Distribution Cost Efficiency Post-Implementation of Third-Party Logistics (3PL) at PT. Semen Indonesia Distributor

Ayu Lisdiyana Ningrum[1]
Indro Kirono[2]
Universitas Muhammadiyah Gresik
Email :aayu.lisdiyana@gmail.com
Author Correspondence: indrokirono@umg.ac.id

ABSTRACT

Penelitian ini bertujuan untuk menganalisis efisiensi biaya distribusi setelah implementasi Third Party Logistics (3PL) di PT. Semen Indonesia Distributor (SID). Penelitian ini dimotivasi oleh tingginya biaya logistik di Indonesia dan terbatasnya bukti empiris mengenai efektivitas implementasi 3PL di perusahaan distribusi semen. Penelitian ini menggunakan metode kualitatif deskriptif dengan teknik pengumpulan data melalui wawancara, observasi non-partisipatif, dan dokumentasi berupa buku besar dari sistem SIWASAP. Objek penelitian meliputi Cabang Jombang, Kediri, dan Legundi dengan membandingkan kondisi satu tahun sebelum dan satu tahun setelah implementasi 3PL. Analisis dilakukan pada komponen biaya distribusi internal yang terdiri dari gaji pengemudi, biaya tenaga kerja bongkar muat, dan tunjangan perjalanan pengemudi. Hasil penelitian menunjukkan bahwa implementasi 3PL secara signifikan meningkatkan efisiensi biaya distribusi dengan efisiensi rata-rata 72,09% atau pengurangan biaya sebesar Rp. 2.818.174.366. Selain memberikan penghematan biaya, implementasi 3PL juga meningkatkan efisiensi waktu distribusi dan kualitas pelayanan kepada pelanggan. Dengan demikian, implementasi 3PL terbukti menjadi strategi yang efektif dalam meningkatkan kinerja distribusi dan dapat digunakan sebagai referensi bagi perusahaan dalam pengambilan keputusan logistik.

Keywords: *Efisiensi Biaya Distribusi, Logistik Pihak Ketiga (3PL), Manajemen Logistik, Distribusi, Efisiensi Operasional*

ABSTRACT

This study aims to analyze distribution cost efficiency following the implementation of Third-Party Logistics (3PL) at PT. Semen Indonesia Distributor (SID). The research is motivated by Indonesia's high logistics costs and the limited empirical evidence regarding the effectiveness of 3PL implementation in cement distribution companies. A descriptive qualitative approach was employed using interviews, non-participant observations, and documentation in the form of general ledger records obtained from the SIWASAP system. The study covered three warehouse branches Jombang, Kediri, and Legundi by comparing one year before and one year after the implementation of 3PL. The analysis focuses on internal distribution cost components, including driver salaries, loading and unloading labor costs, and driver travel allowances. The findings indicate that 3PL implementation significantly improved distribution cost efficiency, achieving an average efficiency rate of 72.09% or a total cost reduction of IDR 2,818,174,366. In addition to reducing costs, the implementation of enhanced distribution time efficiency and service quality. Therefore, 3PL is proven to be an effective strategy for improving distribution performance and can serve as a practical reference for logistics decision-making.

Keywords: *Distribution Cost Efficiency, Third-Party Logistics (3PL), Logistics Management, Distribution, Operational Efficiency*

INTRODUCTION

The logistics industry plays a strategic role in supporting the smooth flow of goods from producers to consumers. However, the logistics sector in Indonesia still faces challenges in the form of high logistics costs compared to several countries in Southeast Asia. Indonesia's logistics costs account for 23.5% of Gross Domestic Product (GDP), higher than Malaysia's 13%, Thailand's 13.2%, and Singapore's 8.1%.(Labib Marzuq & Tohir, 2025)These high logistics costs are largely influenced by transportation and distribution activities, which are the primary components of a company's operational costs. This situation makes distribution efficiency a crucial aspect for companies to focus on to increase competitiveness while maintaining quality service to customers.

Distribution is an important activity in the supply chain which functions to distribute goods from producers to consumers according to the required quantity, time and location.(Eka Santi Agustina et al., 2023)Effective distribution requires integrated management of transportation, warehousing, loading and unloading, and coordination between logistics actors. Therefore, an efficient logistics system is determined not only by the speed and accuracy of delivery, but also by the company's ability to control transportation costs, optimize fleet utilization, and minimize waste during the distribution process.(Sammer Fahreza et al., 2023)One approach that many companies have implemented to improve distribution efficiency is through the implementation of Third-Party Logistics (3PL), which is the transfer of some logistics activities to logistics service providers that have more adequate competence and resources.

PT. Semen Indonesia Distributor (SID) is a company engaged in cement distribution with a network of 94 branches spread across various regions of Indonesia. In carrying out its distribution activities, the company previously managed the entire distribution process internally so that the management of the fleet, distribution workforce, and other operational activities were the company's responsibility. This condition resulted in relatively high and fluctuating distribution costs, prompting the company to evaluate the distribution system used. This research focused on the Jombang Branch, Kediri Branch, and Legundi Branch because these three branches are the locations for the implementation of Third-Party Logistics (3PL) which have complete distribution characteristics and operational data that can be used to evaluate changes in distribution costs after the implementation of the system.

Table1Total Internal Distribution Costs Before Third-Party Logistics (3PL) Implementation

Branch	Period	Total Distribution Cost (Rp)
Jombang	June 2023 – May 2024	1,645,218,127
Kediri	June 2023 – May 2024	1,109,063,413
Legundi	Dec 2023 – Nov 2024	1,154,805,240

Source: Internal Data of PT. Semen Indonesia Distributor (2024).

Based on Table 1, distribution costs at all three branches remain relatively high. These costs are primarily influenced by operational cost components related to distribution activities, namely driver salaries, driver travel allowances, and loading and unloading labor costs (TKBM). These three components were chosen as the focus of the analysis because they are operational costs that arise routinely in every distribution activity and contribute significantly to the company's total distribution costs. This situation indicates that managing distribution activities still requires strategies that can increase cost efficiency without compromising the quality of service to customers.

In an effort to improve operational efficiency, PT. Semen Indonesia Distributor implemented Third-Party Logistics (3PL) in collaboration with PT. Varia Usaha Dharma Segara (VUDS). Through this implementation, some distribution activities are transferred to a logistics service provider responsible for fleet management, distribution workforce, and delivery operations. This change in the distribution system is expected to optimize resource utilization, reduce operational costs, and increase the effectiveness of the distribution process. However, the effectiveness of 3PL implementation cannot only be assessed from changes in distribution costs, but also needs to be understood through changes in operational processes and strategies implemented by logistics service providers in achieving cost efficiency.

Based on these conditions, there is still a research gap regarding the implementation of Third-Party Logistics (3PL) in cement distribution companies in Indonesia. Most studies focus more on the benefits of 3PL on logistics

performance in general, while research that analyzes distribution cost efficiency based on company operational data and identifies changes in distribution processes and operational strategies after 3PL implementation is still limited. This condition indicates the need for studies that can explain not only the results of 3PL implementation in the form of cost efficiency, but also the processes and mechanisms that cause such efficiency to be achieved.

The novelty of this research lies in the analysis of Third-Party Logistics (3PL) implementation using a qualitative approach, utilizing operational data before and after implementation to support the analysis. This research not only describes changes in distribution costs but also explains changes in the distribution process and operational strategies implemented by Third-Party Logistics (3PL) service providers in generating distribution cost efficiency at PT. Semen Indonesia Distributor.

Based on the description, this study aims to analyze the efficiency of distribution costs before and after the implementation of Third-Party Logistics (3PL) at PT. Semen Indonesia Distributor. In addition, this study also aims to identify changes in the distribution process and operational strategies implemented by Third-Party Logistics (3PL) service providers in achieving distribution cost efficiency. The results of this study are expected to provide empirical contributions to the development of logistics management studies, especially regarding the implementation of Third-Party Logistics (3PL), as well as become a reference for companies in evaluating and developing more efficient and sustainable distribution strategies.

LITERATURE REVIEW

Efficiency in Logistics Management

Management is the process of planning, organizing, directing, coordinating, and controlling resources to achieve organizational goals effectively.(Dwi Novitasari, 2022)In logistics management, efficiency is defined as the ability to optimize the use of resources, time, and costs to produce an effective distribution system by minimizing waste.(Lisa Evita Christina Kapoh et al., 2020)The implementation of an efficient logistics system is also supported by supply chain integration, the use of information technology, real-time shipment tracking, process automation, and data analysis, which can improve operational efficiency, transparency, and the quality of service to customers.(Muhamad Anggi Ainul Yakin & Indro Kirono, 2025).

Efficiency Indicators

Efficiency in logistics activities can be measured through three main indicators: time efficiency, cost efficiency, and quality efficiency. Time efficiency relates to a company's ability to complete distribution processes on time through effective scheduling, coordination, and resource management.(Heizer et al., 2020). Fast delivery times can increase customer satisfaction and provide a competitive advantage for companies. (Sammer Fahreza et al., 2023)Cost efficiency indicates a company's ability to optimize the use of resources to reduce transportation, warehousing, packaging, and administration costs without reducing distribution performance.(Anni Alifatul Isnaini et al., 2025)Meanwhile, quality efficiency refers to the ability to maintain product and service quality throughout the distribution process with the support of technology and effective logistics management.(Sammer Fahreza et al., 2023).

The Concept of Efficiency in Supply Chain

Supply chain efficiency focuses on managing the flow of goods, information and resources in an integrated manner to reduce waste and increase distribution speed.(Muhamad Anggi Ainul Yakin & Indro Kirono, 2025)One approach that is widely applied is lean logistics, which is an effort to eliminate non-value-added activities so that cycle time and operational costs can be reduced, which ultimately increases the efficiency of the supply chain as a whole.(Anni Alifatul Isnaini et al., 2025).

The Effect of Efficiency on Costs

Improving logistics efficiency contributes to lower operational costs through distribution process optimization and technology utilization. Efficient logistics management can reduce waste, increase productivity, and support increased profitability and company competitiveness.(Sammer Fahreza et al., 2023).

Distribution Costs

Distribution is the activity of distributing goods from producers to consumers through appropriate distribution channels so that products are available at the time and location needed.(Eka Santi Agustina et al., 2023)In this process, the company bears distribution costs, which include all expenses incurred during the distribution

process, such as transportation, warehousing, packaging, and administration. Effective distribution cost management is a crucial factor in improving operational efficiency and supporting a company's competitiveness.(Lisa Evita Christina Kapoh et al., 2020).

In general, distribution costs consist of transportation costs, warehousing costs, packaging costs, and administrative costs. Transportation costs include expenses for shipping goods and are the largest cost component in distribution activities.(Sammer Fahreza et al., 2023)Warehousing costs are related to the activities of receiving, storing, picking, and shipping goods.(Bartholdi & Hackman, 2019)while packaging costs include the costs of packaging materials and labor to protect the goods during the distribution process(Sammer Fahreza et al., 2023). Furthermore, administrative costs include order processing, inventory management, and distribution supervision to support smooth operations.(Lisa Evita Christina Kapoh et al., 2020).

The amount of distribution costs is influenced by several factors, including distribution distance, volume of goods sent, distribution method, and type of transportation used.(Anni Alifatul Isnaini et al., 2025)In this study, distribution cost analysis focuses on three operational cost components directly impacted by the implementation of Third-Party Logistics (3PL): driver salaries, driver travel allowances, and loading and unloading labor costs (TKBM). These three components were chosen because they are routine operational costs that reflect changes in distribution management after the implementation of 3PL.

***Third-Party Logistics*(3PL)**

Third-Party Logistics(3PL) is a form of outsourcing logistics activities to external service providers to increase operational efficiency and enable companies to focus more on their core business competencies.(Rushton et al., 2010). According to(Sammer Fahreza et al., 2023), 3PL is a service provider that manages logistics activities, such as transportation, warehousing, distribution, and inventory management, so that companies can utilize more professional logistics resources and infrastructure.

In general, 3PL services consist of several models, namely transportation-based, warehouse-based, integrated, and forwarder-based. Transportation-based 3PL focuses on fleet management and distribution to improve transportation efficiency.(Anni Alifatul Isnaini et al., 2025). Warehouse-based 3PL manages warehousing and storage activities, while integrated 3PL provides comprehensive logistics services ranging from transportation, warehousing, to inventory management.(Sammer Fahreza et al., 2023). Forwarder-based 3PLs focus on shipping management, including document management and cross-regional and international distribution processes.(Anni Alifatul Isnaini et al., 2025).

Implementing Third-Party Logistics (3PL) provides various benefits for companies, such as reducing operational costs and increasing flexibility.(Sammer Fahreza et al., 2023). In addition, implementing 3PL allows companies to focus more on core competencies by transferring logistics activities to third-party service providers.(Lisa Evita Christina Kapoh et al., 2020)In this study, the implementation of 3PL is focused on transportation-based 3PL services, because the service provider takes over the management of transportation and distribution activities which have a direct impact on distribution cost efficiency.(Sammer Fahreza et al., 2023).

METHOD

This study uses a qualitative descriptive approach to analyze the efficiency of distribution costs before and after the implementation of Third-Party Logistics (3PL) at PT. Semen Indonesia Distributor. The study was conducted at the Jombang, Kediri, and Legundi Branches, which were selected purposively because they have implemented a 3PL system. Primary data were obtained through interviews with the Internal Audit team and non-participatory observation, while secondary data came from the general ledger, distribution cost reports, the SIWASAP system, and other supporting documents. Data analysis was carried out by comparing distribution costs before and after 3PL implementation and confirming the results through interviews. Data validity was tested using a member check.

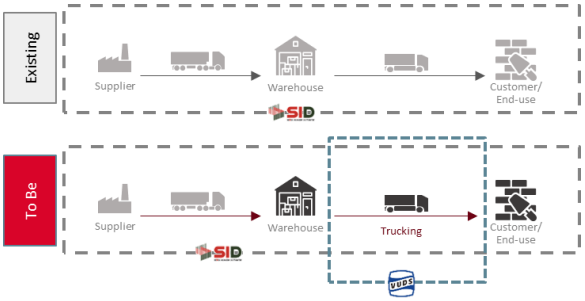
RESULTS AND DISCUSSION

Overview of Third-Party Logistics (3PL) Implementation

The implementation of Third-Party Logistics (3PL) at PT. Semen Indonesia

Distributor (SID) is a company strategy to improve distribution efficiency by transferring some logistics activities to service providers with specialized competencies in transportation and distribution. This policy is motivated by the high complexity of internal distribution management, which results in relatively high operational costs, suboptimal fleet utilization, and high resource-intensive delivery coordination. Through collaboration with PT. Varia Usaha Dharma Segara (VUDS), the company focuses business activities on core business functions, while distribution management is carried out by logistics partners with more integrated operational systems.

Picture13PL Implementation Flow on PT. Semen Indonesia Distributor



Source: SID Warehouse Outbound Fleet Management Document

The change in the distribution system is demonstrated through the transformation of operational processes from existing processes to to-be processes. Prior to the implementation of 3PL, all distribution activities, from delivery planning and fleet management, drivers, and vehicle maintenance, were still the responsibility of the company. This situation resulted in a relatively high distribution operational burden and reduced the company's focus on core business activities. After the implementation of 3PL, the entire distribution process was transferred to VUDS, which is responsible for delivery planning, customer mapping, load capacity management, vehicle journey monitoring, fleet management, and Service Level Agreement (SLA) fulfillment. This change increased the specialization of distribution management, resulting in more optimal fleet utilization and a more structured operational process.

3PL implementation is carried out through four main activities: order planning, timely monitoring, reporting and evaluation, and maintenance. The order planning stage focuses on developing distribution plans based on customer locations, vehicle capacity, delivery volume, and route characteristics, enabling load consolidation and optimizing fleet utilization. Timely monitoring activities are carried out to monitor the distribution process in real time from the time the vehicle leaves the warehouse until the goods are received by the customer, so that potential delays can be minimized through rapid corrective action. Furthermore, reporting and evaluation are used to evaluate distribution performance indicators such as delivery timeliness, fleet utilization, vehicle productivity, and SLA achievement as a basis for continuous improvement. Meanwhile, maintenance activities include fleet management and product quality control throughout the distribution process to maintain vehicle reliability and reduce the risk of product damage.

The implementation of 3PL at PT. Semen Indonesia Distributor was also accompanied by changes in distribution financing mechanisms. The company no longer uses a fixed cost approach, but instead implements a profit-sharing scheme of 2% of distribution revenue. Through this scheme, the logistics service provider is responsible for most operational costs, such as driver salaries, loading and unloading labor, and tolls, while the company only covers supporting operational costs and supervisory functions. This change in cost structure provides flexibility in distribution management while reducing the company's internal operational burden.

The research findings indicate that the implementation of a 3PL not only changes the operational distribution mechanism but also creates a more integrated, measurable, and performance-based logistics management system. The integration of distribution planning, operational monitoring, performance evaluation, and fleet management forms the foundation for improving cost efficiency, on-time delivery, and the quality of distribution services. These conditions indicate that the implementation of a 3PL is a strategic transformation that supports increased supply chain effectiveness and strengthens the operational competitiveness of PT. Semen Indonesia Distributor.

3PL Implementation and Distribution Cost Efficiency

The implementation of Third-Party Logistics (3PL) at PT. Semen Indonesia Distributor aims to improve distribution cost efficiency by transferring operational activities to professional logistics service providers. The evaluation of the implementation was conducted by comparing the company's internal distribution

costs before and after the implementation of 3PL in three research branches, namely Jombang, Kediri, and Legundi. The analysis focused on distribution costs that are still the responsibility of the company so as to be able to describe changes in the cost structure after some distribution activities are transferred to a third party.

Table2 Recapitulation of Distribution Costs Before and After 3PL Implementation

Branch	Cost Before 3PL (Rp)	Cost After 3PL (Rp)	Cost Reduction (Rp)
Jombang	1,645,218,127	374,398,506	1,270,819,621
Kediri	1,109,063,413	387,163,600	721,899,813
Legundi	1,154,805,240	329,350,308	825,454,932
Total	**3,909,086,780**	**1,090,912,414**	**2,818,174,366**

Source: Data processed by researchers (2025).

The results of the study indicate that the implementation of 3PL was able to reduce the company's total internal distribution costs from Rp3,909,086,780 to Rp1,090,912,414. This condition indicates a savings of Rp2,818,174,366 or an efficiency level of 72.09%. This decrease indicates that the transfer of distribution activities to logistics service providers successfully reduced operational costs previously borne directly by the company, especially the costs of drivers, stevedoring labor (TKBM), travel allowances, and fleet management. Thus, the implementation of 3PL not only resulted in a decrease in distribution costs, but also shifted the company's cost structure from direct operational costs to distribution supervision and administration costs.

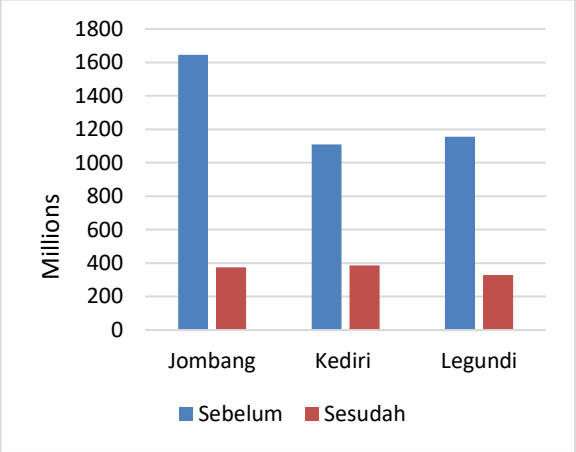
Table3Distribution Cost Efficiency Level After 3PL Implementation

Branch	Efficiency (%)
Jombang	77.24
Kediri	65.09
Legundi	71.48
Total	**72.09**

Source: Data processed by researchers (2025).

A comparison between branches shows that all study locations experienced increased efficiency after 3PL implementation, although the savings levels varied. The Jombang Branch recorded the highest efficiency at 77.24%, followed by the Legundi Branch at 71.48%, and the Kediri Branch at 65.09%. These differences indicate that the magnitude of the benefits of 3PL implementation is influenced by the operational characteristics of each branch, such as distribution volume, service area coverage, delivery route complexity, and fleet utilization intensity. Branches with larger distribution volumes tend to experience higher economic benefits because fleet optimization and load consolidation can be carried out more effectively.

Chart1Comparison of Distribution Costs Before and After 3PL Implementation



Source: Data processed by researchers (2025).

The distribution cost comparison chart shows a consistent pattern across all three branches: a decrease in distribution costs after the implementation of the 3PL. This decrease occurred without a significant decrease in distribution activity, indicating that the efficiency gains stemmed from increased logistics management effectiveness, not from reduced service capacity. This indicates that the company was able to maintain distribution performance while reducing operational costs by leveraging the competencies of its logistics service providers.

This change in cost structure is supported by the implementation of a 2% profit-sharing scheme, replacing the fixed-cost approach adopted in the initial stages of partnership planning. Through this mechanism, the company no longer bears the majority of distribution costs directly but instead shares profits based on distribution revenue generated. This partnership model provides greater flexibility in cost control and reduces the risk of significant fixed costs arising from fluctuations in distribution volume.

Research findings indicate that 3PL implementation results in structural changes, not just reduced operational costs. The transfer of distribution activities to logistics service providers drives the transformation of the distribution system to become more efficient, adaptive, and performance-based. The 72.09%

cost efficiency demonstrates that 3PL implementation can improve distribution management effectiveness while strengthening PT. Semen Indonesia Distributor's operational competitiveness through more optimal resource utilization.

Post-Implementation Impact of 3PL

The implementation of Third-Party Logistics (3PL) has a broader impact than simply reducing distribution costs. The distribution system transformation carried out in collaboration with PT. Varia Usaha Dharma Segara (VUDS) resulted in changes in cost efficiency, time efficiency, and distribution quality. This impact was achieved through the implementation of integrated order planning, timely monitoring, reporting and evaluation, and maintenance activities. The integration of these four activities resulted in a more effective distribution process, increased fleet productivity, and strengthened the company's operational control.

Impact on Cost Efficiency

The implementation of a 3PL significantly impacts distribution cost efficiency through changes to operational planning and management systems. Order planning is the initial step that determines distribution effectiveness, as the entire delivery process is planned based on order quantity, customer location, vehicle capacity, delivery volume, and operational conditions within the distribution area. This information is used as the basis for developing distribution plans that maximize fleet capacity and reduce operational costs.

Mapping customers by district or city allows VUDS to group customers on the same distribution route, allowing multiple delivery destinations to be served in a single fleet trip (load consolidation). This strategy increases vehicle utilization rates while reducing unproductive trips. Route planning also takes into account distance traveled, vehicle capacity, road conditions, delivery volume, and customer service time, thus reducing unnecessary travel, reducing fuel consumption, and increasing fleet productivity.

Cost efficiency is further enhanced through the arrangement of loading schedules between the VUDS operations team and warehouse personnel. Document readiness, product availability, and vehicle scheduling are ensured before the fleet arrives at the loading location, minimizing vehicle waiting times. This reduction in waiting times increases the frequency of fleet trips within a distribution period and results in lower operational costs per trip.

The implementation of this strategy resulted in a reduction in the company's internal distribution costs by Rp2,818,174,366, or an efficiency level of 72.09%. These findings indicate that cost efficiencies stem not only from the transfer of distribution activities to logistics service providers, but also from increased distribution planning effectiveness, optimized fleet utilization, and systematic operational process control.

Impact on Time Efficiency

3PL implementation improves distribution time efficiency through Timely Monitoring activities. Monitoring is carried out from the time the vehicle leaves the warehouse until the goods are received by the customer. This includes monitoring the punctuality of departure, vehicle position during the journey, arrival time, loading and unloading duration, and completion of shipping documents. Monitoring is carried out continuously through coordination between drivers, the VUDS operational team, warehouse personnel, and customers so that any changes in operational conditions can be immediately identified.

Information regarding traffic conditions, travel delays, changes in delivery schedules, and other operational constraints is used as a basis for taking rapid corrective action. This approach reduces the risk of delivery delays because any potential disruptions can be anticipated before they impact the distribution process. Having vehicle arrival schedules known to all parties also helps expedite the loading and unloading process, resulting in shorter distribution cycles compared to before the 3PL implementation.

Improved time efficiency is also supported by reporting and evaluation activities. All distribution activities are documented in operational reports that include delivery on-time, fleet utilization, vehicle productivity, loading and unloading times, and Service Level Agreement (SLA) achievement. Analysis of this data allows the company to identify causes of delays, evaluate distribution route effectiveness, and implement continuous operational improvements. Decision-making, previously based primarily on operational experience, has shifted to data-driven processes, making the distribution process more responsive and efficient.

Impact on Quality Efficiency

The implementation of 3PLs also improves distribution quality by strengthening maintenance activities, including fleet management and product quality control throughout the distribution process. The fleet maintenance program includes pre- and post-operational vehicle inspections, regular maintenance, spare part replacement, vehicle roadworthiness monitoring, and operational document management. These activities aim to maintain fleet reliability while reducing the risk of operational disruptions during the delivery process.

Product quality control is carried out from the loading process, through the arrangement of goods on the vehicle, securing the load during transit, and finally, unloading at the customer's location. This oversight aims to minimize product damage due to mishandling, pallet pressure, disruptions during transportation, and negligence during loading and unloading. Research shows that the most common product damage is damage to cement packaging (broken cement), which reduces the product's economic value.

VUDS implements a rebagging mechanism to reduce losses due to packaging damage. Damaged cement is collected, separated based on the level of damage, inspected for quality, and then repackaged using new packaging so that it can still be marketed as glangsing cement or pocong cement. This mechanism is able to maintain some of the product's economic value, which previously had the potential to cause losses for the company. The implementation of rebagging demonstrates that 3PL implementation is not only oriented towards transportation efficiency, but also encompasses product quality control and economic value recovery during the distribution process.

The research findings show that the implementation of 3PL resulted in comprehensive changes in the distribution system of PT. Semen Indonesia Distributor. Increased fleet utilization through load consolidation, distribution route optimization, reduced loading and unloading times, continuous operational monitoring, Service Level Agreement (SLA)-based performance evaluation, fleet maintenance, and rebagging mechanisms are the main factors that support the increase in cost efficiency, time efficiency, and distribution quality. These results indicate that the success of 3PL implementation is not only determined by the transfer of distribution activities to logistics service providers, but also by the ability of VUDS to integrate the planning, implementation, supervision, evaluation, and quality control processes in a sustainable manner so as to improve the effectiveness of the PT. Semen Indonesia Distributor supply chain.

The results of the study indicate that the implementation of Third-Party Logistics (3PL) at PT. Semen Indonesia Distributor was able to increase distribution efficiency by reducing internal distribution costs, increasing delivery timeliness, and improving service quality. The cost reduction occurred because some operational activities, such as fleet management, loading and unloading labor (TKBM), driver salaries, and driver travel allowances were transferred to logistics service providers. This finding is in line with the theory of logistics efficiency, which states that efficiency is achieved through optimizing resources to produce better performance at lower costs.(Lisa Evita Christina Kapoh et al., 2020).

3PL implementation also improves time efficiency through more structured route management, delivery scheduling, and fleet coordination. These results support the argument.(Heizer et al., 2020)that effective operational coordination plays a role in improving the timeliness of distribution. In addition, changes to the distribution system result in a company's cost structure becoming more efficient because several operational cost components are no longer internal burdens, in accordance with the distribution cost theory proposed by(Eka Santi Agustina et al., 2023).

From a Third-Party Logistics perspective, the research results show that transferring distribution activities to logistics service providers allows companies to focus more on core activities while increasing operational effectiveness, as explained by(Rushton et al., 2010). This finding also strengthens research(Zhang & Okoroafo, 2015)which states that 3PL implementation can improve logistics efficiency, operational flexibility, and distribution service quality. However, cost fluctuations persist over time, indicating that the success of 3PL implementation remains influenced by operational coordination, distribution volume, and performance evaluation of logistics service providers.

CONCLUSION AND SUGGESTIONS

The implementation of Third-Party Logistics (3PL) through collaboration with PT. Varia Usaha Dharma Segara (VUDS) has successfully increased the effectiveness of distribution management through the integration of fleet management, workforce, route planning, scheduling, and operational monitoring. The implementation of 3PL has also been proven to increase the efficiency of internal distribution costs by an average of 72.09%, consisting of the Jombang Branch 77.24%, Legundi 71.48%, and Kediri 65.09%, through the transfer of some operational costs to 3PL service providers. In addition, the implementation of 3PL has a positive impact on time efficiency, cost efficiency, and quality of distribution services so that it can be an effective strategy to improve the company's operational performance.

PT. Semen Indonesia Distributor is advised to improve the effectiveness of Third-Party Logistics (3PL) implementation by establishing measurable distribution Key Performance Indicators (KPIs) and evaluating them periodically, conducting regular evaluations of the revenue sharing scheme with PT. Varia Usaha Dharma Segara (VUDS), strengthening the inventory control system through stock data reconciliation, and developing an integrated distribution monitoring system to improve transparency, data accuracy, and decision-making. In addition, further research is recommended to analyze distribution cost efficiency more comprehensively by including costs borne by 3PL service providers and using a quantitative or mixed methods approach so that the relationship between 3PL implementation, distribution efficiency, service quality, and supply chain performance can be evaluated in more depth.

REFERENCE

Anni Alifatul Isnaini, Saifuddin, Sudarko, & Rokhani. (2025). Analysis of Technical Efficiency and Economic Efficiency of Potato Farming in Sukapura District, Probolinggo Regency. January, 11(1), 1162–1172.

Bartholdi, J. J., & Hackman, S. T. (2019). Warehouse & Distribution Science. www.warehouse-science.com

Dwi Novitasari. (2022). Operations Management Concepts & Essence. STIE Widya Wiwaha.

Eka Santi Agustina, SS . M., Nia Sonani., SM, Awaluddin., SE. M. ., Ni Luh Kardini, SE . M. ., Gusti Ayu Aghivirwiati, SH . M. ., Cristi Monica, SK . N. . M., Dr. Sabil, SM, Triana Zuhrotun Aulia SE., MA, LIharman Saragih SE.MM, & Dra. Nurchayati. SE.MM.Akt.CA. (2023). Distribution Management (Indra Pradana Kusuma, Ed.). Cendikia Mulia Mandiri Foundation.

Heizer, J., Render, B., & Munson, C. (2020). Operations management : sustainability and supply chain management. Pearson.

Labib Marzuq, F., & Tohir, M. (2025). Evaluation of Government Policy in Encouraging Multimodal Transportation Integration to Reduce Logistics Costs in Indonesia. Cyber Journal of Transportation and Logistics (JSTL), 3. https://doi.org/10.38035/jstl.v3i2

Lisa Evita Christina Kapoh, Debby Ch. Rotinsulu, & Mauna Th. B. Maramis. (2020). Analysis Of Independence, Effectiveness, And Efficiency Of Financial Management In The Manado City Regional Financial And Asset Management Agency. Scientific Periodical Journal of Efficiency, 20(03).

Muhamad Anggi Ainul Yakin, & Indro Kirono. (2025). Evaluation of Package Delay in Delivery Using The Six Sigma DPMO Method in The Last Mile Delivery Division of PT Satria Antaran Prima.Tbk, Surabaya Branch. Baruna Horizon Journal, 8(1).

Rushton, A., Croucher, P., & Baker, P. (2010). The handbook of logistics & distribution management. Kogan Page.

Sammer Fahreza, Santi Purnama Walansari, Hikmah Diannisa Putri, & Daniel Rudolof Fenanlampir. (2023). Logistics and Supply Chain Management. Wahana Pendidikan Scientific Journal, (15), 622–628. https://doi.org/https://doi.org/10.5281/zenodo.8218098

Zhang, H., & Okoroafo, S.C. (2015). Third-Party Logistics (3PL) and Supply chain Performance in the Chinese Market: A Conceptual Framework. Engineering Management Research, 4(1). https://doi.org/10.5539/emr.v4n1p38