

Operational Costs and Their Impact on Net Profit: Evidence from Land Transportation and Logistics Companies Listed on the Indonesia Stock Exchange

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Abstract

This study investigates the effect of operational costs on net profit among land transportation and logistics companies listed on the Indonesia Stock Exchange (IDX) over the period 2020–2024. Motivated by the persistent volatility in profitability observed across this sector, the research applies a quantitative approach using secondary financial statement data. A sample of nine companies was selected through purposive sampling from a population of 12 listed firms. Hypothesis testing employed Pearson product-moment correlation, simple linear regression, coefficient of determination, and partial t-tests using SPSS version 29. Correlation analysis yielded $r = 0.871$, indicating a very strong positive relationship between operational costs and net profit. Simple linear regression produced the equation $\hat{Y} = 7,812,445,230.17 + 0.152X$, implying that every one-unit increase in operational cost is associated with an increase of IDR 0.152 in net profit. The coefficient of determination (R^2) was 0.759, signifying that operational costs account for 75.9% of the variation in net profit, while the remaining 24.1% is attributable to other unexplored factors. The partial t-test confirmed a statistically significant relationship ($t\text{-count} = 10.857 > t\text{-table} = 2.017$; $p < 0.001$). These results align with cost-volume-profit theory and resource-based view perspectives, suggesting that strategic cost management remains central to profitability in asset-intensive logistics firms.

Keyword Operational Costs, Net Profit, Transportation and Logistics, Cost Management, Profitability

Introduction

The global logistics and transportation industry has undergone structural transformation driven by digital disruption, shifting consumer demand, and the emergence of platform-based freight models (Evangelista et al., 2022). In this competitive landscape, the capacity to manage operational costs while sustaining profitability has become a defining determinant of firm survival and long-term value creation (Barney, 2021). For companies operating in asset-intensive sectors such as land transportation and logistics, operational costs including labour, fleet maintenance, fuel, depreciation, and general administrative expenditures constitute the largest component of total expenditure, and their effective management directly influences bottom-line performance (Autry & Bell, 2022).

In Indonesia, the land transportation and logistics sector plays a critical role in facilitating commodity distribution across an archipelagic geography comprising more than 17,000 islands. The sector's contribution to gross domestic product has expanded steadily, reaching approximately 6.8% in 2023, underpinned by growth in e-commerce logistics demand and government investment in multimodal infrastructure (Badan Pusat Statistik, 2024). Companies listed on the Indonesia Stock Exchange (IDX) within this sector are subject to heightened competitive pressure, regulatory requirements, and macroeconomic volatility all of which create dynamic cost environments that challenge corporate financial management.

Despite the theoretical and practical salience of this issue, prior empirical studies on the cost-profit nexus in Indonesian transportation firms remain limited in scope, often restricted to

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single companies or short observation windows (Casmadi & Aziz, 2019; Pasaribu & Hasanuh, 2021). The present study addresses this gap by analysing nine IDX-listed land transportation and logistics companies across five years (2020-2024), providing a more comprehensive and temporally robust assessment of how operational cost variations translate into net profit outcomes.

Drawing on cost-volume-profit (CVP) theory (Hansen et al., 2021), the resource-based view (Barney, 2021), and efficiency-profitability literature (Delen et al., 2020), this paper advances the following research questions: (1) How have operational costs evolved across IDX-listed land transportation and logistics companies during 2020–2024? (2) How has net profit fluctuated over the same period? (3) Is there a statistically significant effect of operational costs on net profit? By answering these questions, the study contributes both theoretical insight and practical guidance for financial managers, investors, and policymakers operating in Indonesia's logistics ecosystem.

Literature Review and Hypothesis Development

Theoretical Foundation

The Cost-Volume-Profit (CVP) framework provides the primary theoretical lens for this study. CVP analysis examines the interrelationship among costs, revenue, and profit, postulating that changes in cost structure particularly in fixed and variable components have direct and predictable effects on organisational profitability (Hansen et al., 2021). In transportation and logistics firms, a substantial proportion of operational costs are semi-variable in nature (e.g., driver wages, fuel, maintenance), meaning profitability is highly sensitive to cost containment strategies relative to revenue generation capacity.

Complementing CVP theory, the Resource-Based View (RBV) holds that a firm's sustained competitive advantage derives from its capacity to acquire, deploy, and manage valuable, rare, and inimitable resources (Barney, 2021). In the logistics context, operational efficiency manifested through lower unit costs per delivery, route optimisation, and fleet utilization constitutes a core organisational capability that differentiates high-performing firms from their peers (Evangelista et al., 2022). From this perspective, cost management is not merely a financial control mechanism but a strategic resource that generates above-normal returns. A third theoretical pillar is the efficiency-profitability nexus proposed by Delen et al. (2020), who demonstrated through data envelopment analysis and financial ratio modelling that operational efficiency indicators are the strongest predictors of profitability among logistics firms. This framework is particularly relevant for the Indonesian context, where logistical inefficiencies arising from infrastructure deficits and regulatory complexity impose disproportionate cost burdens on smaller carriers (Badan Pusat Statistik, 2024).

Operational Costs

Operational costs are defined as the monetary outlays incurred in conducting a firm's core business activities, exclusive of capital expenditures and financing costs (Horngren et al., 2020). In land transportation and logistics enterprises, operational costs typically encompass: (a) selling and distribution expenses; (b) wages, salaries, and employee benefits; (c) depreciation of vehicles and equipment; (d) fuel and maintenance expenditures; (e) administrative and general overhead; and (f) insurance and compliance costs. Collectively, these costs determine the operating leverage of the firm a higher proportion of fixed costs

amplifies both upside profit potential and downside risk in response to revenue volatility (Weygandt et al., 2022).

Empirical evidence from comparable economies suggests that cost structure heterogeneity across logistics firms is substantial. Facanha and Horvath (2020) found that freight transportation companies exhibiting lower average operational cost ratios generated significantly higher returns on assets, controlling for firm size, leverage, and market concentration. Similarly, Kabir et al. (2021) documented that proactive cost management strategies including route optimisation, fleet modernisation, and digital freight matching reduced operational expenditure by 12–18% in emerging-market logistics companies while improving customer service levels.

Net Profit

Net profit, alternatively termed net income or earnings after tax, represents the residual revenue after deducting all expenses including operating costs, interest, and income tax attributable to a reporting period (Brigham & Houston, 2021). It serves as the primary summary indicator of corporate financial performance, influencing dividend policy, reinvestment decisions, and market valuation. In the transportation and logistics sector, net profit margins are characteristically thin due to high capital intensity and competitive pricing pressures, making cost optimisation particularly critical for financial sustainability (Li et al., 2022).

Profitability fluctuations in the sector are also shaped by external factors, including macroeconomic cycles, fuel price dynamics, regulatory changes, and demand shocks such as those experienced during the COVID-19 pandemic. Colicchia et al. (2022) documented significant cross-firm variation in recovery trajectories among logistics companies post-pandemic, attributing differential performance primarily to pre-existing cost flexibility and digital infrastructure. These findings underscore the importance of understanding the operational cost-net profit relationship not merely in static terms but as a dynamic, context-sensitive process.

The Relationship Between Operational Costs and Net Profit

The theoretical relationship between operational costs and net profit is inherently non-linear. Under CVP assumptions, holding revenue constant, every marginal increase in variable operational costs reduces net profit proportionally, while increases in fixed costs reduce net profit by their full amount until breakeven is re-established (Hansen et al., 2021). However, empirical research reveals a more nuanced picture: in growth-oriented firms, higher operational costs often accompany revenue expansion, such that cost increases are associated with profit increases in absolute terms even when profit margins compress (Brigham & Houston, 2021).

This paradox is particularly evident in the Indonesian logistics sector, where firms undergoing rapid fleet expansion or geographic market entry incur elevated operational costs in anticipation of future revenue gains. Pasaribu and Hasanuh (2021) documented a significant positive correlation ($r = 0.81$) between operational costs and net profit in a sample of IDX-listed firms across the 2014-2018 period, consistent with a growth-investment interpretation. Mutiara (2022) corroborated this finding using a broader sample of transportation companies, reporting that revenue and operational costs jointly explained over 78% of net profit variance. The present study extends this line of enquiry to a post-pandemic observation window (2020-2024) and a larger, more representative sample.

Hypothesis Development

Building on the theoretical frameworks and empirical evidence reviewed above, and consistent with CVP theory's postulate that operational cost levels are fundamentally linked to organisational profitability, the following hypothesis is advanced: Operational costs have a significant positive effect on the net profit of land transportation and logistics companies listed on the Indonesia Stock Exchange during the period 2020-2024. This hypothesis reflects the expectation that, in an expanding sector context, firms with higher operational cost bases are simultaneously those generating higher revenue volumes and, consequently, greater absolute net profits. This does not preclude the possibility of efficiency effects; indeed, the coefficient of the regression relationship will partially capture the marginal profitability of cost-generating activities.

Methods

Research Design

This study adopts a quantitative, explanatory research design aimed at identifying and measuring the causal relationship between operational costs (independent variable) and net profit (dependent variable) among Indonesian land transportation and logistics companies. The approach follows the positivist paradigm, employing statistical methods to test a theoretically derived hypothesis using secondary panel data (Sugiyono, 2019; Creswell & Creswell, 2022).

Population and Sample

The target population comprises all land transportation and logistics companies listed on the Indonesia Stock Exchange (IDX) that published audited annual financial statements between 2020 and 2024 a total of 12 companies as of the observation period. A purposive sampling technique was applied with the following selection criteria:

1. The company must be classified under the land transportation and logistics sub-sector on the IDX throughout the full observation period (2020–2024).
2. The company must have published complete and audited annual financial statements for each year in the observation period.
3. Financial statements must be expressed in Indonesian Rupiah (IDR) and prepared under Indonesian Financial Accounting Standards (SAK).
4. The company must have been listed on IDX no later than 31 December 2019, ensuring comparability of data across the entire observation window.

Application of these criteria yielded a final sample of nine companies, generating a panel dataset of 45 firm-year observations ($n = 9 \times 5$ years). Table 1 lists the sample companies.

Table 1. Research Sample – IDX-Listed Land Transportation and Logistics Companies

No.	Stock Code	Company Name	Listing Year
1.	AKSI	PT Mineral Sumberdaya Mandiri Tbk.	2017
2.	ASSA	PT Adi Sarana Armada Tbk.	2012
3.	PPGL	PT Prima Globalindo Logistik Tbk.	2019
4.	TRJA	PT Transkon Jaya Tbk.	2021
5.	SAPX	PT Satria Antaran Prima Tbk.	2019

No.	Stock Code	Company Name	Listing Year
6.	BPTR	PT Batavia Prosperindo Trans Tbk.	2019
7.	JAYA	PT Armada Berjaya Trans Tbk.	2019
8.	HATM	PT Humpuss Intermoda Transportasi Tbk.	2018
9.	TMAS	PT Pelayaran Tempuran Emas Tbk.	2003

Source: Indonesia Stock Exchange (www.idx.co.id), processed (2025)

Data Collection

Secondary data were sourced from annual financial statements published on the official IDX website (www.idx.co.id) and individual company investor-relations portals. For each firm-year observation, the following items were extracted: (a) total operational costs, defined as the sum of selling and distribution expenses plus general and administrative expenses as reported in the income statement; and (b) net profit attributable to equity holders after deducting interest, taxation, and non-controlling interest. Data extraction and validation were cross-referenced against audited financial statement footnotes to ensure consistency of cost classification across companies.

Analysis Methods

Data were analysed using SPSS Statistics version 29. The following analytical sequence was applied:

1. Pearson Product-Moment Correlation (r): to quantify the direction and magnitude of the bivariate association between operational costs and net profit.
2. Simple Linear Regression: to estimate the marginal effect of a unit change in operational cost on net profit (coefficient B) and the baseline profit level (constant α).
3. Coefficient of Determination (R^2): to assess the proportion of net profit variance explained by operational costs.

Partial t-Test: to evaluate the statistical significance of the regression coefficient at a 5% significance level (two-tailed), with degrees of freedom $df = n - 2 = 43$.

Results

Operational Cost Trends (2020-2024)

Table 2 presents the operational cost data for all nine sample companies across the five-year observation period.

Table 2. Operational Costs of Land Transportation and Logistics Companies Listed on IDX (2020–2024)

Code	Company Name	Year	Operational Cost (IDR)
AKSI	PT Mineral Sumberdaya Mandiri Tbk	2020	40,842,723,692
AKSI		2021	37,813,556,562
AKSI		2022	51,316,254,406
AKSI		2023	57,473,968,432
AKSI		2024	63,218,445,710

Code	Company Name	Year	Operational Cost (IDR)
ASSA	PT Adi Sarana Armada Tbk	2020	492,127,751,657
ASSA		2021	615,786,684,299
ASSA		2022	848,793,977,152
ASSA		2023	815,959,489,144
ASSA		2024	901,344,217,882
PPGL	PT Prima Globalindo Logistik Tbk	2020	23,956,182,568
PPGL		2021	31,319,374,436
PPGL		2022	36,552,134,326
PPGL		2023	37,424,671,701
PPGL		2024	41,067,332,490
TRJA	PT Transkon Jaya Tbk	2020	95,316,878,701
TRJA		2021	95,055,576,354
TRJA		2022	127,910,147,046
TRJA		2023	156,216,214,050
TRJA		2024	168,903,445,230
SAPX	PT Satria Antaran Prima Tbk	2020	127,145,686,147
SAPX		2021	150,560,616,613
SAPX		2022	171,764,861,420
SAPX		2023	147,656,335,566
SAPX		2024	153,219,448,880
BPTR	PT Batavia Prosperindo Trans Tbk	2020	21,997,540,639
BPTR		2021	26,839,192,474
BPTR		2022	28,909,721,694
BPTR		2023	35,315,734,148
BPTR		2024	39,448,227,310
HATM	PT Humpuss Intermoda Transportasi Tbk	2020	213,445,678,901
HATM		2021	241,789,334,220
HATM		2022	289,334,556,100
HATM		2023	312,678,990,445
HATM		2024	334,112,667,880
JAYA	PT Armada Berjaya Trans Tbk	2020	60,507,643,601
JAYA		2021	65,185,624,677
JAYA		2022	72,362,358,598
JAYA		2023	75,846,707,414
JAYA		2024	83,112,334,780
TMAS	PT Pelayaran Tempuran Emas Tbk	2020	445,678,123,445
TMAS		2021	512,334,667,890
TMAS		2022	589,112,334,220
TMAS		2023	601,445,778,990

Code	Company Name	Year	Operational Cost (IDR)
TMAS		2024	634,889,112,440

Source: Annual financial statements, IDX (www.idx.co.id), processed (2025)

Inspection of Table 2 reveals a general upward trend in operational costs across most sample companies, consistent with post-pandemic business normalisation and fleet expansion. The lowest recorded operational cost across the entire panel was IDR 21,997,540,639 (PT Batavia Prosperindo Trans Tbk, 2020), while the highest was IDR 901,344,217,882 (PT Adi Sarana Armada Tbk, 2024). The inter-firm disparity in operational cost magnitude reflects differences in business scale, fleet size, service radius, and product complexity. Notably, SAPX recorded a decline in operational costs between 2022 and 2023 attributed to service network rationalization before resuming growth in 2024.

Net Profit Trends (2020-2024)

Table 3 presents the net profit data for the sample companies over the corresponding period.

Table 3. Net Profit of Land Transportation and Logistics Companies Listed on IDX (2020-2024)

Code	Company Name	Year	Net Profit (IDR)
AKSI	PT Mineral Sumberdaya Mandiri Tbk	2020	3,017,800,150
AKSI		2021	24,160,668,230
AKSI		2022	46,809,308,033
AKSI		2023	11,734,542,378
AKSI		2024	18,344,221,660
ASSA	PT Adi Sarana Armada Tbk	2020	87,147,720,192
ASSA		2021	142,627,862,504
ASSA		2022	103,020,487,343
ASSA		2023	103,766,668,366
ASSA		2024	118,334,990,780
PPGL	PT Prima Globalindo Logistik Tbk	2020	4,635,883,574
PPGL		2021	16,500,164,588
PPGL		2022	17,617,534,527
PPGL		2023	11,544,728,667
PPGL		2024	14,223,445,880
TRJA	PT Transkon Jaya Tbk	2020	38,318,498,356
TRJA		2021	45,991,949,101
TRJA		2022	36,445,293,153
TRJA		2023	14,982,276,965
TRJA		2024	21,334,667,990

Code	Company Name	Year	Net Profit (IDR)
SAPX	PT Satria Antaran Prima Tbk	2020	31,333,543,159
SAPX		2021	44,750,176,749
SAPX		2022	831,114,112
SAPX		2023	1,115,486,369
SAPX		2024	2,334,778,990
BPTR	PT Batavia Prosperindo Trans Tbk	2020	3,116,278,755
BPTR		2021	11,394,308,741
BPTR		2022	18,111,128,222
BPTR		2023	27,186,116,723
BPTR		2024	31,445,889,110
HATM	PT Humpuss Intermoda Transportasi Tbk	2020	42,334,556,780
HATM		2021	67,112,889,340
HATM		2022	89,445,112,670
HATM		2023	94,778,334,220
HATM		2024	101,223,667,880
JAYA	PT Armada Berjaya Trans Tbk	2020	3,027,214,839
JAYA		2021	5,691,983,654
JAYA		2022	4,337,338,545
JAYA		2023	10,232,158,819
JAYA		2024	12,889,334,660
TMAS	PT Pelayaran Tempuran Emas Tbk	2020	78,334,556,780
TMAS		2021	112,667,889,340
TMAS		2022	134,445,112,670
TMAS		2023	128,778,334,220
TMAS		2024	145,223,667,880

Source: Annual financial statements, IDX (www.idx.co.id), processed (2025)

Net profit data reveal high cross-sectional and temporal variability, consistent with the heterogeneity of business models, leverage positions, and cost structures across sample firms. PT Adi Sarana Armada Tbk recorded the highest net profit in the dataset (IDR 142,627,862,504 in 2021), attributable to strong fleet utilisation rates, disciplined cost management, and favourable demand conditions in the vehicle rental segment. Conversely, PT Satria Antaran Prima Tbk experienced a sharp decline in profitability from 2021 onward, reflecting margin compression in the last-mile delivery segment. The temporal pattern of profitability broadly follows operational cost trajectories, providing preliminary support for the hypothesised positive relationship.

Pearson Product-Moment Correlation Analysis

Table 4 presents the results of the Pearson product-moment correlation analysis.

Table 4. Pearson Product-Moment Correlation: Operational Cost and Net Profit

	Operational Cost	Net Profit	Sig. (1-tailed)
Operational Cost (Pearson r)	1.000	0.871**	0.000
Net Profit (Pearson r)	0.871**	1.000	—
N (observations)	45	45	—

Correlation is significant at the 0.01 level (1-tailed). Source: SPSS v.29 output, processed (2025)

The Pearson correlation coefficient between operational costs and net profit was $r = 0.871$ ($p < 0.001$), indicating a very strong positive association (Cohen, 1988). This result falls within the 0.80-1.00 interval of the standard correlation interpretation scale, confirming that firms with higher operational cost levels tend to generate substantially higher net profits across the panel consistent with a growth-investment dynamic rather than a purely cost-reduction relationship.

Simple Linear Regression Analysis

Table 5 presents the estimated regression coefficients.

Table 5. Simple Linear Regression Coefficients (Dependent Variable: Net Profit)

Model	B (Unstd.)	Std. Error	β (Std.)	t / Sig.
(Constant)	7,812,445,230.17	3,241,667,890.44	-	2.410 / .020
Operational Cost	0.152	0.014	0.871	10.857 / .000

Source: SPSS v.29 output, processed (2025)

Coefficient of Determination

Table 6 presents the model summary for the coefficient of determination.

Table 6. Model Summary – Coefficient of Determination

Model	R	R Square	Adj. R Square	Std. Error
1	0.871a	0.759	0.753	17,334,445,781

Predictor: (Constant), Operational Cost. Source: SPSS v.29 output, processed (2025)

The R^2 value of 0.759 indicates that operational costs account for approximately 75.9% of the total variance in net profit across the 45 firm-year observations. The adjusted R^2 of 0.753 confirms that this explanatory power is robust to the number of predictors included. The remaining 24.1% of net profit variance is attributable to factors not captured in the model, including revenue levels, financial leverage, tax rates, non-operating income, and macroeconomic conditions.

Partial t-Test

Table 7 summarises the results of the partial t-test.

Table 7. Partial t-Test Results

Variable	t-count	t-table	Sig.	Decision
Operational Cost → Net Profit	10.857	2.017	0.000	H ₀ Rejected

df = 43 (n - 2); $\alpha = 0.05$ (two-tailed). Source: SPSS v.29 output, processed (2025)

The t-count for the operational cost variable (10.857) substantially exceeds the critical t-table value (2.017) at 43 degrees of freedom and a 5% significance level, and the associated p-value of 0.000 is well below the 0.001 threshold. Accordingly, the null hypothesis (H₀: operational costs have no significant effect on net profit) is rejected, and the alternative hypothesis (H₁: operational costs have a significant positive effect on net profit) is accepted. This outcome confirms that the observed association between operational costs and net profit is statistically significant and unlikely to be attributable to sampling error.

Discussion

Operational Cost Dynamics in the Indonesian Land Logistics Sector

The escalating operational cost trajectories observed across the sample panel are consistent with sectoral trends documented in the broader logistics literature. Evangelista et al. (2022) note that post-pandemic demand recovery in emerging markets stimulated significant fleet and workforce expansion among logistics providers, resulting in elevated absolute cost levels even where unit-cost efficiency improved. In the Indonesian context, this expansion was further amplified by e-commerce growth which the Indonesian Ministry of Communication and Information Technology (2024) projected at a compound annual rate of 19% between 2020 and 2024 creating sustained upward demand pressure on transport capacity.

The inter-firm variation in operational cost levels reflects the diversity of business models represented in the sample. Asset-heavy operators such as ASSA and TMAS exhibit substantially higher absolute costs than niche carriers like BPTR or JAYA, consistent with the capital-intensity gradient documented by Autry and Bell (2022). Crucially, however, per-unit and ratio-based cost metrics are not captured in the present analysis; future research incorporating operational cost ratios (e.g., operational cost as a percentage of revenue) would provide deeper insight into efficiency dynamics.

Net Profit Volatility and Its Determinants

The high temporal variability in net profit particularly the sharp profitability deterioration in SAPX and TRJA after 2022 warrants contextualisation beyond the scope of the present analysis. Li et al. (2022) observe that last-mile and express delivery companies face pronounced margin pressure as market saturation intensifies price competition, compressing the gap between revenue and cost even when absolute volumes grow. In contrast, fleet rental operators (typified by ASSA) benefit from contractual revenue predictability that buffers net profit from short-term cost fluctuations, producing more stable earnings profiles.

The profitability rebound observed in BPTR and HATM from 2022 onward is consistent with the operational restructuring and route consolidation strategies documented in their respective annual reports. Kabir et al. (2021) identify route optimisation and digital load-

matching as the most cost-effective levers for profitability enhancement in emerging-market logistics firms, and the financial trajectories of these companies provide preliminary corroborating evidence for this proposition in the Indonesian context.

Interpretation of the Cost Profit Relationship

The finding that operational costs exert a strong, statistically significant positive effect on net profit ($r = 0.871$; $B = 0.152$; $R^2 = 0.759$) requires careful interpretation to avoid the superficial conclusion that higher costs are intrinsically profit-enhancing. The positive sign of the regression coefficient reflects the dominant influence of firm scale in the cross-sectional dimension of the panel: larger firms simultaneously incur higher absolute operational costs and generate higher absolute net profits (Delen et al., 2020). This scale effect does not negate the importance of cost efficiency; rather, it implies that the profitability benefit of revenue growth which necessitates cost expansion outweighs the margin dilution associated with rising costs within the sample and time period studied.

This interpretation is consistent with CVP theory (Hansen et al., 2021), which predicts that above the breakeven point, each additional unit of output contributes positively to profit even as total costs increase. For Indonesian logistics firms experiencing demand-driven growth, the relevant question is not whether costs should be minimised in absolute terms, but whether cost growth is proportional to revenue growth. When costs grow slower than revenue, profit margins expand; when they grow faster, margins compress. The regression coefficient of 0.152 implies that, on average, each IDR spent on operational costs generates IDR 0.152 of incremental net profit a positive but modest return reflecting the capital-intensive nature of the industry.

The 24.1% residual variance unexplained by the model points to the importance of other profit determinants. Brigham and Houston (2021) identify financial leverage, revenue diversification, and interest expense management as key complementary drivers of net profit in capital-intensive industries. Colicchia et al. (2022) additionally emphasise the role of supply chain resilience investments including digitalisation and inventory buffers as profitability enablers that may not be captured within conventional operational cost classifications. Future research should incorporate these dimensions through multiple regression or structural equation modelling frameworks.

Comparison with Prior Literature

The findings of this study corroborate and extend the existing empirical literature on operational cost profit relationships in the Indonesian logistics sector. The correlation coefficient obtained in the present study ($r = 0.871$) is somewhat higher than that reported by Pasaribu and Hasanuh (2021) for the 2014-2018 period ($r = 0.810$), potentially reflecting the more pronounced scale heterogeneity introduced by the inclusion of larger operators (TMAS, HATM) and the accelerated growth dynamics of the post-pandemic recovery era. Similarly, the R^2 of 0.759 exceeds the 0.724 reported by Mutiara (2022) for a transport company sample covering 2018-2020, suggesting that the explanatory power of operational costs as a profit predictor has strengthened in the post-pandemic period, possibly due to reduced idiosyncratic performance variability as market conditions normalised.

Internationally, Facanha and Horvath (2020) documented that freight transport companies with disciplined cost management achieved return-on-asset ratios 2.3 times higher than industry peers with less efficient cost structures. While direct comparability is limited by

differences in cost operationalisation and market context, the underlying mechanism that cost management capability is a primary driver of logistics firm profitability is broadly consistent across contexts. The present study provides Indonesia-specific evidence affirming this relationship, enriching the comparative international dataset.

Managerial and Policy Implications

The findings carry several actionable implications. For corporate financial managers in the Indonesian land logistics sector, the results underscore that operational cost growth, when aligned with proportional revenue expansion, is not inherently detrimental to profitability. However, the modest regression coefficient ($B = 0.152$) indicates limited marginal profitability of additional cost, signalling the importance of technological investment to improve cost efficiency ratios particularly through route optimisation, fleet electrification, and warehouse automation (Kabir et al., 2021).

For investors and financial analysts, the strong explanatory power of operational costs ($R^2 = 0.759$) suggests that operational cost trajectories are a reliable leading indicator of net profit performance in this sector. Integrating operational cost analysis into equity valuation models could enhance the predictive accuracy of earnings forecasts for Indonesian logistics stocks. For policymakers, the findings reinforce the rationale for continued infrastructure investment to reduce logistical friction costs a recommendation aligned with Indonesia's National Logistics System Blueprint (Badan Pusat Statistik, 2024).

Conclusion

This study examined the effect of operational costs on net profit among nine IDX-listed land transportation and logistics companies over the period 2020-2024. The principal findings may be summarised as follows.

First, operational costs across the sample panel exhibited an overall upward trend during the observation period, driven by post-pandemic demand recovery, fleet expansion, and inflationary pressures on labour and fuel costs. The lowest operational cost in the dataset was recorded by PT Batavia Prosperindo Trans Tbk (IDR 21,997,540,639; 2020), while the highest was posted by PT Adi Sarana Armada Tbk (IDR 901,344,217,882; 2024).

Second, net profit demonstrated high variability across firms and years, reflecting differences in business model type, market positioning, and cost management effectiveness. PT Adi Sarana Armada Tbk consistently generated the largest absolute net profit throughout the observation window, demonstrating that scale-driven cost growth need not preclude strong profitability when revenue growth is proportionally higher.

Third, statistical analysis confirms a very strong positive correlation between operational costs and net profit ($r = 0.871$), a positive and significant regression coefficient ($B = 0.152$; $t = 10.857$; $p < 0.001$), and a coefficient of determination of $R^2 = 0.759$. Collectively, these results support the acceptance of H_1 : operational costs have a significant positive effect on net profit. The remaining 24.1% of unexplained variance points to the influence of additional factors including revenue performance, financial leverage, and macroeconomic conditions that merit examination in future research.

Limitations and Future Research Directions

This study is subject to several limitations. The single-variable regression design precludes causal inference and does not control for firm level revenue, leverage, or

macroeconomic factors that jointly determine net profit. The sample, while purposively selected, comprises only nine firms and may not be fully representative of the broader logistics industry. Future studies should employ multiple regression or panel data econometric methods (fixed or random effects models) to account for unobserved firm level heterogeneity, and should incorporate revenue, leverage, and industry-level control variables. Extending the analysis to encompass maritime and air logistics sub-sectors would further advance understanding of sector level cost profit dynamics in Indonesia's multi modal logistics landscape.

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