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Original Article

Transportation Cost and Financial Performance of Transportation and Logistics Companies Listed in Nigeria

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Abstract - The transportation in Nigeria is providing structured and scalable services that support supply chains, facilitate mobility, and drive economic integration. Transportation and logistics are vital to economic development, yet firms in this sector face persistent profitability challenges due to rising operational costs. This study investigates the relationship between transportation cost and the financial performance of listed transportation and logistics companies in Nigeria. Using an ex-post facto research design and panel data from 2020 to 2024, the study uses a purposive sample technique to select a sample of three (3) out of six listed transportation and logistics companies in Nigeria. Descriptive and inferential statistics are employed. The findings reveal that transportation costs constitute a significant portion of total operational expenses and have a measurable impact on financial performance. These results affirm the continued relevance of both the Transportation Cost Theory and Logistics Cost Theory in today's business environment. The theories remain valid frameworks for understanding how transportation cost structures influence profitability, especially in emerging markets like Nigeria, where operational inefficiencies and infrastructure gaps persist. The study validates the relevance of logistics cost theory and transportation cost theory in explaining how transportation expenses influence firm-level financial outcomes.

Keywords - Earnings per Share, Financial Performance, Logistics, Return on Assets, Transportation Cost.

1. Introduction

Transportation and logistics form the backbone of any thriving economy, serving as the vital link between production, distribution, and consumption. In Nigeria, a country with vast geographic diversity and a growing population, the sector plays a pivotal role in enabling trade, supporting industrial activity, and connecting markets across urban and rural regions (Oni et al., 2025). The efficiency of this sector directly influences the cost of goods, the speed of commerce, and the competitiveness of Nigerian businesses in both local and international markets (Adedugba et al., 2025). The transportation in Nigeria is providing structured and scalable services that support supply chains, facilitate mobility, and drive economic integration. Transportation and logistics operations impact key sectors such as agriculture, manufacturing, retail, and oil and gas, making them indispensable to national development (Shiamwama et al., 2022).

However, despite the strategic importance of this sector, many of the transportation and logistics companies face persistent challenges in achieving profitability. They have struggled to maintain sustainable profit margins amid rising operational costs (Abdelatia & Abdelawlib, 2024). This has led to constrained investment in infrastructure, limited adoption of innovative technologies, and reduced capacity to expand service coverage (Abdelatia & Abdelawlib, 2024; Adedugba et al., 2023). The financial strain also affects workforce stability and the sector's ability to contribute meaningfully to national development goals (Shiamwama et al., 2022).

As profitability remains elusive, the strategic relevance of these companies in supporting economic growth and societal advancement is increasingly compromised. In Nigeria, transportation and logistics firms are facing persistent profitability challenges that continue to undermine their financial sustainability and strategic growth. The sector's performance continues to lag behind global benchmarks, with many firms reporting declining returns on investment and reduced return on assets (World Bank, 2023; Appah & Tebepah, 2020). The listed transportation and logistics companies in Nigeria continue to face persistent profitability, decline in return on assets, return on equity and return on investment. Challenges that threaten their financial sustainability and operational efficiency (TheCable, 2023). Despite Nigeria's growing demand for logistics services driven by urbanization, e-commerce expansion, and regional trade initiatives, many firms struggle to maintain stable profit margins. This has led to reduced return on assets and return on equity over the last decade (Khome, 2024).

Amid these challenges, transportation cost emerges as a pivotal variable in the quest for profit maximization. In the transportation and logistics sector, transportation costs constitute about 38.5% to 63.4% of the total direct costs (Capgemini, 2022). Transportation costs encompass fuel, maintenance, labor, tolls, and route inefficiencies. This cost constitutes a significant portion of total logistics expenses (World Bank. (2023). By optimizing transportation costs through strategic planning, route efficiency, and technology adoption, companies can enhance operational performance and improve profitability (PwC, 2023). Without a clear understanding of how transportation cost dynamics affect financial performance, companies risk missing strategic opportunities for cost optimization and profit maximization (PwC, 2023; Capgemini, 2022). Effective transportation cost management may not only reduce overhead but also improve financial performance, including return on assets and return on equity (Ngesa & Namusonge, 2023). Moreover, adopting fuel-efficient vehicles and predictive maintenance systems can significantly lower recurring expenses, contributing to healthier profit margins (Novatia 2024). In competitive markets like Nigeria, where logistics firms operate under tight financial constraints, even marginal reductions in transportation costs can translate into substantial gains in net income.

This study seeks to explore the relationship between transportation costs and financial performance (which are measured with return on assets and earnings per share) among listed transportation and logistics companies in Nigeria. The main objective of this study is to determine the relationship between transportation cost and the financial performance of listed transportation and logistics companies in Nigeria. The following specific objectives are considered in this study, which are to:

i. Examine the relationship between transportation cost and return on assets of transportation and logistics companies listed in Nigeria; and
ii. Assess the relationship between transportation cost and earnings per share of transportation and logistics companies listed in Nigeria.

In achieving the objective of this study, the following research hypotheses are tested.

$H_0$1: There is no significant relationship between transportation cost and return on assets of transportation and logistics companies listed in Nigeria.
$H_0$2: Transportation cost has no significant relationship with earnings per share of transportation and logistics companies listed in Nigeria.

2. Literature Review

This section covers the conceptual review, theoretical review and empirical review of the relationship between transportation cost and financial performance of listed transportation and logistics companies in Nigeria.

2.1. Conceptual Review

2.1.1. Transportation Cost

Transportation cost refers to the total monetary expenditure required to move goods or passengers from one location to another (Ngesa & Namusonge, 2023). It encompasses both fixed costs (such as infrastructure, vehicle

acquisition, and administrative overhead) and variable costs (including fuel, labor, maintenance, tolls, and route inefficiencies). Transportation physically moves products from where they are produced to where they are needed. This movement across space or distance at a particular cost adds value to products. This value is often referred to as place utility (Shiamwama et al. 2022). Transportation is also a factor in time utility; it determines how fast and consistently a product moves from one point to another.

Transportation costs are influenced by factors such as distance, mode of transport, geographic conditions, and regulatory environments. Transportation costs are a critical component of logistics and supply chain management, often accounting for a significant portion of total operational expenses (Rodrigue & Notteboom, 2023). Transportation costs are a monetary measure of what the transport provider must pay to produce transportation services, and they vary based on infrastructure, energy, administrative barriers, and the nature of goods being transported (Rodrigue and Notteboom, 2023; Omoush, 2022).

According to Chopra (2007), a transportation network is a collection of nodes and links. Transportation originates and ends at nodes and travels on links. For most modes of transportation, infrastructure such as ports, roads, waterways, railways and airports is required throughout the world. It is important that infrastructure be managed in such a way that monies are available for maintenance and investment in capacity needs (Ngesa & Namusonge, 2023).

2.1.2. Financial Performance

Performance measurement is a crucial criterion for evaluating the competence and achievement of an organization. Obadimu and Oboh (2024) defined performance measurement as the process of quantifying action, where measurement is the process of quantification and action leads to performance. Financial performance refers to the degree to which a company achieves its financial objectives, typically measured through indicators such as profitability, liquidity, solvency, and efficiency (Obioma & Charles, 2022). According to Obadimu and Oboh (2024), financial performance is a measure of how well a firm can use assets from its primary mode of business and generate revenues (Shiamwama et al., 2022). It reflects how well a firm utilizes its assets to generate revenue and deliver value to shareholders. Common metrics used to assess financial performance include Return on Assets (ROA), Return on Equity (ROE), Net Profit Margin, and Earnings Per Share (EPS).

- *Return on Assets (ROA):* Return on assets is a financial performance metric that evaluates how effectively a company utilizes its total assets to generate net income. It reflects the efficiency of asset use in producing profits and is commonly expressed as net income divided by the total assets. According to Singh et al. (2023), return on assets serves as a critical indicator in empirical corporate finance research, often used to assess managerial efficiency, operational performance, and investment decisions. It is particularly valuable in cross-industry comparisons because it normalizes profitability against asset base. Appah and Tebepah (2020) emphasized that ROA can be used both normatively (to benchmark performance) and positively (to predict future financial outcomes).
- *Return on Equity (ROE):* Return on equity is a financial performance metric that measures a company's ability to generate profits from its shareholders' equity (Chumari, 2023). It is calculated as net income divided by shareholders' equity. ROE reflects how effectively management is using equity financing to grow the business and deliver value to shareholders (Mrabet & Boujjat, 2016). A higher ROE typically indicates stronger financial performance and efficient capital utilization. According to Obadimu and Oboh (2024), return on equity is one of the most widely used indicators of profitability and is essential for evaluating investment attractiveness. It helps investors assess how well their capital is being reinvested and whether a firm is generating sufficient returns relative to its equity base. Singh et al. (2023**)** emphasized that return on equity is often used in empirical corporate finance research to compare firm performance across industries and time periods.

2.2. Theoretical Review

To explain the relationship between transportation cost and financial performance of listed transportation and logistics companies in Nigeria, this study employed the logistics cost theory, network optimization theory and

transportation cost theory.

2.2.1. Logistics Cost Theory

Donald J. Bowersox and Edward W. Smykay introduced the logistics cost theory in 1961, and it has since been widely accepted and applied in logistics and supply chain management. The idea behind the logistics costs theory is that a business's logistics expenses, including transportation costs, inventory carrying costs, handling and storage costs, order processing and documentation costs and loss and damage costs, are major factors in an organization performance (Oni et al., 2025). The theory contends that since logistics costs comprise a sizable portion of total business expenses, controlling and improving them can greatly improve company performance (Arsova & Temjanovski, 2023). Given that logistics costs, such as transportation and freight clearance, are a component of the logistics costs of a transportation company, these costs can substantially affect their financial performance, influencing turnover and other important metrics (Abdelatia & Abdelawlib, 2024).

The logistics cost theory is relevant in this study as the theory directly addresses the relationship between logistics expenses (particularly transportation) and overall business performance. Transportation often represents the largest component of logistics costs, and the theory posits that managing these costs effectively can lead to improved profitability, competitiveness, and return on investment. This aligns perfectly with the study's objective of examining how transportation costs influence financial performance. In the Nigerian context, where infrastructure challenges and fuel price volatility significantly affect transportation costs (Adedugba et al., 2023), logistics cost theory helps explain how these external pressures impact company performance.

2.2.2. Transportation Cost Theory

Transportation cost theory was significantly shaped by the work of Harold Hotelling in 1929, whose economic theories on spatial competition and location choice laid the foundation for understanding how transportation costs influence market behavior. His seminal model, known as Hotelling's Law, explains how businesses strategically position themselves to minimize transportation costs and maximize market performance (Hotelling, 1929). Later scholars, such as Peter Nijkamp in 2004 expanded the theory to include broader economic, environmental, and social dimensions of transportation costs (Greene & Jones, 1997).

The theory centers on the idea that transportation costs are a critical determinant of economic efficiency, pricing, and resource allocation (Hasselgren, 2018). It posits that the cost of moving goods or people from one location to another directly affects production, distribution, and consumption patterns (Greene & Jones, 1997). Supporters of the theory argued that understanding transportation costs is essential for improving performance, reducing waste, and enhancing service delivery (Martland, 2006). Critics, however, contend that the theory may oversimplify complex realities. Behavioral factors, regulatory constraints, and environmental disruptions are often excluded from traditional models (Sterman, 2000).

In this study, the theory will provide a framework for analyzing how transportation and logistics firms manage their key operational expense and how these costs impact financial metrics such as overall firm performance. By applying this theory, the study will identify cost drivers, assess efficiency levels, and propose strategies for cost reduction and profitability enhancement.

2.3. Empirical Review

Oni et al. (2025) studied how transportation costs and time affect the performance of multinational business organisations in Nigeria by assessing how freight clearance variables (cost and time) and inland transport factors (cost and distance) affect the financial performance (sales costs and turnover) of multinational organisations in Lagos and Ogun states, Nigeria. The study utilised a questionnaire survey for primary data collection, while secondary data was sourced from the annual reports of the sampled firms. The study focused on eight manufacturing organisations selected from listed companies between 2010 and 2019 that regularly transport goods via the maritime mode of transport. The study employed SPSS to perform multiple regressions on the eight manufacturing organisations and found that freight clearance variables (cost and time) have a negative impact on sales costs and performance between

2010 and 2019, while inland transport factors (cost and distance) have a positive effect. Furthermore, the research demonstrated that whereas freight clearance variables (cost and time) have negative effects on turnover, inland transport variables (cost and distance) have positive effects. The study indicated that minimising freight clearance costs and time could significantly enhance the performance of Nigeria's multinational business organisations. Similarly, reducing inland transport costs and adjusting port-business time can significantly improve Nigerian businesses' performance.

Shiamwama et al. (2025) established how transportation costs affect the performance of public sugar manufacturing firms in Kenya. The unit of analysis was six public sugar manufacturing factories in Kenya that were operational for the last 10 years, that is, from 1st January 2009 to 31st December 2018. The study used a mixed research design; specifically, cross-sectional and explanatory research designs. The target population of the study was stratified into 6 operations managers and 60 heads of departments of public sugar manufacturing firms in Kenya. The study used both primary and secondary data. Data was analyzed using both descriptive and inferential statistics. The findings obtained an R value of 0.295 and an R-square of 0.087 on the variation of performance of public sugar companies caused by transportation costs. An analysis of variance (ANOVA) was computed and resulted in [$F(1, 49) = 4.563$, $P<.05$]. It was evident that transportation costs influence the performance of public sugar manufacturing firms in Kenya, and thus, it is a significant predictor.

Ogbeide and Isokpan (2020) examined the impact of logistics and transportation cost on the financial performance of quoted manufacturing firms in Nigeria using panel secondary data from the year 2015 to 2019. Specifically, the study investigated how the cost of ordering raw material, the cost of processing orders, the cost of holding inventory (warehouse) and the cost of delivering orders (finished products) influence the performance of quoted manufacturing firms in Nigeria. In doing this, the longitudinal research design was adopted. Data were collected from 10 (ten) of the sample quoted manufacturing firms within the period of the year 2015 to 2019 financial year, making 50 observations. The data were subjected to a panel regression method with fixed and random effects. From the analysis, it was discovered that the cost of ordering raw material and the cost of holding inventory (warehouse) had a significant negative relationship with the performance of quoted manufacturing firms in Nigeria, while the cost of processing orders and the cost of delivery orders had no significant relationship with the performance of quoted manufacturing firms in Nigeria.

Abdelatia and Abdelawlib (2024) used scenario analysis to examine the effect of transportation costs and supply chain reliability on operational efficiency. Despite the critical role of transportation costs, this study found that they had to be put in a harmonious framework considering supply chain reliability and efficiencies. High supply chain reliability may mitigate risks due to high transportation costs, permitting imports under more challenging conditions. On the other hand, low reliability may translate into a lack of discouragement for imports, even with low transportation costs, raising the specter of delays and disruptions in the bargain. In this way, operational efficiency must be seen as one of the basic building blocks of sustainable importing.

Adedugba et al. (2023) examined the effect of transportation management on economic performance in selected textile firms. The study population consisted of fifteen (15) textile firms in Lagos State. Given this, the study utilized the purposive technique and total enumeration model to infer specific information from a selected population. The study targeted transportation and logistics employees. The study questionnaires were distributed to the transportation and logistics managers working in these companies. Consequently, five hundred and fifty (550) questionnaires were administered. However, four hundred and ninety (490) were valid for analysis. The study utilized a Partial Least Square (PLS) statistical model to examine the information harvested. The findings show that transportation management has an appreciable effect on economic performance. Furthermore, it was revealed that synergy exists between transportation management and economic performance at 0.58, which shows a strong connection. Therefore, textile firms with an optimal mix of transportation proficiency can lead to maximum economic performance such as profitability.

Omoush (2022) focused on the impact of logistic management practices on the performance of using the sector of road transport companies in Jordan. To fulfill the research aims, the descriptive-analytical approach was utilized to collect data, evaluate it, and test hypotheses. Several statistical analyses were also carried out to determine the correlation coefficient, standard deviation, regression analysis, arithmetic averages, and variance. A thirty-item questionnaire was employed as the primary data-gathering tool. According to the findings of the research, logistic management practices measured with efficient transportation cost have a considerable positive impact on their dimension (inventory management, warehousing, order process management, transportation, and packaging) on the operational performance of road transport companies in Jordan.

Samita et al. (2020) investigated the influence of transport management practices on procurement performance of Butali Sugar Company Limited, County Government of Kakamega, Kenya. This research problem employed a descriptive research design. The target population of the study was composed of employees of Butali Sugar Company Limited who were directly associated with decision-making on procurement matters in the factory. Census technique was applied to the population, and the entire targeted population was examined since it was manageable. The study used a structured questionnaire as an instrument of primary data collection. Both descriptive and inferential statistics were focused on, and the computation was done using SPSS version 24 to test the primary data that was collected to satisfy the objectives of the study. A pilot study was conducted in West Sugar Company Limited to find out the validity and reliability of the analysis of data for the study. Further, a structural regression equation model was developed to test the relationships between the variables. ANOVA was performed to analyze the effects of various relationships at the variable level as well as the item level. The result after the analysis was that transport management practices had a significant influence on procurement performance. The conclusion of the study embraced the use of transport management practices since it improves performance.

Musau et al. (2017) analyzed the effect of transport management on supply chain performance in terms of profitability, reliability, cost, responsiveness, flexibility and asset management efficiency of textile manufacturing firms in Kenya. The study was guided by the cooperative game theory. The study adopted the convergent parallel mixed methods design. The study targeted a total of 196 respondents drawn from employees of procurement departments and departmental heads of the respective 15 textile manufacturing industries operating in Nairobi County. The sample size was therefore 139 respondents. Stratified and simple random sampling methods were used to select employees of procurement departments from their respective textile firms. Questionnaires and interview schedules were used to gather the data from primary sources. The study applied the use of both qualitative and quantitative data, which were analyzed using the Statistical Package for Social Sciences (SPSS Version 22). Inferential statistics using hierarchical multiple regression and Correlation analysis was applied to test the relationship between the variable and the formulated hypothesis. The final analyzed results were presented using tables, graphs and charts. The study concluded that transport management possesses the potential of positively influencing the supply chain performance of Textile firms and therefore recognizes the importance of transport management in the supply chain.

3. Materials and Methods

An ex-post facto research design was adopted in this study. *Ex-post facto* design is suitable for this study as it is based on actual events and behaviors, making the study applicable to real-life situations (Ikpor et al., 2024). In this study, the combination of cross-sectional and time series data was employed through the use of the panel data analysis method. This study focused on all the listed transportation and logistics companies in Nigeria as the population. According to the Nigeria Exchange Limited (2024), there are six (6) listed transportation and logistics companies in Nigeria as of December 2024 (see Appendix I). A sample of three (3) companies was purposively selected, covering the period of 2020 - 2024. Companies whose annual reports and accounts were publicly available for the years 2020-2024 were used as a sample for the study. The sample companies are ABC Transport Plc., Red Star Express Plc., and Trans-Nationwide Express Plc. The choice of this study period (2020 – 2024) is to enable the research to capture recent data from listed transportation and logistics companies in Nigeria. The data was gathered from the publicly available audited annual reports of the selected companies. A researcher has no influence over the secondary data, and it is more

trustworthy and objective (Keyang & Weiyi, 2023). The data was analysed using descriptive and inferential statistical analyses. Pearson correlation analysis was used to test the study's hypotheses. The proxies for the study are measured as stated below.

Table 1: Measurement of Variables

Variables	Type of Variable	Measurement
Transportation cost	Dependent	Annual transportation cost as used by past studies such as Abdelatia & Abdelawlib (2024), Okonko & Nwokedi (2023) and Ngesa & Namusonge (2023).
Return on assets	Independent	Measured as profit after tax divided by total assets in line with Mrabet & Boujjat (2016) and Obadimu & Oboh (2024).
Earnings per share	Independent	Profit after tax divided by number of ordinary shares in line with studies such as Ogbeide & Isokpan (2020), Omoush (2022).

4. Results and Discussion

This section includes the presentation on data, analysis and interpretation of the data analysed. The study examined the relationship between transportation cost and the financial performance of listed transportation and logistics companies in Nigeria, and Pearson correlation results were used to test the formulated hypotheses.

4.1. Descriptive Analysis

The descriptive analysis shows the summary of the data used in this study.

Table 2: Descriptive Statistics

Variables	Number	Minimum	Maximum	Mean	Std. Deviation
Earnings per share	30	-37.00	26.00	-2.4143	12.12992
Return on assets	30	-19.00	40.00	4.4667	14.51927
Transportation cost	30	20.68	3097.35	798.743	967.30119
Valid N (listwise) 30					

Source: Author's computation with the aid of SPSS (2025)

Table 2 above shows the result of descriptive statistics. It includes the mean values, standard deviation, minimum and maximum values of variables. The average earnings per share is -2.41 kobo with a maximum and minimum earnings per share of 26 kobo and -37 kobo, respectively, while the standard deviation stood at 12.13. This negative average suggests that, on the whole, these companies are experiencing losses rather than profits per unit of share. A negative value implies that many firms in the sector are struggling to generate sufficient income to reward shareholders. The most profitable company in the sample earned 26 kobo per share, while the least performing company recorded a loss of 37 kobo per share. This wide range between the highest and lowest values highlights significant disparities in financial performance across the industry. The standard deviation of 12.13 reflects the degree of variability in earnings per share among the companies; there is an indication of inconsistent performance across the sector.

The descriptive statistics for Return on Assets (ROA) over the period 2020 to 2024 reveal important insights into the financial efficiency of the sampled transportation and logistics companies in Nigeria. The average ROA of 4.47% indicates that, on average, these firms generated a return of 4.47 kobo for every ₦1 of assets employed. This suggests a modest level of profitability relative to asset utilization across the industry. The maximum ROA of 40% highlights that at least one company achieved a very strong return on its assets, reflecting high operational efficiency or exceptional financial performance during the period. Conversely, the minimum ROA of -19% shows that another firm experienced a significant loss relative to its asset base, indicating poor asset management or adverse business conditions. The

standard deviation of 14.52% suggests a high level of variability in ROA among the companies. This wide dispersion implies that while some firms were highly profitable, others struggled to generate positive returns.

The descriptive statistics on transportation cost provide valuable insight into the financial burden of logistics operations among the listed transportation and logistics companies in Nigeria. The average transportation cost of ₦798.74 million suggests that, on average, firms in the sector spend nearly ₦800 million annually on transportation-related expenses. The maximum transportation cost of ₦3,097.35 million indicates that the highest-spending company incurred over ₦3 billion in transportation expenses, which may reflect a large operational scale, extensive geographic coverage, or inefficiencies in logistics management. On the other hand, the minimum cost of ₦20.68 million shows that the least-spending company operated with significantly lower transportation expenses, possibly due to limited operations or more efficient cost control mechanisms. The standard deviation of ₦967.3 million reveals a high level of variability in transportation costs across the sampled firms. This wide dispersion suggests that companies differ greatly in their logistics spending, which could be influenced by factors such as fleet size, delivery volume, infrastructure, and strategic choices.

4.2. Inferential Analysis

Pearson correlation analysis results are used to test the hypotheses formulated in this study.

Table 3: Correlations between Transportation Cost and Return on Assets

Variables		Return on assets	Transportation cost
Return on assets	Pearson Correlation	1	-0.3012
	Sig. (2-tailed)		0.0107
	N	30	30
Transportation cost	Pearson Correlation	-0.3012	1
	Sig. (2-tailed)	0.0107	
	N	30	30

Source: Author's computation with the aid of SPSS (2025)

Based on Table 3, the Pearson correlation coefficient between transportation cost and return on assets (ROA) is -0.3012, indicating a moderate negative relationship between the variables. This suggests that as transportation costs increase, the return on assets tends to decrease and vice versa among the sampled transportation and logistics companies in Nigeria. This result suggests that higher transportation expenses will reduce the efficiency with which firms convert their assets into profits. The significance value (Sig. 2-tailed) is 0.0107, which is less than the threshold of 0.05 (5%). This means the relationship is statistically significant, and we reject the null hypothesis that there is no significant relationship between transportation cost and return on assets of transportation and logistics companies listed in Nigeria. The result provides empirical support for the idea that transportation costs have a measurable impact on asset-based profitability. The result of the study is consistent with previous studies like Oni et al. (2025), Samita et al. (2020), Shiamwama et al. (2025), and Adedugba et al. (2023). However, the finding of this study contradicts the results of previous studies, such as those of Ogbeide and Isokpan (2020)

The finding of a negative correlation between transportation cost and ROA aligns with the logistics cost theory and the transportation cost theory. Logistics cost theory posits that logistics expenses (including transportation, warehousing, inventory handling, and order processing) directly affect a firm's overall cost structure and profitability (Arsova & Temjanovski, 2023). The theory emphasizes that efficient logistics management can reduce operational costs and improve financial performance. The finding of this study suggests that higher transportation costs reduce the efficiency with which assets generate returns, thereby lowering profitability. This supports the logistics theory assumption that controlling logistics costs (especially transportation) is essential for enhancing asset productivity and firm performance.

Transportation cost theory argues that transportation costs influence firm location, market reach, and competitiveness, and that excessive costs can erode margins and reduce profitability (Greene & Jones, 1997). The

finding of the study shows a statistically significant negative relationship between transportation cost and ROA, which supports this theory. It implies that firms burdened by high transportation costs struggle to maintain asset efficiency, likely due to reduced margins or operational constraints. This validates the theory's core claim that transportation costs are a critical determinant of financial and strategic performance.

Table 4: Correlations between Transportation Costs and Earnings per Share

Variables		Earnings per share	Transportation cost
Earnings per share	Pearson Correlation	1	-0.131
	Sig. (2-tailed)		0.490
	N	30	30
Transportation cost	Pearson Correlation	-0.131	1
	Sig. (2-tailed)	0.490	
	N	30	30

Source: Author's computation with the aid of SPSS (2025)

The Pearson correlation coefficient between transportation costs and earnings per share is -0.131, indicating a weak negative relationship among the variables. This suggests that, generally, as transportation costs increase, earnings per share of listed transportation and logistics companies in Nigeria tend to decrease slightly. However, the strength of this relationship is minimal. The significance value (Sig. 2-tailed) is 0.490, which is well above the threshold of 0.05. This means the correlation is not statistically significant. The hull hypothesis, which states that transportation cost has no significant relationship with return on equity of transportation and logistics companies listed in Nigeria, could not be rejected. The finding is in line with the study of Ogbeide and Isokpan (2020) and contradicts other studies such as Samita et al. (2020) and Shiamwama et al. (2025).

Logistics cost theory and transportation cost theory posit that transportation expenses are critical drivers of firm performance (Greene & Jones, 1997). It suggests that efficient logistics management leads to cost savings, which in turn improves profitability and shareholder value. Based on the findings, a negative Pearson correlation coefficient (-0.131) supports the logistics cost theory and transportation cost theory. However, the observed relationship between transportation cost and EPS is not statistically significant. This insignificant relationship is due to other overriding factors affecting earnings per share beyond transportation costs.

Unlike return on assets which is an internal performance metric and reflects how efficiently a company uses its assets to generate profit (operational efficiency), making it highly sensitive to operational costs like transportation, EPS is influenced by other factors such as share structure, dividend policies, and investor expectations (Singh et al. (2023)**)**. Transportation cost directly affects operational efficiency (ROA), but its impact on EPS can be diluted by external financial decisions and market dynamics (Mrabet & Boujjat, 2016).

Also, transportation and logistics companies tend to be asset-heavy, owning fleets, warehouses, and infrastructure (Khome, 2024). As a result, ROA captures how well these assets are utilized. Any inefficiency (like high transportation cost) would affect return on assets (Greene & Jones, 1997). However, EPS does not reflect asset utilization directly. It is more about net income per share, which can be influenced by financing and equity decisions (Chumari, 2023).

5. Conclusion and Recommendations

5.1. Conclusion

This study examined the impact of transportation cost on financial performance, specifically Return on Assets (ROA) and Earnings per Share (EPS), among listed transportation and logistics companies in Nigeria. The findings revealed that transportation cost constitutes a significant portion of total operational expenses, ranging from 38.5% to 63.4%, and play a critical role in shaping profitability outcomes. Despite Nigeria's growing demand for logistics services driven by urbanization and e-commerce, firms continue to face declining ROA and EPS, largely due to rising

transportation costs and inefficiencies.

The Pearson correlation analysis suggests a negative relationship between transportation cost and financial performance indicators (ROA and EPS). While the relationship between ROA and transportation cost is statistically significant, the relationship between EPS and transportation cost is negative and insignificant. Overall, the relationship between transportation cost and financial performance indicators underscores the importance of strategic cost management in enhancing profitability and operational sustainability. The study validates the relevance of logistics cost theory and transportation cost theory in explaining how transportation expenses influence firm-level financial outcomes. Ultimately, the research underscores that effective transportation cost optimisation is not merely a cost-cutting exercise, but a strategic imperative for enhancing financial health and competitiveness in Nigeria's logistics sector.

5.2. Recommendation

Based on the findings, the following recommendations are proposed to improve financial performance through transportation cost management:

i. Listed transportation and logistics companies in Nigeria should invest in route optimization software, GPS tracking, and predictive maintenance systems to reduce fuel consumption, minimize delays, and improve fleet efficiency.
ii. Stakeholders in the logistics sector should engage with government agencies to advocate for improved road infrastructure, reduced toll charges, and streamlined freight clearance processes, thereby lowering indirect transportation costs.
iii. Firms in the logistics sector should establish robust cost accounting systems to track transportation expenses in real time and identify cost drivers for targeted interventions.
iv. Nigerian logistics firms should study successful transportation models in Asia and the U.S. to adopt scalable, cost-effective strategies that align with local market dynamics.

Appendix 1: List of Listed Transportation & Logistics Companies

Company Name	Ticker	Description
ABC Transport Plc	ABCTRANS	Provides road passenger and cargo transport services across Nigeria and West Africa.
Caverton Offshore Support Group	CAVERTON	Offers marine and aviation logistics, mainly for offshore oil and gas operations.
Red Star Express Plc	REDSTAREX	Specializes in courier, freight, and logistics services across Nigeria.
Trans Nationwide Express Plc	TRANSEXPR	Provides express delivery, logistics, and freight forwarding services.
Skyway Aviation Handling Co. Plc	SKYAVN	Offers ground handling and aviation logistics services at Nigerian airports.
Nigerian Aviation Handling Co. Plc	NAHCO	Provides aviation cargo handling, passenger services, and ground support.

Source: Nigeria Exchange Limited (NGX, 2025)

Data Availability

The data for the study are obtained from the publicly available annual reports and accounts of the selected companies as stated in the method section.

Conflicts of Interest

The authors declare that there is no conflict of interest regarding the publication of this paper.

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The authors personally finance the work.

Authors' Contributions

Conceptualization, Gafar Obadimu and Gbolagade Azeez; Methodology, Gbolagade Azeez; Analysis, Ajibade Ayodeji; Data Curation, Gafar Obadimu; Writing – Review & Editing, Gafar Obadimu.; Supervision, Ajibade Ayodeji; Funding Acquisition, Ajibade Ayodeji, Gbolagade Azeez and Gafar Obadimu.

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Not applicable

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