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## Mediating Role of Third-Party Logistics in The Relationship between Truck Operator Performance, Crane Rental Costs, and Information Integration Capability on Logistics Revenue at PT Nulin Sarana Jaya Balikpapan

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**Abstract:** This study, entitled *The Mediating Role of Third-Party Logistics in the Relationship between Truck Operator Performance, Crane Rental Costs, and Information Integration Capability on Logistics Revenue at PT Nulin Sarana Jaya Balikpapan*, aims to analyze the direct and indirect relationships among the research variables. A quantitative research approach was employed using a sample of 117 customers selected through purposive sampling. Data were analyzed using Structural Equation Modeling–Partial Least Squares (SEM-PLS) with SmartPLS 3. The results indicate that Truck Operator Performance has a positive and significant effect on Third-Party Logistics ( $T = 4.222$ ;  $p = 0.000$ ) and Logistics Revenue ( $T = 4.102$ ;  $p = 0.000$ ). Crane Rental Costs positively and significantly affect Third-Party Logistics ( $T = 2.693$ ;  $p = 0.007$ ) and Logistics Revenue ( $T = 2.291$ ;  $p = 0.020$ ). Information Integration Capability positively and significantly influences Third-Party Logistics ( $T = 3.886$ ;  $p = 0.000$ ) and Logistics Revenue ( $T = 3.073$ ;  $p = 0.004$ ). Furthermore, Third-Party Logistics has a positive and significant effect on Logistics Revenue ( $T = 3.500$ ;  $p = 0.000$ ). The mediation analysis confirms that Third-Party Logistics significantly mediates the effects of Truck Operator Performance ( $T = 2.463$ ;  $p = 0.014$ ), Crane Rental Costs ( $T = 2.310$ ;  $p = 0.021$ ), and Information Integration Capability ( $T = 2.656$ ;  $p = 0.008$ ) on Logistics Revenue. These findings indicate that improving operational performance, optimizing crane rental costs, and strengthening information integration capability, supported by effective Third-Party Logistics management, can enhance the company's logistics revenue.

**Keyword:** Truck Operator Performance, Crane Rental Costs, Information Integration Capability, Third-Party Logistics, Logistics Revenue.

## INTRODUCTION

PT Nulin Sarana Jaya Balikpapan operates under an asset-light business model by collaborating with 23 Third-Party Logistics (3PL) companies as operational partners. During 2025, the company encountered five major operational challenges. First, logistics revenue declined from IDR 81.48 billion to IDR 72.51 billion, representing a decrease of 11.01%. Second, the performance of Third-Party Logistics providers remained suboptimal, as reflected

by 93 delayed transactions (10.50%), 25 damaged cargo cases (2.80%), and 61 transactions (6.90%) requiring additional crane rental costs. Third, truck operator performance was below the expected operational standards. Fourth, crane rental costs were not efficiently managed. Finally, information integration capability remained inadequate, as indicated by delays in shipment status updates (18%), manifest submissions (14%), truck location updates averaging five hours, 42 shipment data errors, and 27 delayed notifications regarding crane availability.

These operational issues indicate that improving logistics revenue requires not only operational efficiency but also stronger coordination among logistics partners, effective cost management, and integrated information systems. For companies adopting an asset-light logistics strategy, Third-Party Logistics providers play a critical role in coordinating operational activities and ensuring service quality. Consequently, identifying the determinants that enhance Third-Party Logistics performance is essential for improving organizational financial performance.

This study was developed based on research gaps identified in ten structural relationships. Previous studies have examined the influence of Truck Operator Performance on Third-Party Logistics (Narantaka et al., 2025; Rahman & Hossain, 2024; Karahan Kara & Emre İpekçi, 2022), Crane Rental Costs on Third-Party Logistics (Hakim, 2024; Jean, 2022), Information Integration Capability on Third-Party Logistics (Wang et al., 2022; Kumar & Prashar, 2024), Third-Party Logistics on Logistics Revenue (Darmiono, 2023; Marina Mayer, 2024), Truck Operator Performance on Logistics Revenue (Zai, 2022; Gusfi et al., 2024), Crane Rental Costs on Logistics Revenue (Amran et al., 2025; Vildayanti et al., 2024), and Information Integration Capability on Logistics Revenue (Hadikusuma & Siagian, 2022; Nugroho & Hamdi, 2025). In addition, prior research has investigated the mediating role of Third-Party Logistics in the relationships between Truck Operator Performance and Logistics Revenue (Darmiono, 2023; Setyawan & Rizkyah, 2024), Crane Rental Costs and Logistics Revenue (Zulkarnain, 2025; Syafrianita & Purnomo, 2025), and Information Integration Capability and Logistics Revenue (Hadikusuma & Siagian, 2022).

Despite these previous investigations, inconsistent empirical findings remain regarding the direct and indirect relationships among these variables, particularly within asset-light logistics companies operating in Indonesia. Therefore, this study seeks to address these research gaps by empirically examining the mediating role of Third-Party Logistics in explaining how truck operator performance, crane rental costs, and information integration capability affect logistics revenue.

The empirical results demonstrate that all proposed hypotheses are supported. Accordingly, this study successfully addresses the identified research gaps while providing new empirical evidence regarding the strategic role of Third-Party Logistics in improving logistics revenue within asset-light logistics companies.

## METHOD

This study employed a quantitative research approach using a survey method to examine the causal relationships among the proposed research variables. The quantitative approach was selected because it enables the empirical testing of the effects of Truck Operator Performance, Crane Rental Costs, and Information Integration Capability on Logistics Revenue, both directly and indirectly through Third-Party Logistics as a mediating variable.

The research was conducted at PT Nulin Sarana Jaya Balikpapan, East Kalimantan, Indonesia. The study population consisted of all corporate customers actively utilizing the company's logistics services, totaling 165 companies. Based on their business sectors, the population comprised six categories: Mining and Energy (49 companies; 29.70%), Infrastructure Construction (41 companies; 24.85%), Trading and Distribution (25 companies; 15.15%), Manufacturing (18 companies; 10.91%), State-Owned Enterprises (17 companies; 10.30%), and Local Micro, Small, and Medium Enterprises (15 companies; 9.09%).

The sample size was determined using the Slovin formula with a 5% margin of error as follows:

$n = N: [1 + N(e^2)]$ . Where  $n$  = sample size;  $N$  = population size (165 companies);  $e$  = acceptable sampling error (5%).

$$n = 165 : [1 + 165(0,05)^2]. n = 165: 1,4125. n = 116,81$$

The calculated sample size was rounded to **117 respondents**, who were selected using a purposive sampling technique. This technique was considered appropriate because only respondents possessing sufficient knowledge and experience regarding the logistics services provided by PT Nulin Sarana Jaya Balikpapan were capable of providing reliable information relevant to the research objectives.

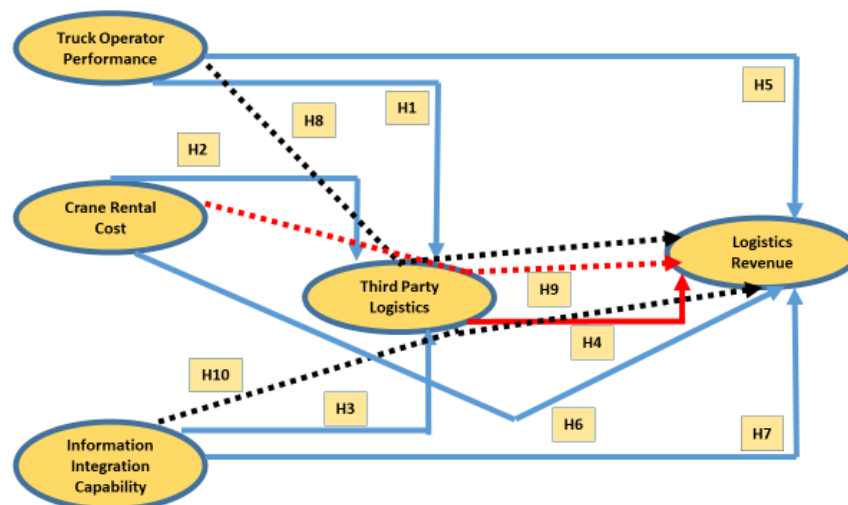
Prior to the structural analysis, descriptive statistical analysis was conducted to provide an overview of respondents' perceptions of each research variable. Subsequently, the measurement model (outer model) and structural model (inner model) were evaluated to assess the validity, reliability, and predictive capability of the proposed research model.

The measurement model evaluation included assessments of indicator reliability, internal consistency reliability, convergent validity, and discriminant validity. Indicator reliability was evaluated using outer loading values, while internal consistency reliability was assessed using Cronbach's Alpha and Composite Reliability. Convergent validity was examined through the Average Variance Extracted (AVE), whereas discriminant validity was evaluated using the Fornell–Larcker Criterion.

The structural model evaluation included the assessment of path coefficients, coefficients of determination ( $R^2$ ), mediation effects, and hypothesis testing using the bootstrapping procedure. The significance of each hypothesis was determined based on the recommendations of Hair et al. (2023), whereby hypotheses were considered statistically significant when the  $t$ -statistic exceeded 1.96 and the  $p$ -value was less than 0.05 at the 5% significance level.

Data analysis was performed using **Structural Equation Modeling–Partial Least Squares (SEM–PLS)** with **SmartPLS 4** software. SEM–PLS was selected because it is suitable for analyzing complex causal models involving multiple latent variables and mediation effects while imposing minimal distributional assumptions. Moreover, SEM–PLS provides robust parameter estimation for prediction-oriented research and is appropriate for studies involving relatively moderate sample sizes.

The conceptual framework of the study is presented in **Figure 1**, illustrating the hypothesized relationships among Truck Operator Performance, Crane Rental Costs, Information Integration Capability, Third-Party Logistics, and Logistics Revenue.



Source : Research Gap (2026)

### Figure 1. Research Model

## Research Hypotheses

Based on the theoretical framework and previous empirical studies, ten hypotheses were formulated as follows:

- H1 Truck Operator Performance has a positive and significant effect on Third-Party Logistics at PT Nulin Sarana Jaya Balikpapan.
- H2 Crane Rental Costs have a positive and significant effect on Third-Party Logistics at PT Nulin Sarana Jaya Balikpapan.
- H3 Information Integration Capability has a positive and significant effect on Third-Party Logistics at PT Nulin Sarana Jaya Balikpapan.
- H4 Third-Party Logistics has a positive and significant effect on Logistics Revenue at PT Nulin Sarana Jaya Balikpapan.
- H5 Truck Operator Performance has a positive and significant effect on Logistics Revenue at PT Nulin Sarana Jaya Balikpapan.
- H6 Crane Rental Costs have a positive and significant effect on Logistics Revenue at PT Nulin Sarana Jaya Balikpapan.
- H7 Information Integration Capability has a positive and significant effect on Logistics Revenue at PT Nulin Sarana Jaya Balikpapan.
- H8 Third-Party Logistics positively and significantly mediates the relationship between Truck Operator Performance and Logistics Revenue at PT Nulin Sarana Jaya Balikpapan.
- H9 Third-Party Logistics positively and significantly mediates the relationship between Crane Rental Costs and Logistics Revenue at PT Nulin Sarana Jaya Balikpapan.
- H10 Third-Party Logistics positively and significantly mediates the relationship between Information Integration Capability and Logistics Revenue at PT Nulin Sarana Jaya Balikpapan.

## RESULTS AND DISCUSSION

### RESULTS

#### Respondent Characteristics

A total of 117 corporate customers of PT Nulin Sarana Jaya Balikpapan participated in this study. The demographic profile indicates that 78 respondents (66.67%) were male, while 39 respondents (33.33%) were female.

Based on business sector, the respondents were predominantly from the mining and energy industry (29.91%), followed by infrastructure construction (24.79%), trading and distribution (15.38%), manufacturing (11.11%), state-owned enterprises (10.26%), and local micro, small, and medium enterprises (8.55%).

Overall, these characteristics indicate that the respondents possessed sufficient experience and knowledge regarding the company's logistics services, enabling them to provide reliable information relevant to the objectives of this study.

#### Descriptive Analysis

Descriptive statistical analysis was conducted to examine respondents' perceptions of each research variable. The mean scores ranged from **2.92 to 3.03**, indicating that all variables were perceived as **moderately satisfactory**. According to Sugiyono (2023), variables with this level of perception are considered appropriate for further statistical analysis within the proposed research model.

## Measurement Model Evaluation

### Reliability and Convergent Validity

The reliability and convergent validity of the measurement model were evaluated using Cronbach's Alpha, Composite Reliability, outer loading, and Average Variance Extracted (AVE).

As presented in Table 1, all constructs achieved **Cronbach's Alpha** and **Composite Reliability** values above the recommended threshold of 0.70, indicating satisfactory internal consistency reliability (Hair et al., 2022).

Furthermore, all indicator loadings exceeded **0.70**, confirming adequate indicator reliability. The AVE values for all constructs were greater than **0.50**, demonstrating satisfactory convergent validity. Therefore, all latent constructs fulfilled the recommended reliability and validity criteria.

**Table 1. Reliability and Convergent Validity**

| Construct                          | Cronbach's Alpha | Composite Reliability | AVE   |
|------------------------------------|------------------|-----------------------|-------|
| Crane Rental Costs                 | 0.873            | 0.903                 | 0.608 |
| Truck Operator Performance         | 0.885            | 0.912                 | 0.632 |
| Information Integration Capability | 0.895            | 0.917                 | 0.650 |
| Logistics Revenue                  | 0.941            | 0.950                 | 0.678 |
| Third-Party Logistics              | 0.867            | 0.898                 | 0.557 |

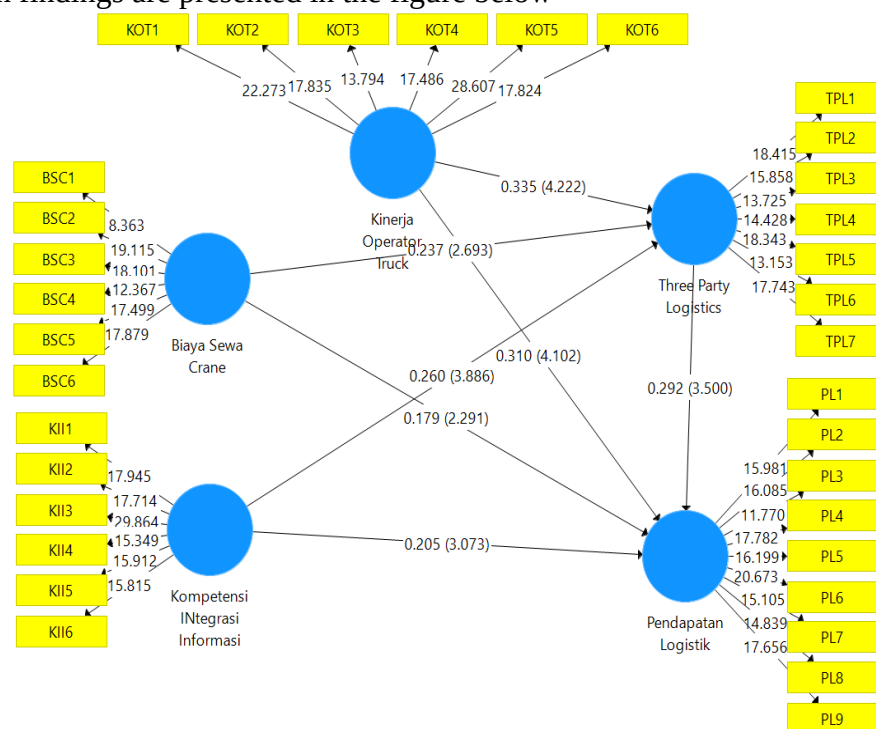
Source : Questionnaire Data (2026)

### Discriminant Validity

Discriminant validity was evaluated using the **Fornell–Larcker Criterion**. The results indicate that the square root of the AVE for each construct exceeded its correlations with all other constructs. Consequently, Truck Operator Performance, Crane Rental Costs, Information Integration Capability, Third-Party Logistics, and Logistics Revenue all satisfied the Fornell–Larcker criterion, confirming adequate discriminant validity.

### Structural Model Evaluation

The research findings are presented in the figure below



Source : Questionnaire (2026)

**Figure 2. Research Result**



### Hypothesis Testing

The structural relationships among the research variables were evaluated using the bootstrapping procedure in SmartPLS. The bootstrapping results reveal that all proposed hypotheses were statistically supported. Following the recommendation of Hair et al. (2023), all structural relationships exhibited **t-values greater than 1.96** and **p-values below 0.05**, confirming statistically significant positive relationships among the proposed constructs.

Specifically, Truck Operator Performance significantly influenced both Third-Party Logistics ( $\beta = 0.335$ ,  $t = 4.222$ ,  $p < 0.001$ ) and Logistics Revenue ( $\beta = 0.310$ ,  $t = 4.102$ ,  $p < 0.001$ ).

Crane Rental Costs also demonstrated significant positive effects on Third-Party Logistics ( $\beta = 0.237$ ,  $t = 2.693$ ,  $p = 0.007$ ) and Logistics Revenue ( $\beta = 0.179$ ,  $t = 2.291$ ,  $p = 0.020$ ).

Similarly, Information Integration Capability positively affected Third-Party Logistics ( $\beta = 0.260$ ,  $t = 3.886$ ,  $p < 0.001$ ) and Logistics Revenue ( $\beta = 0.205$ ,  $t = 3.073$ ,  $p = 0.004$ ).

Moreover, Third-Party Logistics exerted a significant positive influence on Logistics Revenue ( $\beta = 0.292$ ,  $t = 3.500$ ,  $p < 0.001$ ).

The mediation analysis further confirmed that Third-Party Logistics significantly mediated the effects of Truck Operator Performance, Crane Rental Costs, and Information Integration Capability on Logistics Revenue.

**Table 2. Path Coefficients and Hypothesis Testing**

| Hypothesis                                                                     | $\beta$ | t-value | P-value | Decision  |
|--------------------------------------------------------------------------------|---------|---------|---------|-----------|
| Crane Rental Costs → Logistics Revenue                                         | 0.179   | 2.291   | 0.02    | Supported |
| Crane Rental Costs → Third-Party Logistics                                     | 0.237   | 2.693   | 0.007   | Supported |
| Truck Operator Performance → Logistics Revenue                                 | 0.31    | 4.102   | <0.001  | Supported |
| Truck Operator Performance → Third-Party Logistics                             | 0.335   | 4.222   | <0.001  | Supported |
| Information Integration Capability → Logistics Revenue                         | 0.205   | 3.073   | 0.004   | Supported |
| Information Integration Capability → Third-Party Logistics                     | 0.26    | 3.886   | <0.001  | Supported |
| Third-Party Logistics → Logistics Revenue                                      | 0.292   | 3.5     | <0.001  | Supported |
| Crane Rental Costs → Third-Party Logistics → Logistics Revenue                 | 0.069   | 2.31    | 0.021   | Supported |
| Truck Operator Performance → Third-Party Logistics → Logistics Revenue         | 0.098   | 2.463   | 0.014   | Supported |
| Information Integration Capability → Third-Party Logistics → Logistics Revenue | 0.076   | 2.656   | 0.008   | Supported |

Source : Questionnaire Data (2026)

### Coefficient of Determination ( $R^2$ )

**Table 3. Coefficient of Determination**

| Endogenous Variable   | $R^2$ | Adjusted $R^2$ |
|-----------------------|-------|----------------|
| Logistics Revenue     | 0.649 | 0.637          |
| Third-Party Logistics | 0.472 | 0.458          |

Source : Questionnaire Data (2026)

The adjusted coefficient of determination (Adjusted  $R^2$ ) for **Logistics Revenue** was **0.637**, indicating that Truck Operator Performance, Crane Rental Costs, Information Integration Capability, and Third-Party Logistics jointly explained **63.7%** of the variance in

Logistics Revenue. The remaining **36.3%** was attributable to factors outside the proposed model.

According to Hair et al. (2022), an Adjusted  $R^2$  value of 0.637 indicates **moderate-to-substantial explanatory power**, suggesting that the proposed model effectively explains variations in logistics revenue.

For **Third-Party Logistics**, the Adjusted  $R^2$  value was **0.458**, indicating that Truck Operator Performance, Crane Rental Costs, and Information Integration Capability collectively explained **45.8%** of its variance, while the remaining **54.2%** was explained by other variables not included in the model.

Based on the classification proposed by Hair et al. (2022), this value represents **moderate explanatory power**, indicating that the structural model adequately explains the determinants of Third-Party Logistics performance.

## DISCUSSION

The results demonstrate that Truck Operator Performance has a positive and significant effect on Third-Party Logistics. This finding indicates that competent truck operators play a crucial role in improving logistics operations through timely deliveries, compliance with operational procedures, cargo safety, and effective coordination throughout the transportation process. In an asset-light logistics business model, where operational activities depend heavily on external logistics partners, truck operator performance becomes an essential determinant of service quality. The finding is consistent with previous studies conducted by Narantaka et al. (2025) and Rahman and Hossain (2024), which concluded that operational competence and workforce productivity significantly enhance Third-Party Logistics performance.

Crane Rental Costs were also found to positively influence Third-Party Logistics. Efficient crane utilization reduces loading and unloading delays, minimizes operational disruptions, and improves overall logistics efficiency. Because crane operations represent a significant component of logistics costs in project-based transportation, effective management of crane rental expenses contributes directly to better operational performance. This finding supports the studies of Hakim (2024) and Jean (2022), who reported that cost efficiency in material handling equipment improves logistics service effectiveness.

The analysis further reveals that Information Integration Capability positively affects Third-Party Logistics. The ability to exchange accurate, timely, and real-time operational information enables better coordination among logistics partners, reduces information asymmetry, and improves decision-making throughout the supply chain. The empirical evidence confirms that digital information integration is becoming a strategic capability for logistics companies operating within complex distribution networks. This finding corroborates the results reported by Wang et al. (2022) and Kumar and Prashar (2024), who emphasized that integrated information systems enhance logistics coordination and operational responsiveness.

Another important finding is the significant positive effect of Third-Party Logistics on Logistics Revenue. Effective management of logistics partners improves delivery reliability, operational efficiency, customer satisfaction, and service quality, ultimately leading to higher organizational revenue. For companies adopting an asset-light business strategy, Third-Party Logistics functions not only as an operational partner but also as a strategic resource that contributes directly to financial performance. This result is consistent with the findings of Darmiono (2023) and Marina Mayer (2024), who demonstrated that improvements in Third-Party Logistics performance generate sustainable revenue growth.

Truck Operator Performance also exerts a direct positive influence on Logistics Revenue. Competent truck operators contribute to higher delivery accuracy, fewer transportation disruptions, and improved customer confidence, all of which positively affect revenue generation. This finding confirms that operational human resources remain one of the key strategic assets influencing logistics business performance. The result supports the conclusions

reported by Zai (2022) and Gusfi et al. (2024), who found that employee performance significantly contributes to logistics productivity and organizational profitability.

Similarly, Crane Rental Costs significantly affect Logistics Revenue. Efficient management of crane utilization reduces unnecessary operational expenses and increases profitability without compromising service quality. The findings indicate that operational cost efficiency remains one of the most important managerial strategies for improving financial performance in logistics companies. These results are consistent with Amran et al. (2025) and Vildayanti et al. (2024), who concluded that operational cost optimization contributes directly to higher organizational revenue.

Information Integration Capability was also found to have a significant positive effect on Logistics Revenue. Companies capable of integrating operational information across departments and logistics partners are better positioned to accelerate decision-making, minimize operational errors, and improve customer responsiveness. Consequently, investments in digital logistics infrastructure become an important strategic initiative for enhancing organizational competitiveness and financial performance. This finding supports the empirical evidence presented by Hadikusuma and Siagian (2022) as well as Nugroho and Hamdi (2025).

The mediation analysis demonstrates that Third-Party Logistics significantly mediates the relationship between Truck Operator Performance and Logistics Revenue. This finding suggests that improvements in truck operator performance generate greater financial benefits when supported by effective Third-Party Logistics management. In other words, operational excellence alone is insufficient unless accompanied by efficient coordination among logistics partners. The result extends previous findings reported by Darmiono (2023) and Setyawan and Rizkyah (2024) by confirming the mediating role of Third-Party Logistics within an asset-light logistics environment.

Third-Party Logistics also significantly mediates the relationship between Crane Rental Costs and Logistics Revenue. This indicates that the financial benefits of crane cost efficiency are strengthened when logistics partners effectively coordinate loading, unloading, transportation scheduling, and operational planning. Consequently, cost optimization should be integrated with broader logistics partnership management rather than implemented as an isolated cost-reduction strategy. This finding is consistent with the studies conducted by Zulkarnain (2025) and Syafrianita and Purnomo (2025).

Finally, the study confirms that Third-Party Logistics significantly mediates the relationship between Information Integration Capability and Logistics Revenue. Effective information integration enables logistics partners to synchronize operational activities, improve shipment visibility, and reduce service disruptions, thereby strengthening revenue performance. This finding highlights the strategic importance of combining digital integration with collaborative logistics management to maximize organizational outcomes. The result further reinforces the findings reported by Hadikusuma and Siagian (2022), demonstrating that the benefits of information integration are substantially amplified through effective Third-Party Logistics management.

Overall, the findings provide strong empirical evidence that operational capability, cost efficiency, and digital information integration jointly contribute to logistics revenue through the strategic role of Third-Party Logistics. The study extends the existing logistics management literature by demonstrating that Third-Party Logistics serves not merely as an operational intermediary but as a strategic mechanism through which operational resources are transformed into superior financial performance. These findings are particularly relevant for asset-light logistics companies that rely extensively on external logistics partners to achieve operational excellence and sustainable competitive advantage.



## CONCLUSIONS AND RECOMMENDATIONS

### Conclusions

This study examined the effects of Truck Operator Performance, Crane Rental Costs, and Information Integration Capability on Logistics Revenue, with Third-Party Logistics serving as a mediating variable at PT Nulin Sarana Jaya Balikpapan. The empirical findings demonstrate that all proposed hypotheses are supported.

Truck Operator Performance, Crane Rental Costs, and Information Integration Capability were found to have positive and significant effects on Third-Party Logistics. In addition, these three variables also exerted direct positive and significant effects on Logistics Revenue. Furthermore, Third-Party Logistics significantly enhanced Logistics Revenue, confirming its strategic role in improving organizational financial performance.

The mediation analysis further revealed that Third-Party Logistics significantly mediates the relationships between Truck Operator Performance and Logistics Revenue, Crane Rental Costs and Logistics Revenue, as well as Information Integration Capability and Logistics Revenue. These findings indicate that improvements in operational performance, cost efficiency, and information integration generate greater financial benefits when supported by effective Third-Party Logistics management.

Overall, this study demonstrates that Third-Party Logistics functions not merely as an operational service provider but as a strategic organizational capability that transforms operational resources into improved financial performance. These findings contribute to the growing body of knowledge on logistics management, particularly within asset-light logistics companies operating in Indonesia.

### Managerial Implications

The findings provide several practical implications for logistics companies adopting an asset-light business model. First, management should continuously improve truck operator performance through technical training, competency certification, periodic performance evaluation, and the implementation of standardized operating procedures to ensure consistent service quality.

Second, crane rental costs should be managed more efficiently through optimized equipment scheduling, higher equipment utilization, stronger coordination with crane service providers, and continuous operational cost monitoring. These initiatives can reduce unnecessary operational expenses while maintaining service quality.

Third, companies should strengthen information integration capability by investing in integrated digital information systems, enabling real-time data exchange, improving data accuracy, and expanding digital collaboration among logistics partners. Enhanced information visibility will improve operational coordination and decision-making throughout the logistics network.

Finally, organizations should establish stronger partnerships with Third-Party Logistics providers through clearly defined Service Level Agreements (SLAs), performance measurement based on Key Performance Indicators (KPIs), regular performance evaluations, and long-term strategic collaboration. Such initiatives are expected to improve operational efficiency, customer satisfaction, and sustainable logistics revenue.

## Theoretical Implications

This study extends the logistics management literature by empirically demonstrating the strategic mediating role of Third-Party Logistics in the relationship between operational capabilities and organizational financial performance. While previous studies have primarily examined the direct effects of operational performance, cost efficiency, and information integration on logistics outcomes, the present study shows that these relationships become stronger when Third-Party Logistics is incorporated as a mediating mechanism.

The findings also support the resource-based perspective, suggesting that organizational resources alone are insufficient to generate superior financial performance unless they are effectively integrated through strategic logistics capabilities. In the context of asset-light logistics companies, Third-Party Logistics represents a valuable organizational capability that enables firms to convert operational excellence into competitive advantage and improved financial outcomes.

## Limitations

Several limitations should be considered when interpreting the findings of this study. First, the research was conducted within a single logistics company, PT Nulin Sarana Jaya Balikpapan, limiting the generalizability of the findings to other logistics organizations operating under different business environments.

Second, the proposed research model included only four independent constructs influencing Logistics Revenue. Other potentially important determinants, such as logistics service quality, customer trust, fleet utilization, operational efficiency, digital transformation, and supply chain resilience, were not incorporated into the model.

Third, this study adopted a cross-sectional survey design, preventing the observation of changes in organizational performance over time. Consequently, causal relationships should be interpreted within the limitations inherent in cross-sectional research.

## Future Research

Future studies are encouraged to develop a more comprehensive research model by incorporating additional variables that may influence Logistics Revenue, including logistics service quality, customer satisfaction, fleet utilization, digital logistics capabilities, operational resilience, and supply chain risk management.

Researchers may also investigate the moderating effects of organizational size, project complexity, digital maturity, environmental uncertainty, and market competition to obtain a deeper understanding of the conditions under which operational capabilities contribute to financial performance.

Furthermore, future research should involve multiple logistics companies from different industrial sectors and geographical regions to improve the external validity of the findings. Employing longitudinal or mixed-methods research designs would also provide richer insights into how operational capabilities and Third-Party Logistics influence organizational performance over time.

## Author Contributions

The author was responsible for the conceptualization of the research, development of the theoretical framework, formulation of the research model, and design of the research instrument. The author also conducted data collection, performed statistical analysis using Structural Equation Modeling–Partial Least Squares (SEM–PLS) with SmartPLS 4, interpreted the empirical findings, and prepared the manuscript. All revisions and final approval of the manuscript were completed by the author, who accepts full responsibility for the integrity and accuracy of the published work.

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