirements, such as lease rentals, payment schedules, termination penalties, and distinctions between operating and financial leases. This framework aids in understanding the dynamics between lessors and lessees, ensuring clear plans and agreements.

The Trade-Off Theory, introduced by Krans and Litzenberger in 1973, emphasizes the existence of an optimal capital structure that maximizes firm value. It argues that firms aim for a target leverage ratio to achieve this optimal structure. Unlike theories focusing on information asymmetry, it prioritizes capital structure considerations, suggesting that firms balance the tax benefits of debt financing with the associated costs of financial distress and bankruptcy. It assumes perfect capital markets, free of tax costs, agency conflicts, and transaction costs.

This theory highlights the benefits of debt financing, such as tax deductions on pre-tax earnings, while cautioning against the risks of bankruptcy. It underscores the importance of balancing debt and equity financing to achieve optimal resource allocation. Researchers like Atseye, et al (2019), Mwaura (2015), Mohamed (2017), Wamiori (2016), Sulaiman, et al (2017), and Bulle (2017) have extensively used this theory in their studies.

The Trade-Off Theory asserts that firms must assess the cost-benefit of financing through debt or equity to maximize value. Mwendwa (2021) and Njoki (2021) affirm that organizations weigh tax cost-benefit implications when making financial decisions. While debt financing is common among large firms, it increases the risk of bankruptcy, necessitating a balanced mix of debt and equity. The theory is crucial for understanding capital financing strategies in asset acquisition and leveraging financing.

Proposed by F.A. Walker in 1891, this theory, also known as the Rent Theory of Profit, equates profit to the rent derived from an entrepreneur's differential capabilities. Drawing parallels with land rent, it compares the output of efficient firms to less efficient ones. Imhanzenobe (2020) explains that profit arises from a firm's ability to use

fewer inputs while achieving higher returns, with efficient firms earning more than their less efficient counterparts.

Walker's theory assumes perfect competition, where all firms have equal opportunities and capabilities. Under such conditions, profits are limited to managerial wages, with no pure profits. However, the theory has been criticized for its inability to explain the nature of profit and its reliance on perfect competition, which may not always hold true (Saleh, 2018). Despite these limitations, it provides valuable insights for financial managers in making strategic decisions, such as leasing or purchasing assets. By leveraging differential capabilities, firms can maximize profits and enhance competitiveness.

John Maynard Keynes introduced the Liquidity Preference Theory in 1936, emphasizing the desirability of liquid investments. According to this theory, investors prefer liquid assets that can be easily converted into cash, especially when two assets offer equal returns. It assumes that firms and households hold money to remain liquid rather than to borrow, with interest rates serving as a reward for holding liquid assets. Researchers like Muumbi (2014), Akenga (2015), Nyabate (2015), and Mwanzia and Sakwa (2017) have applied this theory in their empirical reviews.

The theory is relevant in explaining lease financing and a firm's financial performance. Firms often opt for leasing to retain cash for other purposes and maintain liquidity. Akenga (2015) notes that regulatory requirements sometimes mandate firms to hold a certain amount of cash, incurring costs that could have been invested in profitable projects. For example, banks in Kenya must maintain cash reserves, which limits their investment potential. Balancing liquidity and profitability is a critical decision for managers. Excess liquidity indicates underinvestment, while prioritizing profitability may lead to liquidity problems. The theory underscores the trade-off between liquidity and profitability, helping firms optimize investment strategies and financial performance.

The empirical review section of this study explores previous research on the relationship between various financing methods (finance lease, operating lease, leverage finance) and financial performance, with a focus on liquidity as an important moderating variable.

Finance Lease and Financial Performance: Research on finance leasing suggests it can play a crucial role in supporting firms, especially in developing countries, where businesses often face limited financial resources. Lleshaj & Kripa (2021) found that the amount of lease financing can significantly affect economic growth, with banks and domestic debts being related to it. This raises questions about how lease financing could impact a firm's profitability. Yozgat and Artar (2016) analyzed the use of financial leases in Turkey's manufacturing, service, and agricultural sectors, suggesting that finance leases offer an alternative financing option for businesses with limited capital. Similarly, Alazzam (2015) found that contracting firms rely on finance leases but face obstacles such as financial health issues, which hinder their development. Şimon (2010) emphasized that leasing, as a non-traditional form of financing, has become vital in developed countries due to its lack of red tape compared to traditional debt financing. However, the research mainly focuses on the lessor's perspective, overlooking the lessee's viewpoint. In Jordan, et al (2008) discovered that the uptake of finance leases is positively associated with economic growth, though further research is needed on its impact on firm profitability in developing nations like Kenya.

Operating Lease and Financial Performance: Research on operating leases shows mixed results. Paik et al. (2020) examined the relationship between debt covenants and operating leases, finding that high-risk firms use operating leases more than long-term debt. This raises questions about whether operating leases could be a substitute for other financing options. Kajirwa (2016) focused on Kenyan sugar companies and found a negative relationship between operating leases and financial performance, although the effect was not statistically significant. Mikkonen (2016) found no strong evidence supporting the relevance of operating leases in a study

from 1993 to 2013. Altamuro et al. (2014) investigated the effect of operating leases on credit assessments, revealing that banks adjust their credit ratings to account for operating leases. This suggests that while operating leases impact a firm's credibility, other forms of leasing might also play a significant role. Goodacre (2003) examined the relevance of operating leases in the UK retail sector and concluded that operating leases need to be given more attention, suggesting that their influence on financial performance requires further investigation.

Leverage Financing and Financial Performance: Leverage financing, often involving the use of debt to finance operations, shows varying effects on firm performance. Mwendwa (2021) found a significant negative impact of leverage on the revenue generation of energy and petroleum companies in Kenya. Njoki (2021) discovered a positive relationship between leverage and financial performance in a study of Kenyan firms between 2011 and 2020. Amondi (2020) identified a significant positive impact of interest coverage on revenue generation in a study of cooperative societies, suggesting that leverage could be beneficial when managed well. However, Kithandi (2019) found a negative relationship between leverage and financial performance in a study of debt ratios, indicating that excessive leverage could harm a firm's performance. These findings suggest the need for further research into the effects of leverage financing in different sectors, especially with the moderating role of liquidity.

Liquidity and Financial Performance: Liquidity, which refers to a firm's ability to meet its short-term obligations, has been shown to play a significant role in financial performance. Kurban & Nasir (2022) explored the effect of liquidity risk on small microenterprises, finding that liquidity risk moderated firm performance. Abdulrahman (2021) studied the impact of capital structure and liquidity in the banking industry, concluding that liquidity is a significant moderating factor in profitability. Shakatreh (2020) examined the link between earnings and stock returns in Jordanian public companies and found that liquidity risk negatively moderated this relationship. However, these studies mainly focused on banking or microenterprises, with gaps remaining in how liquidity affects manufacturing firms, especially those listed on the Nairobi Securities Exchange (NSE). In summary, the empirical studies reviewed suggest that finance lease, operating lease, leverage financing, and liquidity all influence financial performance in various ways. While finance leases provide an important alternative for firms lacking capital, operating leases seem to have a more complex relationship with financial performance. Leverage financing shows mixed results, with some studies indicating positive effects, while others suggest negative impacts on performance. Liquidity plays a crucial role in moderating the relationship between these financial strategies and a firm's performance. Further research is needed, particularly in the context of firms listed on the NSE, to determine whether these findings hold true across different sectors.

3.0 RESEARCH METHODOLOGY

The research philosophy adopted in this study is positivism, which is based on the belief that social reality can be observed objectively, without researcher influence on the data. Positivism assumes that reality remains constant and can be observed from an objective perspective, as emphasized by Saunders, et al (2019) and Muthoni (2019). This philosophy is suitable for this research, as it involves real scenarios and financial performance data reported by firms. In terms of research design, the study employs a descriptive research design, which is known for accurately detailing existing phenomena. According to Marigu (2020), descriptive research is effective in observing quantitative data over a specific period, in this case, six years. This design was chosen as it helps in determining the relationship between the independent variable, dependent variable, and the moderating variable without interfering with the data, making it ideal for the study's objective of examining variable effects.

The research focuses on manufacturing companies listed on the Nairobi Securities Exchange (NSE) between 2017 and 2022. The target population consists of eight firms: BOC Kenya Limited, Kenya Orchards Limited, Carbacid Investment Limited, British American Tobacco Kenya Limited, Unga Group Limited, Flame Tree Group Holdings Limited, East Africa Breweries Limited, and Eveready East Africa Limited. A census approach was used to include all firms within the specified period. Secondary data was collected from company websites, NSE, and CMA websites, with a focus on financial reports that adhere to regulatory guidelines. However, data for Kenya Orchards PLC was incomplete, despite efforts to obtain it from NSE. Data collection was guided by an MS Excel document aligned with the research variables and objectives. Panel cross-sectional data for the firms was gathered, and annual performance reports were also downloaded to ensure comprehensive data coverage. The data analysis utilized EViews software, employing descriptive statistics such as mean and standard deviation, and inferential statistics including correlation analysis, panel regression analysis, and analysis of variance. This facilitated the development of a relevant analytical equation for the study.

Diagnostic tests are conducted to evaluate the correlations between variables, check the consistency of data, and assess the thresholds and what they depict. The heteroscedasticity test checks if the variance of the error term remains constant, with the null hypothesis stating residuals are homoscedastic. If the p-value is less than 0.05, heteroscedasticity is present. Autocorrelation, common in time series models, indicates correlated error terms across time periods. The Durbin-Watson test statistic ratio was used, where a value less than 2 indicates positive autocorrelation. Normality is tested using the Jarque-Bera test, where a p-value greater than 0.05 suggests the data is normally distributed. The Hausman Specification test is crucial in regression analysis to avoid specification errors and violation of linear equation assumptions. If the p-value is less than 0.05, the null hypothesis is rejected, and the pooled OLS model is considered appropriate. Lastly, the stationarity test determines if a variable’s value remains constant over time, avoiding spurious results in time series analysis. The research used a unit root test for stationarity.

Ethical considerations ensured adherence to research protocols, including obtaining a NACOSTI permit, maintaining low plagiarism levels, ensuring valid research questions aligned with conclusions, and upholding integrity, transparency, and confidentiality throughout the study.

4.0 RESULTS AND DISCUSSION

4.1 Descriptive Statistics

Descriptive statistics summarize data from a population or sample using measures of central tendency, dispersion, and distribution shape. Key components include standard deviation, which indicates variability from the mean, and skewness, which assesses the asymmetry of the data distribution, providing a clear, understandable data summary.

Table 1 Descriptive Statistics

	ROA	Lease liability	Right of use	Leverage financing	Liquidity
Mean	0.117935	0.057039	0.035667	0.449667	2.100531
Median	0.076922	0.003000	0.013428	0.433248	1.639370
Max	0.738286	1.169374	0.437873	1.435679	9.428015
Min	-0.099353	0.000000	0.00000	0.002363	0.688636
Std. Dev	0.139184	0.221450	0.072342	0.318966	1.737646
Skewness	2.350239	4.550793	4.034163	0.605940	2.436222
Kurtosis	10.22326	22.01483	21.51439	3.109510	9.139909
Observations	48	48	48	48	48

Source: (Author, 2023)

Diagnostic tests play a crucial role in evaluating the effectiveness of research models and ensuring adherence to OLS assumptions. These tests help the researcher make necessary adjustments to the model without altering the original data. The normality test, which checks if disturbances are normally distributed, revealed a p-value of 0.545123, indicating normal data distribution. Skewness was slightly positive at 0.342828, and the distribution was moderately platykurtic with a score of 2.630382. In the heteroskedasticity test, the p-value was below 0.05, signaling the presence of heteroskedasticity. However, this issue was mitigated by introducing logarithmic transformations of the variables. The autocorrelation test, conducted using the Durbin-Watson statistic, showed a value of 2.175255, which is close to the ideal score of 2, suggesting minimal autocorrelation. The Hausman specification test yielded a p-value greater than 0.05, leading to the rejection of the null hypothesis and the selection of the random effects model as the most appropriate. Lastly, the stationarity test, based on the ADF-Fisher chi-square method, showed that all variables except for finance lease were stationary, with their p-values being less than 0.05. Although finance lease had a p-value greater than 0.05, the model was deemed relatively stationary, and the impact of unit roots was minimized.

4.2 ANOVA

The test examined whether the increase in squared multiple correlation (R2) was significantly greater than zero at a 0.05 level. When liquidity acted as a moderating variable, the R-Squared was 0.502192, while as an independent variable, it was 0.516588. The difference of 0.014396 was less than 0.05, leading to the conclusion that liquidity was an independent variable.

Table 2 ANOVA

	df	ss	ms	f	significance F
Regression	4	0.759737	0.872806	11.48776	0.000002
Residual	43	0.150758	0.003506		
total	47	0.910495			

Variables	Coefficient	Standard error	t-statistic	Probability
Intercept	0.018876	0.054784	0.344559	0.7321
Lease liabilities	-0.174862	0.047665	-3.668598	0.0007
Right of use	0.902302	0.165452	5.453573	0.0000
Leverage financing	0.188785	0.054042	3.493277	0.0011
Liquidity	-0.033828	0.009434	-0.405742	0.6869

Source: (Author, 2023)

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4.3 Regression Analysis

The research employed a multiple regression model for panel regression analysis. The results indicate that finance lease (0.0007, $p<0.05$), operating lease (0.0000), and leverage financing (0.0011) are significant independent variables, while liquidity (0.6869) is insignificant. The model's fitness is demonstrated by an R-squared score of 51.66% and an adjusted R-squared score of 47.16%, suggesting that the independent variables explain financial performance with a reasonable degree of accuracy.

Table 3 Regression Analysis

Multiple R	R-Squared	Adjusted R-Squared	Standard error	Probability(F-Statistic)	Observation
0.718741	0.516588	0.471619	0.059212	11.48776	48

Source: Research Data (2023)

4.4 Correlation analysis

The findings in the study reveal a positive correlation between finance lease, operating lease, and leverage financing with ROA, with operating lease showing the highest correlation and leverage financing the lowest. Conversely, liquidity showed a negative correlation with ROA, indicating that increased liquidity negatively impacts the financial performance of manufacturing firms at the Nairobi Securities Exchange.

Table 4 Correlation analysis

Correlation t-Statistic Probability	ROA	Lease liabilities	Right of use	Leverage financing	Liquidity
ROA	1.000000				
Finance lease	0.168860	1.000000			
Operating lease	0.581000	0.283889	1.000000		
Leverage financing	0.252593	0.244315	-0.082651	1.000000	
Liquidity	-0.094464	-0.161398	-0.077451	-0.478686	1.000000

4.5 Model Summary

Hypothesis testing was conducted on four hypotheses to assess the relationship between different types of financing and the financial performance of manufacturing companies listed on the NSE, Kenya.

For Hypothesis 1, the null hypothesis (Ho1) stated there was no significant moderating effect of liquidity on the relationship between lease financing and financial performance. The p-value for operating lease was 0.0000, leading to the rejection of Ho1 and concluding that operating lease significantly affects financial performance. A unit increase in operating lease improved financial performance by 0.902302, aligning with the findings of Kibuu (2015) and Muumbi (2014), but conflicting with Munene (2014).

For Hypothesis 2, Ho2 proposed no significant relationship between finance lease and financial performance. The p-value for finance lease was 0.0007, leading to the rejection of Ho2. It was found that finance lease negatively impacts financial performance, with a unit increase in finance lease decreasing performance by 0.174862, consistent with Kibuu (2015), Obiero (2016), and Muumbi (2014), but contradicting Munene (2014).

For Hypothesis 3, Ho3 suggested no significant relationship between leverage finance and financial performance. The p-value was 0.0011, leading to the rejection of Ho3 and concluding that leverage financing positively affects financial performance, with a unit increase in leverage financing increasing ROA by 0.188785. This supported Chemosit (2021) but contradicted Judy (2019) and Mohammed (2017).

For Hypothesis 4, Ho4 posited no significant moderating effect of liquidity on the relationship between lease financing and financial performance. Liquidity was tested as both an independent and moderating variable, and it was found that liquidity, as an independent variable, had a negative effect on financial performance, with a unit increase in liquidity decreasing performance by -0.033828. The change in R-squared was 0.014396, indicating the negative influence.

5.0 CONCLUSIONS

The research explored the impact of lease financing on the financial performance of manufacturing firms listed at the Nairobi Securities Exchange (NSE). It found that operating leases had a positive effect on financial performance, as higher use of operating leases correlated with increased revenue. In contrast, finance leases had a negative impact, suggesting that excessive reliance on finance leases could decrease revenue and should be used cautiously. Leverage financing, however, showed a positive and significant effect, indicating that despite the need for eventual settlement, it could still boost firm revenue. Finally, liquidity was identified as an independent variable negatively affecting financial performance, although it was an insignificant moderator. The findings highlight the importance of carefully managing liquidity levels, and suggest that regulatory bodies like the Capital Markets Authority (CMA) and NSE should consider liquidity requirements when making decisions.

6.0 RECOMMENDATIONS

Financial managers should consider lease financing as an effective strategy for asset acquisition, particularly during periods of high inflation, as it helps reduce costs and increase returns. However, firms must carefully manage liquidity levels, avoiding both excessive liquidity, which indicates underinvestment, and inadequate liquidity, which can lead to bankruptcy. Additionally, relying too heavily on bank loans should be avoided, as rising interest rates can make financing expensive. Lease financing can also serve as a tax shield, particularly for manufacturing firms listed on the NSE, reducing their tax burden. For venture capitalists, lease financing presents an opportunity to support small businesses with low capital, enabling them to acquire valuable assets with minimal formalities, thus expanding their capital base and boosting returns.

Regulators must ensure that firms listed on the NSE provide up-to-date and complete annual financial reports on the NSE website, promoting accuracy in data. The government should consider increasing the use of leasing, particularly for vehicles and land. Leasing government land could generate significant returns while reducing costs associated with importing assets, especially those that quickly become obsolete due to technological advancements.

The research also suggests that future studies on lease financing should be expanded to include other sectors listed on the NSE to enhance accuracy and allow for comparisons with prior studies. Given the under-explored potential of lease financing, further research in this field is recommended to ensure the availability of up-to-date insights.

Disclaimer (Artificial intelligence)

Option 1:

Author(s) hereby declare that NO generative AI technologies such as Large Language Models (ChatGPT, COPILOT, etc.) and text-to-image generators have been used during the writing or editing of this manuscript.

Option 2:

Author(s) hereby declare that generative AI technologies such as Large Language Models, etc. have been used during the writing or editing of manuscripts. This explanation will include the name, version, model, and source of the generative AI technology and as well as all input prompts provided to the generative AI technology

Details of the AI usage are given below:

1.

2.

3.

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