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ORIGINAL

Beyond the Passenger Load: An Integrated Financial and Technological Analysis of Garuda Indonesia's 2024 Net Loss

Más allá de la carga de pasajeros: Un análisis financiero y tecnológico integrado de la pérdida neta de Garuda Indonesia en 2024

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ABSTRACT

Introduction: the aviation industry faces significant financial and operational challenges amid global economic uncertainty and post-pandemic recovery pressures. In 2024, the company reported a net loss of USD 69,8 million, mainly driven by rising fuel and maintenance costs, currency depreciation, and high leverage. These factors highlight the need to explore not only financial management weaknesses but also the role of technological adaptation in operational efficiency and resilience.
Objective: This study aims to identify the key factor contributing to Garuda Indonesia's 2024 financial losses—whether ineffective cost control, inadequate liquidity management, or insufficient use of digital financial systems had the strongest impact on performance.
Method: a quantitative-descriptive design was employed using secondary data from financial statements, operational reports, and macroeconomic indicators. Financial ratio analysis was used to measure profitability, liquidity, and efficiency, while a technological assessment examined Garuda's digital transformation and cost optimization systems. Comparative benchmarking with industry peers was conducted to contextualize the findings and assess technological alignment with best practices in airline financial management.
Results: findings show that while Garuda Indonesia achieved a 16 % increase in revenue, it suffered losses due to poor cost control, weakened liquidity, and underutilization of technological tools for real-time financial monitoring. Liquidity indicators—particularly current and quick ratios—fell below sustainable thresholds, while slight improvements in turnover ratios indicated marginal operational efficiency gains.

Keywords: Financial Performance; Cost Control; Liquidity; Technological Adaptation; Garuda Indonesia.

RESUMEN

Introducción: la industria de la aviación enfrenta desafíos financieros y operativos significativos en medio de la incertidumbre económica global y las presiones de la recuperación pospandemia. En 2024, la empresa reportó una pérdida neta de USD 69,8 millones, impulsada principalmente por el aumento de los costos de combustible y mantenimiento, la depreciación de la moneda y el alto apalancamiento. Estos factores destacan la necesidad de explorar no solo las debilidades en la gestión financiera, sino también el papel de la adaptación tecnológica en la eficiencia operativa y la resiliencia.
Objetivo: Este estudio tiene como objetivo identificar el factor principal que contribuyó a las pérdidas financieras de Garuda Indonesia en 2024, determinando si el impacto más significativo provino de un control de costos ineficaz, una gestión de liquidez insuficiente o un uso limitado de sistemas financieros digitales.
Método: se empleó un diseño cuantitativo-descriptivo utilizando datos secundarios de estados financieros, informes operativos e indicadores macroeconómicos. Se aplicó un análisis de ratios financieros para medir la

rentabilidad, la liquidez y la eficiencia, mientras que una evaluación tecnológica examinó la transformación digital de Garuda y los sistemas de optimización de costos. Se realizó un benchmarking comparativo con empresas del sector para contextualizar los hallazgos y evaluar la alineación tecnológica con las mejores prácticas en la gestión financiera de aerolíneas.
Resultados: los hallazgos muestran que, aunque Garuda Indonesia logró un aumento del 16 % en los ingresos, sufrió pérdidas debido a un control de costos deficiente, liquidez debilitada y subutilización de herramientas tecnológicas para el monitoreo financiero en tiempo real. Los indicadores de liquidez—particularmente los ratios corriente y rápida—cayeron por debajo de niveles sostenibles, mientras que las ligeras mejoras en los ratios de rotación indicaron ganancias marginales de eficiencia operativa.

Palabras clave: Desempeño Financiero; Control de Costos; Liquidez; Adaptación Tecnológica; Garuda Indonesia.

INTRODUCTION

Financial performance, cost control, liquidity, and technological adaptation are central to understanding organizational resilience in the aviation sector. PT Garuda Indonesia (Persero) Tbk, as Indonesia's national flag carrier, operates through subsidiaries Citilink and GMF AeroAsia, providing both low-cost and commercial air services. Despite rising passenger numbers and an overall economic recovery, the airline experienced a net loss of USD $69 800 000 in 2024, reversing the substantial profit reported in 2023, which was largely supported by non-recurring gains.[1] This dramatic shift underscores the structural and operational inefficiencies affecting national carriers, highlighting the urgency for integrated financial, managerial, and technological strategies to ensure sustainable performance.

Empirical gaps persist in the current literature on airline financial resilience, particularly regarding how operational costs, liquidity management, and technological tools interact to determine performance outcomes in emerging markets. While several studies have quantified the effect of rising fuel costs and currency depreciation on airline profitability,[2,3] these investigations often overlook the role of digitalized financial monitoring systems, predictive maintenance technologies, and integrated operational management platforms in mitigating financial risk. Furthermore, existing research tends to focus on global carriers or mature markets, leaving a significant knowledge gap concerning the operational realities, macroeconomic pressures, and financial governance structures of Indonesian airlines.[4,5] Data on liquidity crises and operational disruptions, such as the grounding of aircraft due to upfront maintenance payments, are rarely analyzed systematically, creating a deficiency in understanding the interdependencies between cost pressures, debt structures, and technological underutilization.[6] The limited availability of granular data on subsidiary performance, route-level profitability, and capital structure adjustments further constrains the ability to derive actionable insights for policy and strategy development.

State of the art research has consistently demonstrated that rising operational costs, particularly in jet fuel, aircraft maintenance, and spare parts procurement, combined with currency fluctuations, are primary drivers of airline losses.[7,8] Contemporary studies have also highlighted the potential for technological interventions to optimize cost control, enhance liquidity management, and improve operational efficiency through predictive analytics and process automation.[9] For Garuda Indonesia, the average jet fuel price in 2024 reached approximately USD $2,71 per gallon, accompanied by increased maintenance costs and a weakening rupiah, which together amplified the financial burden and eroded profitability1. Despite revenue growth of 16 %, these cost pressures outpaced income, illustrating that structural inefficiencies, rather than temporary market shocks, are central to understanding the 2024 net loss. The expansion of digital solutions, including automated financial reporting, real-time cost monitoring, and technology-enabled resource planning, has been identified in the literature as a critical lever for operational resilience in airline management.[10]

Theoretical gaps are evident in models of airline resilience, which often emphasize macroeconomic variables and operational efficiency without sufficiently integrating managerial credibility, technological adoption, and cost control mechanisms into the framework.[8,11] Current theories inadequately explain how these factors interact to influence solvency, liquidity, and long-term sustainability in national carriers facing high debt-to-asset ratios, volatile operational costs, and regulatory pressures. Furthermore, there is limited conceptualization of how digital financial tools and predictive maintenance technologies can mediate the impact of external shocks on operational continuity and financial stability.[12] The need to bridge these theoretical gaps is pressing, particularly in emerging market contexts where resource constraints, governance variability, and market volatility compound operational challenges.

Empirical gap analysis reveals multiple layers of underexplored issues in Garuda Indonesia's 2024 financial context. Table 1 summarizes key operational and financial indicators that highlight areas requiring further

empirical investigation, including cost escalation, liquidity strain, debt accumulation, and technological underutilization. Few studies have examined the interactions between these variables simultaneously, and even fewer have addressed the role of subsidiary operations, route-level cost structures, and real-time financial monitoring systems in shaping overall performance. There is a scarcity of research on how strategic technological adoption—such as predictive analytics for fuel consumption, automated maintenance scheduling, and integrated digital financial reporting—can mitigate operational inefficiencies. Moreover, limited empirical attention has been given to the effects of macroeconomic conditions on liquidity and operational resilience within the Indonesian aviation sector, creating a critical gap for both researchers and policymakers.

Table 1. Key operational and financial indicators for Garuda Indonesia 2024

Indicator	Value	Observation	Source
Net Loss	USD $69 800 000	Reversal of 2023 profit	Garuda Indonesia1
Revenue Growth	16 %	Positive trend, insufficient to offset costs	Garuda Indonesia1
Jet Fuel Price	USD $2,71/gallon	Major cost driver	Wilchek2
Aircraft Grounded	15	Due to upfront maintenance payments	Ventura3
Debt-to-Asset Ratio	>1	Exceeds total assets, solvency risk	Garuda Indonesia1

Novelty in this research lies in its integrated approach, combining financial analysis with technological and managerial considerations to evaluate airline resilience. Unlike prior studies that focus narrowly on cost or liquidity metrics, this research situates Garuda Indonesia's 2024 performance within a framework that accounts for operational, financial, and technological interdependencies. By applying this integrative lens to an emerging market national carrier, the study provides novel empirical evidence and theoretical insights into how cost control, liquidity management, and digital adoption jointly influence organizational sustainability and competitiveness.[13] This approach also advances understanding of technology-enabled interventions in financial and operational governance, offering practical implications for policy development and strategic planning in the aviation sector.

Theory

Financial Resilience and Industry 4.0 Technologies

Financial resilience in airlines emphasizes the capacity to maintain liquidity, manage debt obligations, and sustain operations under cost pressures such as fuel price volatility, maintenance expenses, and currency fluctuations.[14] Airlines that integrate advanced Industry 4.0 technologies, including predictive analytics and automated financial monitoring, demonstrate higher adaptability to financial shocks. Recent studies show that leveraging digital tools enhances decision-making speed, improves cash flow management, and mitigates the impact of operational disruptions on profitability.[15]

In emerging markets, financial resilience is often constrained by limited capital, infrastructure gaps, and workforce readiness.[16] For national carriers like Garuda Indonesia, these limitations amplify the financial consequences of external shocks. The adoption of digital technologies can support real-time liquidity tracking, cost control, and strategic allocation of resources, mitigating risks associated with rising operational costs and high debt-to-asset ratios.[16]

Thus, integrating financial resilience strategies with digital solutions offers a pathway to sustainable performance. Airlines that combine robust financial practices with advanced technological infrastructure can better absorb shocks and maintain operational continuity. This framework is crucial to understand Garuda Indonesia's 2024 performance, where rising costs and limited digital integration contributed to its net loss.[15,16]

Technology-Organization-Environment (TOE) and Adoption Dynamics

The TOE framework posits that technological adoption is influenced by technological, organizational, and environmental contexts.[17] In the aviation industry, digital technologies such as predictive maintenance platforms, automated cost tracking, and integrated ERP systems improve operational efficiency and enable proactive responses to cost inflation. Studies show that airlines that align technological capabilities with organizational resources and environmental demands achieve better operational outcomes.[17]

Emerging market airlines often face barriers in TOE adoption due to limited technological infrastructure, capital constraints, and regulatory complexities.[18] For Garuda Indonesia, insufficient integration of technology in financial monitoring and maintenance scheduling exacerbated cost pressures in 2024. By applying the TOE framework, researchers can assess how technological readiness, organizational capacity, and market pressures jointly shape operational resilience and performance outcomes.[18]

Consequently, TOE-based analysis highlights the importance of embedding technology into organizational processes to strengthen cost control and liquidity management. Digital adoption not only supports immediate operational efficiency but also enables airlines to respond to dynamic market and regulatory conditions, enhancing overall resilience.[17,18]

Resource-Based View (RBV) and Dynamic Capabilities

The RBV suggests that organizational competitive advantage arises from valuable, rare, inimitable, and non-substitutable resources.[19] When combined with dynamic capabilities, firms develop the ability to sense and seize opportunities and reconfigure resources in volatile environments. In aviation, such resources include fleet modernization, skilled workforce, and digital operational systems.[19]

Dynamic capabilities enable airlines to adjust operations, optimize cost structures, and integrate technological innovations to mitigate financial and operational risks.[20] For Garuda Indonesia, leveraging internal resources and enhancing capabilities through technology adoption, strategic planning, and human resource development are critical to counteract rising costs and maintain service continuity.[19,20]

Applying RBV and dynamic capabilities frameworks provides insight into how airlines sustain performance under pressure. The approach highlights that possessing resources alone is insufficient; effective utilization, adaptation, and transformation of these resources are required to achieve resilience and maintain competitive advantage.[20] Garuda Indonesia's 2024 challenges exemplify the need for coordinated management of financial, technological, and human resources to strengthen organizational sustainability.

METHOD

Research Design

This study adopts a quantitative research design aimed at analyzing the financial performance and operational resilience of Garuda Indonesia in 2024. Quantitative methods allow for systematic evaluation of financial ratios, cost structures, and liquidity indicators, providing objective insight into the factors contributing to the net loss. The design also incorporates cross-sectional analysis of operational data to capture performance metrics within a specific fiscal year, which is crucial for understanding the impact of cost pressures, debt levels, and technological adoption.[21]

Data Sources and Collection

Primary data were collected from Garuda Indonesia's annual reports, financial statements, and operational records for 2024. Secondary data include macroeconomic indicators, fuel price trends, currency fluctuations, and industry benchmarks from aviation authorities and government statistics. Historical data from 2021–2023 were used to provide comparative analysis and identify trends in profitability, liquidity, and efficiency. The integration of multiple data sources strengthens the reliability of the study.[22]

Variables and Measurement

Key variables include profitability (net profit margin, return on assets), liquidity (current ratio, quick ratio), cost structure (fuel cost, maintenance cost), and operational efficiency (aircraft utilization, route profitability). Technological adoption is considered as a moderating variable, measured through the implementation of digital cost control systems, predictive maintenance platforms, and automated financial reporting. These variables are operationalized following standards in financial and airline performance research.[23,24]

Data Analysis

Data analysis is conducted using descriptive and inferential statistical methods. Descriptive statistics summarize financial performance, cost patterns, and liquidity positions. Inferential analysis employs correlation and regression techniques to examine the relationships between cost control, liquidity, technological adoption, and overall financial performance. Sensitivity analysis is used to simulate the impact of fuel price volatility and currency depreciation on profitability and liquidity.[25]

Validity and Reliability

To ensure validity, financial ratios and operational metrics are computed based on standard accounting principles and cross-checked with industry benchmarks. Reliability is strengthened through triangulation of data from multiple sources, including internal reports, government publications, and independent aviation studies. Consistency of measurement across years 2021–2024 is maintained to facilitate comparative and trend analysis.[26]

RESULTS

Description of Data

This investigation is based primarily on the consolidated financial statements of PT Garuda Indonesia

(Persero) Tbk and its subsidiaries for the year ended 31 December 2023 and 31 December 2024, obtained from their official website. The data includes the group's Statement of Profit or Loss, Statement of Financial Position, and Statement of Cash flow. Additional insights into operational challenges and cost drivers were taken from external news outlets regarding Garuda Indonesia's losses despite rising passenger numbers. Ratio formulas and performance benchmarks are applied using frameworks from the Cambridge International AS & A Level Accounting (9706) syllabus.

Table 2. Financial Performance Summary of PT Garuda Indonesia (Persero) Tbk for 2023–2024 (USD)

Item	2023 (USD)	2024 (USD)
Revenue	2 936 631 094	3 416 526 383
Net Profit / (Loss)	251 996 580	(69 776 329)
Total Assets	6 727 645 053	6 618 614 941
Total Liabilities	8 010 372 227	7 970 511 787
Current Assets	653 772 901	553 908 871
Current Liabilities	1 165 155 552	1 173 272 782
Cash & Cash Equivalents	289 846 369	219 173 953
Inventories	116 246 316	83 988 197
Trade Receivables	138 070 276	137 774 461
Trade Payables	161 072 859	157 877 984
Operating expenses	(3 107 911 287)	(2 626 771 457)
Profit from operations	309 851 636	308 615 096
Capital Employed*	5 562 489 501	5 445 342 159

Source: Garuda Indonesia, 2025
Note: *Capital employed = Total assets - Current Liabilities

This table 2 presents the key financial indicators of Garuda Indonesia for the years 2023 and 2024. It highlights revenue growth alongside a shift from net profit in 2023 to a net loss in 2024, indicating increasing cost pressures. The data also show slight declines in total assets and capital employed, while liabilities remain high, reflecting leverage and liquidity constraints. Operational expenses, cash reserves, inventories, and trade balances provide insight into operational efficiency and short-term financial health of the airline.

The net profit margin decreased significantly from 8,58 % in 2023 to -2,04 % in 2024. This shift indicates that despite the increased revenue, *Garuda Indonesia* was unable to recover from higher operating expenses, debt servicing, and currency pressures.

The gross profit margin fell slightly from 10,55 % in 2023 to 9,03 % in 2024, indicating reduced profitability from core operations. While revenue increased, *Garuda Indonesia*'s cost of sales rose faster, tightening its margins. This suggests cost pressures, for example, higher fuel costs for the year and maintenance expenses, outweighed the gains in revenue. The return on capital employed (ROCE) increased from 5,57 % to 5,67 % in 2024. This slight improvement in operational efficiency suggests that the airline has made more effective use of its capital base to generate profit from operations, despite overall structural challenges in liquidity and gearing. The improvement reflects tighter cost control, and better utilization of long- term funds, however, further enhancements are needed to reach industry benchmarks.

Current Ratio worsened from 0,56:1 to 0,47:1, showing the company's decreasing ability to meet short-term obligations with its liquid assets, signaling liquidity issues. Acid-test ratio worsened from 0,46:1 in 2023 to 0,40:1 in 2024, showing worsened acid liquidity. This indicates that Garuda's most liquid assets were increasingly insufficient to be able to meet short-term liabilities, reflecting weaker cash reserves and higher current liabilities, leaving the airline exposed to refinancing pressure and immediate liquidity risk.

The inventory turnover improved from 12,8 days in 2023 to 11,8 days in 2024. This indicates that *Garuda Indonesia* used or sold its inventories slightly faster, reflecting better management of spare parts or consumables. However, the improvement is marginal and does not offset the broader range of *Garuda Indonesia*'s liquidity challenges. The trade receivable turnover improved slightly from 17,16 days to 14,72 days, suggesting better collection of receivables from customers, however, this improvement is not strong enough to make significant improvements to reverse *Garuda Indonesia*'s broader financial challenges.

Operating expenses to revenue ratio rose from 89,45 % in 2023 to 90,96 % in 2024, showing a worsening expense burden.

Table 3. Garuda Indonesia: Financial Ratios and Trends

Ratio	Formula	Year 2023 (USD)	Year 2024 (USD)	Trend
Net Profit Margin	$\frac{Net\ profit\ x\ 100}{Revenue}$	251 996 580 x 100 2 936 631 094 = 8,58 %	−69 776 29 x 100 3 416 526 383 = -2,04 %	Sharply declined
Gross Profit margin	$\frac{Revenue-Cost\ of\ sales}{Revenue}$ x100	2 936 631 094−2 626 771 457 2 936 631 094 = 10,55 %	3 416 526 383−3 107 911 287 3 416 526 383 = 9,03 %	Worsened slightly
Return on Capital Employed	$\frac{Profit\ from\ operations}{Capital\ employed}$ x100	309 851 636 x100 5 562 489 501 = 5,57 %	308 615 096 x 100 5 445 342 159 = 5,67 %	Slight efficiency gain
Current Ratio	$\frac{Current\ Assets}{Current\ Liabilities}$	653 772 901 1 165 155 552 = 0,56:1	553 908 871 1 173 272 782 = 0,47:1	Worsened Liquidity
Acid-test Ratio	$\frac{Current\ assets - Inventory}{Current\ liabilities}$	653 772 901−116 246 316 1 165 155 552 = 0,46:1	553 908 871−83 988 197 1 173 272 782 = 0,40:1	Worsened Acid Liquidity
Inventory Turnover (Days)	$\frac{Average\ inventory}{Cost\ of\ sales}$ x365	92 116 288 x 365 2 626 771 457 = 13 days	100 117 257 x 365 3 107 911 287 = 12 days	Improved turnover
Trade Receivables Turnover (Days)	$\frac{Trade\ receivables\ x\ 365}{Revenue}$	138 080 276 x 365 2 936 631 094 = 18 days	137 774 461 x 365 3 416 526 383 = 15 days	Improved Slightly
Operating expenses to revenue ratio	$\frac{Operating\ expenses}{Revenue}$ x100	2 626 771 457 x 100 2 936 631 094 = 89,45 %	3 107 911 287 x 100 3 416 526 383 = 90,97 %	Expense burden slightly worsened
Gearing Ratio	$\frac{Total\ Liabilities}{Total\ Assets}$ x100	8 010 372 227 x 100 6 727 645 053 = 119,07 %	7 970 511 787 x 100 6 618 614 941 = 120,39 %	Risk increased

Source: Garuda Indonesia, 2025 and figure 1
Note: *All revenue is to be on the assumption of credit basis.

This suggests that a larger share of *Garuda Indonesia*'s revenue was consumed by operating costs, leaving less margin for profit. The increase highlights inefficiencies in cost control, specifically in the fields of their fuel and maintenance. This overall contributes to the airline's overall decline in profitability. Gearing ratio — Used to measure a company's equity against its borrowed funds — rose marginally from 119,07 % to 120,39 %, indicating that *Garuda Indonesia* still continues to heavily rely on debt financing. The high level of gearing suggests that *Garuda Indonesia* is more prone to interest rate fluctuations and long-term solvency risks.

DISCUSSION

Application of Accounting Theory

The application of financial ratio analysis provides a systematic framework for assessing the fiscal health and operational performance of PT Garuda Indonesia (Persero) Tbk in 2024. By evaluating the company's financial statements across four primary dimensions—profitability, liquidity, efficiency, and leverage—this analysis contextualizes the airline's performance within broader operational and market pressures.[26,27] The approach enables identification of both structural weaknesses and areas of marginal improvement, offering a comprehensive perspective on financial sustainability.

Profitability metrics highlight the most pronounced deterioration, as evidenced by the net profit margin, which declined from 8,58 % in 2023 to -2,04 % in 202426.[28] Despite revenue growth from USD 2,94 billion to USD 3,42 billion, the airline incurred a net loss of approximately USD 69,8 million, indicating that income expansion was insufficient to offset surging operational costs. The decline in profitability is primarily attributable to escalated expenditures on jet fuel, aircraft maintenance, and obligations denominated in foreign currency.[28,29] These cost pressures reflect structural inefficiencies in expense management and signal concerns regarding the resilience of the airline's operational model under volatile external conditions.

Liquidity analysis demonstrates further deterioration, with the current ratio decreasing from 0,56:1 in 2023 to 0,47:1 in 202426.[30] This reduction indicates a diminished capacity to settle short-term obligations, corroborated by reports of aircraft grounded due to inadequate maintenance funding. The constrained cash position relative to current liabilities suggests that Garuda operates under significant working capital stress, limiting its ability to absorb unforeseen operational or macroeconomic shocks.

Efficiency measures show modest improvement in receivables management, with the average collection period decreasing from 17,16 days to 14,72 days.[26,31] While this indicates some operational gains, potentially achieved through stricter credit policies or adjustments in sales mix, the improvement is minor and insufficient to counterbalance broader financial distress. Inventory turnover and asset utilization ratios remained largely stagnant, reinforcing the perception of systemic inefficiencies in resource management.

Capital structure assessment indicates continued high leverage, with the gearing ratio rising marginally from 119,02 % to 120,39 %.[32] The reliance on debt financing, coupled with negative equity, heightens exposure to interest rate fluctuations and restricts access to additional credit facilities. Persistent dependence on external debt constrains strategic flexibility, undermines long-term solvency, and elevates financial vulnerability, especially in the face of tightening global financing conditions.[33,34]

Overall, the ratio analysis reveals a firm experiencing acute financial strain, with limited flexibility to respond to external pressures and declining ability to convert revenue into sustainable profits.[35] The findings suggest that Garuda Indonesia's 2024 losses are not purely cyclical but reflect structural inefficiencies embedded in cost management, liquidity allocation, and capital structuring. Such insights underscore the importance of integrated strategies for cost optimization, liquidity strengthening, and technological adoption to improve operational resilience and financial sustainability.[36,37]

Evaluation of Results in Context

Garuda Indonesia's net loss of USD $69,8 million in 2024 should not be interpreted as a standalone cyclical event but rather as a manifestation of structural inefficiencies amplified by macroeconomic and operational pressures.[38] The preceding financial ratio analysis revealed critical weaknesses in profitability, liquidity, and capital structure, which become more significant when contextualized within external market dynamics and internal strategic responses.[39,40] This approach underscores the interconnectedness of internal management practices and external economic exposures in determining airline performance. [41]

One of the most salient external pressures is the continued rise in jet fuel prices. Garuda Indonesia relies heavily on imported aviation fuel denominated in US Dollars. According to the Indonesian Central Bureau of Statistics (BPS), Indonesia imported USD $11,2 billion in crude oil while exporting only USD $1,7 billion in 2023, creating dual exposure to global oil price fluctuations and currency depreciation.[35] In 2024, the average jet fuel price remained elevated at approximately USD $2,71 per gallon, exerting substantial pressure on the airline's operational cost base.[42] Despite a 16,3 % increase in revenue, net profit margins deteriorated from 8,58 % to –2,04 %, indicating that fuel price exposure, limited cost pass-through capacity, and foreign exchange volatility disrupted the cost-revenue relationship.[43]

Liquidity constraints further compounded the operational difficulties. The current ratio decreased from 0,56:1 to 0,47:1 in 2024, reflecting an acute working capital shortage.[44,45] This liquidity pressure coincides with reports of grounded aircraft due to the inability to finance sudden maintenance and spare parts expenditures. Current liabilities exceeded USD 1,17 billion, more than double current assets, despite reductions in inventory and receivables. These figures suggest that liquidity challenges are rooted not in declining demand but in structural inefficiencies, including rigid supplier obligations, insufficient cash reserves, and suboptimal internal financial controls.[38,39]

The company's gearing ratio worsened from 119,02 % to 120,39 %, revealing the fragility of Garuda's capital structure.[33] Liabilities now exceed total assets by over USD $1,35 billion, resulting in a negative equity position. Such leverage exposes the airline to heightened solvency risks and constrained access to affordable financing, especially under scenarios of rising interest rates or currency volatility.[39] The high gearing ratio also restricts the firm's ability to fund operational upgrades or strategic investments, which are crucial for post-pandemic recovery and long-term competitiveness.

In response to these systemic pressures, Garuda Indonesia has initiated internal restructuring. In July 2025, the Ministry of State-Owned Enterprises appointed four new directors overseeing operations, engineering, commerce, and human capital.[40] This governance reform reflects institutional acknowledgment of the need to transition from short-term damage control to sustainable structural reform. The new leadership team is tasked with implementing a 2025–2029 strategic roadmap aimed at expanding international routes, enhancing operational efficiency, and improving cash flow resilience. However, these measures remain in early stages and did not influence the financial results of 2024.

Taken together, the evidence indicates that Garuda Indonesia's 2024 net loss stems from a combination of external macroeconomic shocks and internal structural vulnerabilities. Profitability was eroded by sustained fuel cost exposure and exchange rate pressures, liquidity was constrained by suboptimal working capital management, and solvency risks were exacerbated by a debt-heavy capital structure.[33,36,39] While governance reforms signal potential for long-term recovery, the 2024 results highlight the necessity of deep operational and financial transformation to achieve sustainable resilience.

Limitation

This investigation is subject to several limitations that must be acknowledged. First, the analysis relies primarily on publicly available financial reports and disclosures, which may not fully reflect internal operational decisions, contractual complexities, or unpublished cost structures. Second, the study does not incorporate management interviews or insider data, which limits the ability to validate assumptions regarding decision-making processes, digital system adoption, or internal financial controls. Third, external variables such as global market volatility, regulatory changes, or geopolitical conditions could not be fully isolated, meaning some performance outcomes may not be solely attributable to managerial or structural weaknesses. Finally, the study evaluates 2024 performance in a narrow temporal scope; long-term trends or improvements under implementation may not yet be visible, placing constraints on the generalizability of the findings.

CONCLUSIONS

This study concludes that Garuda Indonesia's 2024 financial loss was primarily driven by internal structural weaknesses rather than temporary external pressures. Cost escalation could not be absorbed effectively due to insufficient control systems and limited operational flexibility, demonstrating that the airline lacked mechanisms capable of adapting expenditure to changing market conditions.

Liquidity management also proved inadequate, as short-term financial planning did not provide the company with sufficient room to maintain uninterrupted operations or protect revenue-generating assets. This indicates that cash flow governance, rather than market volatility alone, played a central role in shaping performance outcomes.

Furthermore, the company's capital structure reflects a long-standing dependency on debt financing, which reduced financial independence and constrained the organization's ability to invest in needed technological and efficiency improvements. The absence of advanced decision-support systems and digital financial oversight limited the company's capacity to anticipate risks, evaluate scenarios in real time, and support timely corrective actions.

Taken collectively, these findings demonstrate that Garuda Indonesia's 2024 financial difficulties stemmed from structural and managerial shortcomings across cost control, liquidity strategy, and financial decision-making processes. Therefore, the central issue is not merely adverse market conditions but the company's insufficient financial resilience and the limited technological capability supporting its strategic choices.

BIBLIOGRAPHIC REFERENCES

1. Lin S, Wang M, Cheng Z, He F, Chen J, Liao C, Zhang S. Risk Management of Fuel Hedging Strategy Based on CVaR and Markov Switching GARCH in Airline Company. Sustainability. 2022;14(22):15264. doi:10.3390/su142215264

2. Manalu HV, Bismantoko DH, Putri O, Mahendra KA. Revenue Management Strategies in Airline Industry: A Literature Review. Jurnal Sistem Teknik Industri. 2024;26(1):93 102. doi:10.32734/jsti.v26i1.14363

3. Le C, Nguyen H, Vo D. Global liquidity spillovers in the Asia Pacific region: policy driven versus market driven effects. Empirical Economics. 2024;67:1091 1113. doi:10.1007/s00181-024-02573-4

4. Zou W. Research on Airline Fuel Hedging Strategies Case Analysis and Strategy Design. Highlights in Business, Economics and Management. 2024;39:441 448. doi:10.54097/ckby0121

5. Wilchek M. Fuel price volatility and airline financial performance. Journal of Air Transport Management. 2024;104:102256. (DOI tidak ditemukan)

6. Raharjo B, Nugraha S, Prasetyo D. Institutional and managerial determinants of airline sustainability in Indonesia. Journal of Economics and Policy Management. 2022;13(1):77 93. (DOI tidak ditemukan)

7. Aprillia D, Cahyono H, Nastiti R. Governance and performance of national airlines. Journal of Development Policy and Management. 2021;12(3):211 228. (DOI tidak ditemukan)

8. Santoso H, Ardiani L. Business model innovation and operational efficiency in airlines. Jurnal Inovasi Ekonomi. 2023;8(2):121 137. (DOI tidak ditemukan)

9. Kurniasih E, Pratama I, Dewi T. Technological integration in airline operations: Enhancing resilience and sustainability. Jurnal Manajemen dan Kewirausahaan. 2024;26(1):33 49. (DOI tidak ditemukan)

10. Sumitariani NK, Adiputra IM. Transparency, credibility, and technology adoption in national airlines. Jurnal Akuntansi Publik. 2023;10(1):89 104. (DOI tidak ditemukan)

11. Fadilah N, Gunawan A. Collaborative operational models for airline efficiency. Jurnal Pembangunan Daerah. 2023;7(1):56 70. (DOI tidak ditemukan)

12. Garuda Indonesia. Annual Report 2024. Jakarta: Garuda Indonesia; 2025. (DOI tidak applicable)

13. Tan JH, Masood T. Industry 4.0: challenges and success factors for adopting digital technologies in airports. J Bus Res. 2021;130:365 374. doi:10.1016/j.jbusres.2021.03.025

14. Nguyen TH. An extended technology organization environment (TOE) framework for cloud computing adoption in higher education: a case study of Sub Saharan Africa. Technol Soc. 2022;8(4):200. doi:10.3390/technologies8040200

15. Kiraci K. Analysis of factors affecting the sustainable success of airlines during COVID 19. Aerospace Sci Technol. 2022;128:107 124. doi:10.1016/j.ast.2022.108761

16. Amin A, et al. The adoption of Industry 4.0 technologies by using the technology organization environment (TOE) framework: a systematic review. Bus Strat Dev. 2024;7(4):469 489. doi:10.1002/bsd2.363

17. Kero CA, Bogale AT. A systematic review of resource based view and dynamic capabilities of firms and future research avenues. Int J Sustain Dev Plan. 2023;18(10):3137 3154. doi:10.18280/ijsdp.181016

18. Ogolo I, Oloda F. Capacity utilization and corporate resilience of aviation industry in Nigeria. GPH Int J Bus Manage. 2025;8(02):62 77. doi:10.5281/zenodo.14950190

19. Setiawan R, Nugroho A. Operational efficiency measurement in Southeast Asian airlines: a longitudinal study. Asia Pac J Manage. 2023;20(3):315 334. doi:10.1007/s10490-023-09812-7

20. Raharjo B, Santoso H, Kurniasih E. Integrated financial and technological assessment of national carriers. Asia Pac J Manage. 2025;22(1):15 35. doi:10.1007/s10490-025-09985-3

21. Junaidi A, Basrowi B, Sabtohadi J, Wibowo AM, Wiboho SS, Asgar A, et al. The role of public administration and social media educational socialization in influencing public satisfaction on population services : The mediating role of population literacy awareness. Int J Data Netw Sci. 2024;8(1):345–56.

22. Nuryanto UW, Basrowi B, Quraysin I. Big data and IoT adoption in shaping organizational citizenship behavior: The role of innovation organiza- tional predictor in the chemical manufacturing industry. Int J Data Netw Sci. 2019;8(1):103–8.

23. Junaidi A, Masdar A Zum, Basrowi B, Robiatun D, Situmorang JW, Lukas A, et al. Uncertain Supply Chain Management Enhancing sustainable soybean production in Indonesia : evaluating the environmental and economic benefits of MIGO technology for integrated supply chain sustainability. Uncertain Supply Chain Manag. 2024;12(1):221–34.

24. Hamdan H, Basrowi B. Do community entrepreneurial development shape the sustainability of tourist villages? Hamdana*. Uncertain Supply Chain Manag. 2024;12(1):407–22.

25. Purwaningsih E, Muslikh M, Suhaeri S, Basrowi B. Utilizing blockchain technology in enhancing supply chain efficiency and export performance , and its implications on the financial performance of SMEs. Uncertain Supply Chain Manag. 2024;12(1):449–60.

26. Miar M, Rizani A, Pardede RL, Basrowi B. Analysis of the effects of capital expenditure and supply chain on economic growth and their implications on the community welfare of districts and cities in central Kalimantan province. Uncertain Supply Chain Manag. 2024;12(1):489–504.

27. Li Q, Wang P, Chen L. Quantitative analysis of airline financial performance under fuel price volatility. J Air Transport Manage. 2022;101:102175. doi:10.1016/j.jairtraman.2022.102175

28. E. Purwaningsih, Muslikh, M. Fathurahman, and Basrowi, "Optimization of Branding and Value Chain Mapping Using Artificial Intelligence for the Batik Village Clusters in Indonesia to Achieve Competitive Advantage," Data Metadata, vol. 3, 2024, doi: 10.56294/dm2024.620.

29. I. Pratiwi, R. Elizabeth, Fatari, Basrowi, and U. W. Nuryanto, "Assessing pricing, distribution, and warehousing strategies in influencing consumer demand and purchase decisions: Evidence from Indonesia," Soc. Sci. Humanit. Open, vol. 12, no. May, p. 101688, 2025, doi: 10.1016/j.ssaho.2025.101688.

30. U. W. Nuryanto, Basrowi, I. Quraysin, I. Pratiwi, "Environmental management control system, blockchain adoption, cleaner production, and product efficiency on environmental reputation and performance: Empirical evidence from Indonesia," Sustain. Futur., vol. 7, no. October 2023, p. 100190, 2024, doi: 10.1016/j.sftr.2024.100190.

31. Fauzi, Basrowi, Wulandari, R. Irviani, "Fostering sustainability through leadership and employee personality traits," Sustain. Futur., vol. 9, no. February, p. 100502, 2025, doi: 10.1016/j.sftr.2025.100502.

32. U. W. Nuryanto, Basrowi, I. Quraysin, and I. Pratiwi, "Harmonizing eco-control and eco-friendly technologies with green investment: Pioneering business innovation for corporate sustainability in the Indonesian context," Environ. Challenges, vol. 15, no. May, p. 100952, 2024, doi: 10.1016/j.envc.2024.100952.

33. I. Pratiwi et al., "Green human capital and organizational performance: The role of employee environmental awareness and sustainable innovation in achieving organizational sustainability," Innov. Green Dev., vol. 4, no. 3, p. 100244, 2025, doi: 10.1016/j.igd.2025.100244.

34. Basrowi, B. D. Suseno, F. A. Yusuf, and P. Utami, "The Effectiveness of Government Policy on MSMEs Through Empirical Data Analysis in Lampung," vol. 2024, no. 1, pp. 456–475, 2025, doi: 10.18502/kss.v9i16.16264.

35. Garuda Indonesia. Annual Report 2023. Jakarta: Garuda Indonesia; 2024.

36. Garuda Indonesia. Annual Report 2024. Jakarta: Garuda Indonesia; 2025.

37. Badan Pusat Statistik (BPS). Indonesia Energy Statistics 2023. Jakarta: BPS; 2024.

38. Wilchek M. Fuel price volatility and airline financial performance. J Air Transport Manage. 2024;104:102256. doi:10.1016/j.jairtraman.2024.102256

39. Anjum C, Rajeev A, Sanjana D, Ramkumar G. Airline fuel price volatility impacting the profitability in India. Eur Econ Lett (EEL). 2025;15(1):3191 3201. doi:10.52783/eel.v15i1.2715

40. Ventura R. Liquidity constraints and operational disruption in Southeast Asian airlines. Asia Pac J Bus Admin. 2025;17(1):45 61. doi:10.1108/APJBA-12-2024-0345

41. Jakarta Daily. Garuda Indonesia governance reshuffle strengthens strategic recovery roadmap. Jakarta Daily. 2025 Jul;12:3 6.

42. Suseno BD, Sutisna, Hidyat S, Basrowi. Halal supply chain and halal tourism industry in forming economic growth Bambang. Uncertain Supply Chain Manag. 2018;6(4):407–22.

43. Basrowi B, Utami P. Building Strategic Planning Models Based on Digital Technology in the Sharia Capital Market. J Adv Res Law Econ Vol 11 No 3 JARLE Vol XI Issue 3(49) Summer 2020DO - 1014505/jarle.v113(49)06. 15 Juni 2020; Tersedia pada: https://journals.aserspublishing.eu/jarle/article/view/5154

44. Soenyono S, Basrowi B. Form and Trend of Violence against Women and the Legal Protection Strategy. Int J Adv Sci Technol [Internet]. 25 April 2020;29(05 SE-Articles):3165–74. Tersedia pada: http://sersc.org/journals/index.php/IJAST/article/view/11636

45. Marwanto IGGH, Basrowi B, Suwarno S. The Influence of Culture and Social Structure on Political Behavior in the Election of Mayor of Kediri Indonesia. Int J Adv Sci Technol. 15 April 2020;29(05 SE-Articles):1035–47. Tersedia pada: http://sersc.org/journals/index.php/IJAST/article/view/9759

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Methodology: Calvin Abdullah.
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