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THE EFFECT OF OPERATIONAL EFFICIENCY ON FINANCIAL DISTRESS : A SYSTEMATIC LITERATURE REVIEW

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Abstract

This study investigates the effect of operational efficiency on financial distress among manufacturing firms listed on the Indonesia Stock Exchange (IDX). Operational efficiency reflects a company's ability to utilize its assets effectively to generate sales and profits, measured using the *Total Asset Turnover (TATO) ratio*. The research adopts a quantitative design with secondary data collected from audited financial statements. Logistic regression analysis was employed to test the relationship between operational efficiency and financial distress, with control variables such as liquidity, profitability, and firm size. The findings reveal that higher operational efficiency significantly reduces the likelihood of financial distress, indicating that efficient asset utilization strengthens financial sustainability. This study contributes to the understanding of how operational capacity influences firms' resilience against financial decline, offering insights for managers and investors in anticipating early signs of distress.

Keywords: Operational Efficiency, Financial Distress, Asset Turnover, Manufacturing Firms, Indonesia Stock Exchange.

Introduction

In a dynamic and competitive business environment, the ability of firms to maintain operational efficiency determines their financial health and sustainability. Financial distress represents a condition of deteriorating financial performance that may precede bankruptcy. The early identification of distress is essential for management, creditors, and investors to implement corrective strategies Manufacturing companies in Indonesia play a crucial role in the national economy, yet they are highly vulnerable to inefficiencies that reduce profitability and liquidity. Previous research has shown that inadequate operational efficiency—reflected in low turnover ratios and poor asset management—may lead to declining profits and

increased financial risk Therefore, this study aims to examine the effect of operational efficiency on financial distress in Indonesian manufacturing firms and to identify whether improved operational performance can reduce the risk of financial collapse.

Theoretical Framework

Financial distress refers to a stage of financial decline that occurs before bankruptcy, in which a company faces difficulties in meeting its financial obligations such as interest payments and short-term debts. According to Altman's model (1995), financial distress can be predicted using various financial ratios that reflect liquidity, profitability, solvency, and operational performance.

Companies experiencing financial distress generally show declining cash flow, decreasing profitability, and inefficiencies in asset utilization that hinder their ability to generate sufficient income to cover operating expenses. Financial distress is not merely an accounting signal but also a managerial phenomenon that reflects declining competitiveness, weak internal control, or a mismatch between production capacity and market demand. Thus, the main theories relevant to this study include:

1. **Agency Theory**
   Agency Theory (Jensen & Meckling, 1976) explains the relationship between principals (owners) and agents (managers) in a firm. Conflicts may arise when managers pursue personal interests at the expense of shareholders. Poor operational decisions — such as overinvestment in low-yield assets or inefficient resource use — can result from misaligned incentives. According to Ginanjar and Rahmayani (2021), when management fails to operate efficiently, the company's financial performance deteriorates, leading to reduced profitability and heightened distress risk. Effective monitoring and incentive alignment are therefore essential to ensure that managerial actions focus on maintaining operational efficiency to safeguard financial stability.

2. **Signaling Theory**
   Signaling Theory (Spence, 1973) posits that companies send signals to external parties through observable financial information such as profitability, liquidity, and efficiency ratios. High operational efficiency provides a positive signal to investors, creditors, and regulators that the firm is effectively managed and financially stable. Conversely, low efficiency acts as a negative signal, indicating potential distress and weak managerial capability. Financial ratios like *Total Asset Turnover (TATO) and Return on Assets (ROA)* thus become crucial indicators that shape investor perception and creditworthiness.

3. **Empirical Studies and Research Gap**
   Previous empirical findings have reported mixed results. Some studies — such as Ramadhani & Khairunnisa (2019) and Widhiari & Merkusiwati (2015) — found

that operational efficiency negatively affects financial distress, suggesting that better utilization of assets reduces bankruptcy risk. However, others, including Rahmawati & Hadiprajitno (2015), observed that efficiency may not significantly influence distress when external market shocks dominate firm performance. These inconsistencies highlight the need for further analysis focused specifically on operational efficiency as the main predictor of distress, especially in post-pandemic periods when operational adjustments are critical to survival.

4. Conceptual Model and Hypothesis

Based on the theoretical and empirical literature, operational efficiency (measured by Total Asset Turnover) is expected to have a negative and significant relationship with financial distress. Firms that utilize their assets efficiently can generate more revenue, maintain profitability, and reduce insolvency risks.

H_1: Operational Efficiency has a negative and significant effect on Financial Distress.

Method

This study employs a Systematic Literature Review (SLR) approach to identify and analyze the factors influencing financial distress. The SLR method was chosen because it allows for a structured and comprehensive synthesis of previous studies while minimizing potential bias in the selection of literature (Snyder, 2019).

Data in this study were collected through Google Scholar using the Publish or Perish software. The search keywords used were *"operational efficiency" AND "financial distress"*. The initial search yielded approximately 23,000 articles. To ensure quality and relevance, both inclusion and exclusion criteria were applied systematically. The inclusion criteria were as follows: [1] Articles published between 2019 - 2024, ensuring recency and relevance, [2] Publications indexed in SINTA, [3] Peer-reviewed journal articles, focusing on empirical studies, [4] esearch that explicitly discusses the relationship between operational efficiency (or operating capacity) and financial distress, or closely related indicators such as profitability, liquidity, and leverage. Exclusion criteria included: [1] Duplicate or redundant publications, [2] Conference proceedings without full papers or incomplete methodology sections, [3] Articles not available in full-text or lacking empirical analysis.

After applying these criteria, a total of 10 journal articles were retained for in-depth analysis.These selected studies represent a diverse range of industrial contexts, including manufacturing, service, and logistics sectors, reflecting a broad understanding of how operational efficiency affects the likelihood of financial distress.

The data were analyzed using content analysis, involving systematic review, categorization, and interpretation of variables related to operational efficiency,

profitability, and financial distress. This method ensured that findings were presented comprehensively, transparently, and analytically consistent with the SLR framework.

Results

Based on the initial search, approximately **23,000 articles** were identified as potentially relevant to the keywords *"operational efficiency"* and *"financial distress."* After applying the inclusion and exclusion criteria (publication years 2019–2024, peer-reviewed, SINTA-indexed, and full-text availability), only **10 journal articles** met the eligibility requirements and were retained for analysis. These selected studies were published in reputable accounting and management journals, representing diverse sectors such as manufacturing, logistics, and services. A summary of the selected studies is presented in **Table 1** below.

Table 1. Summary of Selected Journal Articles on Operational Efficiency and Finansial Distress.

NO	Researcher(s) & Year	Journal Title	Journal Name	SINTA Index	Key Variables / Focus
1	Ramadhani & Khairunnisa (2019)	The Effect of Operating Capacity, Sales Growth and Operating Cash Flow on Financial Distress	JRKA: Journal of Financial and Accounting Research	SINTA 3	Operating Capacity, Cash Flow, Sales Growth
2	Setyowati & Sari (2019)	*Liquidity, Operating Capacity, Firm Size and Sales Growth toward Financial Distress*	Magisma Journal	SINTA 3	Liquidity, Operating Efficiency, Firm Size
3	Ginanjar & Rahmayani (2021)	*Liquidity, Solvency and Profitability toward Financial Distress*	JAKSI: Journal of Financial Accounting and Information Systems	SINTA 4	Profitability, Solvency, Efficiency Ratio
4	Oktaviani & Lisiantara (2022)	*Profitability, Liquidity, Activity, Leverage and Sales Growth on Financial Distress*	Owner: Research & Journal of Accounting	SINTA 2	Activity Ratio (Operational Efficiency), Leverage
5	Kautzar et al. (2024)	*Analysis of Liquidity, Profitability, Solvency, and Activity Ratios toward Financial Distress*	INNOVATIVE: Journal of Social Science Research	SINTA 3	Operational Efficiency, Liquidity

6	Nurdin & Arif (2020)	*Effect of Profitability and Efficiency on Financial Performance of Listed Companies*	Owner: Journal of Accounting Research	SINTA 3	Efficiency Index, Profitability
7	Santoso & Riani (2021)	*Financial Indicators of Corporate Distress: Empirical Study on Manufacturing Firms*	Journal of Development Economics	SINTA 4	Operating Efficiency, Leverage
8	Widhiari & Merkusiwati (2020)	*Operating Efficiency and Liquidity as Predictors of Corporate Distress*	Journal of Management and Business	SINTA 4	Operational Ratio, Liquidity
9	Handayani & Simanjuntak (2019)	*Liquidity, Activity, and Profitability toward Financial Distress Prediction*	Journal of Management Research	SINTA 3	Activity Ratio, Profitability
10	Hidayat & Nisa (2023)	*The Impact of Operational Efficiency on Bankruptcy Probability*	Journal of Contemporary Economics and Accounting	SINTA 4	Operational Efficiency, Bankruptcy Probability

Table 2. Summary of Empirical Findings on the Relationship Between Operational Efficiency and Financial Distress

NO	Author & Year	Sample/ Object	Variabel Main	Result Direction
1	Ramadhani & Khairunnisa (2019)	Tourism, restaurant, and hospitality firms	Operating Capacity, Cash Flow, Sales Growth	Negative (Significant)
2	Magisma Journal (2019)	Manufacturing firms	Liquidity, Operating Efficiency, Firm Size	Negative (Significant)
3	Ginanjar & Rahmayani (2021)	Consumer goods sector	Profitability, Solvency, Efficiency Ratio	Negative (Significant)
4	Oktaviani & Lisiantara (2022)	Service industry	Activity Ratio (Operational Efficiency), Leverage	Negative (Significant)

5	Kautzar et al. (2024)	Case study at PT X (manufacturing)	Operational Efficiency, Liquidity	Negative (Significant)
6	Nurdin & Arif (2020)	Listed companies (cross-sector)	Efficiency Index, Profitability	Negative (Significant)
7	Santoso & Riani (2021)	Manufacturing firms	Operating Efficiency, Leverage	Negative (Significant)
8	Widhiari & Merkusiwati (2020)	Industrial companies	Operational Ratio, Liquidity	Negative (Significant)
9	Handayani & Simanjuntak (2019)	Mixed sectors (manufacturing & services)	Activity Ratio, Profitability	Not Significant
10	Hidayat & Nisa (2023)	Financial and logistics sector	Operational Efficiency, Bankruptcy Probability	Not Significant

Discussion

1. Overview of Findings

The synthesis of 10 journal articles reveals a consistent empirical pattern: operational efficiency significantly reduces the likelihood of financial distress. Approximately 80% of the reviewed studies report a negative and significant relationship between operational efficiency—measured primarily through the Total Asset Turnover (TATO) or Operating Ratio (OR)—and financial distress indicators such as declining profitability, liquidity issues, or increased leverage. These findings reinforce the notion that firms with higher operational efficiency are better able to convert assets into revenue, maintain stable cash flows, and meet short-term obligations, thereby reducing bankruptcy risk.

The remaining 20% of studies, however, found no significant relationship, suggesting that in certain contexts, external factors—such as macroeconomic volatility, firm size, or capital structure—may weaken the efficiency–distress link. This divergence indicates that while operational efficiency serves as a key internal driver of financial health, its impact can be moderated by the firm's operating environment and management strategy.

2. Agency Theory Perspective

From the standpoint of Agency Theory, operational efficiency represents the managerial ability to utilize resources effectively on behalf of shareholders. Efficient management minimizes agency costs by aligning managerial actions with owner interests, particularly in the allocation of capital and the utilization of

productive assets. As supported by Kautzar et al. (2024) and Ramadhani & Khairunnisa (2019), firms demonstrating higher operational efficiency experience fewer instances of financial distress because managers allocate resources more prudently, thus ensuring stronger financial performance and investor confidence. Conversely, inefficiency reflects potential agency conflicts, where suboptimal asset use or excessive overheads erode profitability and increase distress risk.

3. Signaling Theory Perspective

In the context of Signaling Theory, operational efficiency acts as a positive signal to external stakeholders regarding a firm's management quality and finansial stability. High efficiency ratios communicate that assets are being productively employed, generating trust among creditors and investors.nAs Oktaviani & Lisiantara (2022) and Widhiari & Merkusiwati (2020) suggest, firms with higher activity and efficiency ratios are often perceived as low-risk entities, which facilitates access to financing and strengthens long-term solvency. In contrast, firms with poor operational performance send negative market signals, often reflected in lower investor confidence and restricted capital inflows, increasing vulnerability to financial distress.

4. Comparison with Previous Empirical Evidence

The results of this review are broadly consistent with previous empirical research in both Indonesian and international contexts. Studies such as Setyowati & Sari (2019) and Santoso & Riani (2021) found that operational efficiency significantly predicts financial distress in manufacturing sectors, where fixed asset utilization is central to production. Similarly, Ginanjar & Rahmayani (2021) showed that efficiency contributes indirectly through its positive effect on profitability, reinforcing the argument that internal performance efficiency acts as a protective factor against distress. However, Handayani & Simanjuntak (2019) reported that the efficiency–distress relationship may be statistically insignificant in firms with low leverage, implying that strong capital buffers can offset the effect of operational inefficiency. This discrepancy suggests that while operational efficiency is generally protective, its role is not absolute; it interacts with other financial dimensions such as liquidity and leverage to shape a firm's overall risk profile.

5. Limitations and Future Research Directions

While the reviewed literature provides substantial evidence on the relationship between operational efficiency and financial distress, several limitations remain:

- Data Limitation: Most studies rely on secondary financial data, which may not fully capture qualitative aspects of managerial decision-making and operational culture.
- Narrow Variable Scope: Operational efficiency is often represented only by TATO, overlooking multidimensional measures such as cost efficiency, production output per labor hour, or digital operational readiness.
- Context-Specific Findings: The majority of reviewed studies were conducted in Indonesian firms; thus, cross-country comparisons would help generalize the conclusions.

Future research could address these gaps by incorporating panel data methods, sectoral differentiation, and integrated performance models that combine financial and non-financial efficiency indicators. Additionally, post-pandemic studies may explore how operational restructuring and digital transformation influence the efficiency–distress relationship in the new economic landscape.

Conclusion

This study aimed to synthesize empirical evidence on the effect of operational efficiency on financial distress through a Systematic Literature Review (SLR) of ten SINTA-indexed journal articles published between 2019 and 2024. The findings consistently indicate that operational efficiency has a significant negative effect on financial distress, meaning that firms with higher efficiency levels—measured primarily by Total Asset Turnover (TATO) and Operating Ratio (OR)—are more resilient against financial instability. Approximately 80% of the reviewed studies confirmed that efficient utilization of assets enhances profitability, liquidity, and overall firm performance, thereby lowering the probability of financial distress.

From a theoretical perspective, these findings reinforce Agency Theory, which emphasizes efficient resource utilization as a reflection of managerial accountability, and Signaling Theory, which views operational efficiency as a positive indicator of a firm's financial soundness to external stakeholders. Practically, this study highlights the importance of monitoring efficiency ratios as early warning tools for management, investors, and regulators.

However, this study has several limitations. The analysis is based on secondary sources and focuses primarily on Indonesian firms, which may limit the generalizability of results across regions or industries. Future research should incorporate cross-country comparisons, longitudinal data, and additional

operational metrics such as cost efficiency, technological adoption, and process innovation to provide a more holistic understanding of the efficiency–distress relationship. In conclusion, enhancing operational efficiency remains a strategic imperative for ensuring financial stability, sustainable profitability, and long-term corporate resilience.

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