

YAYASAN WIDYA MANDALA SURABAYA UNIVERSITAS KATOLIK WIDYA MANDALA SURABAYA

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MEASURING LOGISTICS PERFORMANCE (A CASE STUDY AT PT. XYZ CARGO, SURABAYA, INDONESIA)



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MEASURING LOGISTICS PERFORMANCE (A CASE STUDY AT PT. XYZ CARGO, SURABAYA, INDONESIA)

by

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ABSTRACT

Over the last two decades, logistics service providers have become important players in many chains and industries. PT. XYZ Cargo, Surabaya, one of the 3PL (third party logistics) company in Indonesia, provides air freight, sea freight, custom brokerage, logistics- supply chain management, project cargo, domestics, warehousing and distribution, and personal and industrial removal. This company realizes that it is needed to assess its logistics performance, in order to gain enhanced competitiveness, better customer care and increased profitability. Based on a literature survey, this paper attempts to develop logistics performance measurement for this company. In design the performance measurement, there are several steps: determine the company success factor (KPI), performance measurement grid, the selection of measure, audit and implementation of measures. In this research, the emphasis is on performance measures dealing with quality, cost, delivery, and flexibility in logistics based on Schoensleben's model (2004). Each criterion consists of several measured factors that are chosen from several literatures or models.

KEYWORD

Performance Measurement, Quality, Cost, Delivery, Flexibility

INTRODUCTION

The third party logistics (3PL) industry in worldwide, also in Indonesia, is currently undergoing a rapid transition. There has been considerable interest worldwide in last few years in the growth of third party logistics providers. These firms typically provide some of the following services: warehousing operations, freight payments and auditing, carrier selection and rate negotiations.

There are many 3PL companies currently operating in Indonesia, one is a multinational company, PT. XYZ Cargo, which has a branch in Surabaya. This company provides services such as air freight, sea freight, customs brokerage, logistics-supply chain management, project cargo, domestics, warehouse and distribution, and removal (Personal and Industrial) and its service areas include several big cities in Indonesia such as: Jakarta, Denpasar, Semarang, Yogyakarta, Makasar, Medan, Bandung, Palembang, Pekanbaru, and other cities in Indonesia.

As a 3PL company, PT. XYZ must enhance its services to customers to face global competition through improving company's performance. To start, it is necessary to know the current company's performance by having assessment. It is needed to establish appropriate performance measures, or a set of performance measures, to determine the efficiency and/or effectiveness of an existing system. It is also used to design proposed systems, by determining the values of the decision variables that yield the most desirable levels of performance (Beamon, 1998).

PT XYZ Cargo realizes that it is needed to assess its logistics performance, in order to gain enhanced competitiveness, better customer care and increased profitability. Based on a literature survey, this paper attempts to develop logistics performance measurement for this company. It is important for the company to adopt or develop a set of suitable performance to measure the effectiveness of its logistics and supply chain system and its many interrelated components. Thus, main aim of this research is to conduct the logistics performance measurement in the target area of quality, delivery, cost, and flexibility.

FRAMEWORK OF LOGISTICS PERFORMANCE MEASUREMENT MODEL

The framework structure was adopted by using Medori and Steeple, 2000, that revolved five-stage plan.

1. Determine the company success factor

The main point is that company's performance measures need to be related to company's strategy and company's success factor. In this stage, the identification of company's strategy and success factor is conducted by interviewing the branch manager. In addition, literature study is performed to give input for determination of company success factor. Once of the strategic requirements of stage 1 are identified, they are then listed into the "performance measurement grid".

2. Determine priorities and develop the performance measurement grid (PMG)

In this stage, the priorities were determined based on "Integral Logistics Management" (Schoensleben, 2004; p.51), that included four competitives priorities: quality, delivery, cost, and flexibility. Table 1 consists of priorities on the vertical axis and company success factor on the horizontal axis.

| Area/Competitive Priority | Company Success Factor |
|------------------------------|--|
| Quality | Improve shipping quality Customer satisfaction |
| Cost | Reduce daily supply chain operational cost |
| Delivery | Achieve the delivery schedule Improve efficiency in shipping |
| Flexibilty | Improve the flexibity to meet the customer requirements Increase data connectivity for support daily operation |

 TABLE 1

 PERFORMANCE MEASUREMENT GRID

3. Selection of measures and determination of logistics performance indicator.

This stage incorporates the use of the performance measurement grid; this grid identifies the general areas, which are needed to be measured. With careful consideration, there are four target areas (quality, delivery, cost, and flexibility) to be assessed. Each area will be broken down into several performance indicator factors.

The influence of target area of quality on logistics is rather small. Some performance indicators arises from logistics itself, especially scrap factor that relates to product and customer complaint rates. Performance measurement in quality area is highly related to customer satisfaction.

Logistics performance can be assessed by measuring total logistics cost. The influence of target area of cost is significant. Logistics cost can be cost associated with assests and return on investment and total inventory cost (Gunasekaran, et al, 2001). Total cost associated with inventory consists of opportunity cost, inventory cost (incoming stock level, work in progress), service cost (stock management and insurance), cost held up as finished good in transit, risk cost, cost associated with scrap and rework, and shortage cost.

As logistics has a direct effect upon the target area of delivery, performance indicator that is related to delivery is very important. Delivery performance can be influenced by suitable delivery distribution mode, selecting suitable delivery channel, vehicle scheduling policies, and warehouse location policies. Another important factor of delivery performance is on-time delivery and it acts as a measure of customer service level. These measures are delivery-to-request date, delivery-to-commit date, and order fill lead-time.

Flexibility refers that company can make available services to meet the customer requirements. It has become possible as a result of information technology (IT) and communication system investment (Gunasekaran, et al, 2001). By defining flexibility as a metric and by assessing it, company can achieve rapid response to meet individual customer requirements.

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Appropriate indicators for performance of a company are meant to show the degree to which enterprise objectives are fulfilled or not fulfilled. Logistics performance indicators are developed to analyse the effect of logistics on company objectives in four traget areas of quality, delivery, cost, and flexibility. In actual practice, the determination and measuring of logistics performance indicators are uneasy and usually require certain aspects to be counted.

The determination of logistics performance indicators are based on actual practice and benchmarking from literature study. The result shows as figure 1 and the explanation of each performance indicators is shown as Table A.1 in the attachments.



FIGURE 1 TOTAL PERFORMANCE MEASUREMENT

4. Audit

Having identified and agreed on key performance measures in stage 3, company (representative by branch manager) determine the key indicator of???

5. Implementation of measures

The first step is to determine a weight to be assigned for each key performance indicator using Analytic Hierarchy Process (AHP). Input for AHP is questionnaire filled by branch manager and logistics manager. The weighted performance indicator showns as table 2 below.

The next step is to gather data for calculating performance indicator from August 2008 to March 2009. This result can be seen as attachment table A.2. Specific for cost data, the ratio score is normalized to get performance score (%) with criterium "lower is better".

$$N_{monthi} = \frac{P_{max} - P_i}{P_{max} - P_{min}} x100(1)$$

 $\begin{array}{lll} P_i & = Ratio \ for \ month_i \\ P_{min} & = Ratio \ minimum \\ P_{max} & = Ratio \ maximum \\ N_i & = Performance \ score \ for \ month_i \\ \end{array}$

| Performance Indicator | Weight | Performance Indicator | Weight |
|--------------------------------|--------|----------------------------|--------|
| 1. Quality (level 1): | 0,284 | 3.3. General: | 0,043 |
| 1.1. Orders without complaints | 0,237 | 3.3.1. Administration Cost | 0,146 |
| 1.2. Customer Retention | 0,413 | 3.3.2. Salary | 0,45 |
| 1.3. Orders without defectives | 0,132 | 3.3.3. Insurance | 0,176 |
| 1.4. Delivery Lead Time | 0,147 | 3.3.4. Training Cost | 0,229 |
| 1.5. Truck Operational Rate | 0,07 | 3.4. Absenteeism | 0,085 |
| 2. Delivery (level 1): | 0,415 | 3.5. Profitability | 0,252 |
| 2.1 .On-time Delivery Rate | 0,245 | 4. Flexibility (level 1) | 0,213 |
| 2.2. Document Handling | 0,123 | 4.1. Customer Reorder Rate | 0,426 |
| 2.3. Delivery Reliability Rate | 0,443 | 4.2. Order Fulfilment Rate | 0,143 |
| 2.4. Order fill Lead Time | 0.189 | 4.3. Order Success Rate | 0,271 |
| 3. Cost (level 1): | 0,089 | 4.4. Warehouse Utilization | 0,057 |
| 3.1. Claims | 0,308 | 4.4. Data Connectivity | 0,104 |
| 3.2. Logistics: | 0,312 | | |
| 3.2.1. Delivery Cost | 0,217 | | |
| 3.2.2. Warehouse Cost | 0,642 | | |
| 3.2.3. Truck Maintenance | 0,142 | | |

TABLE 2 WEIGHTED PERFORMANCE INDICATOR

RESULT AND DISCUSSION

Total performance score is obtained by multiplying each performance indicator score by weight. The calculation of total performance measure is shown as table 3 below. Performance score ranges from 72% to 84%

TABEL 3 TOTAL PERFORMANCE MEASUREMENT

| Area | Aug-08 | Sep-08 | Oct-08 | Nov-08 | Dec-08 | Jan- 09 | Feb- 09 | Mar-09 |
|-------------|--------|--------|--------|--------|--------|------------|------------|--------|
| Quality | 25,971 | 22,123 | 20,942 | 20,342 | 22,426 | 24,534 | 22,624 | 22,903 |
| Delivery | 38,424 | 37,960 | 37,212 | 38,771 | 36,794 | 35,467 | 37,359 | 33,064 |
| Cost | 6,988 | 8,427 | 4,084 | 5,354 | 4,552 | 6,099 | 5,824 | 5,649 |
| Flexibility | 12,012 | 11,839 | 10,635 | 8,229 | 10,803 | 11,611 | 12,047 | 10,676 |
| Total | 83,396 | 80,350 | 72,873 | 72,697 | 74,574 | 77,711 | 77,853 | 72,293 |



FIGURE 2 TOTAL PERFORMANCE MEASUREMENT

For further analysis, each average performance indicator score and weight is plotted as figure 3 below. Considering the range of weight (4.3% to 44.3%) and percentage of key performance score (15% to 100%), median of weight is about 20% and median of average key performance score is 80%. These medians are used as dividing line, average key performance below 80% is low and weight below 20% is low.

From the figure 3, it can be seen that the factors with combination of high weight and low performance, such as: customer retention (2), on-time delivery rate (6), logistics cost (11), profitability (13), customer reorder rate (15), and order success rate (17) have to be prioritised for improvement. Low customer retention and customer reorder point performance shows that some customers have low frequency of order in a month even long period of reorder. In addition, there were many loses bid positions that are shown by low order success rate performance. The delivery scheduling was poor, there were still many jobs not on-time delivered.

Orders without complaints (1), delivery reliability rate (8), and claims (10) has a good performance and high weight, company has to maintain these performances. Delivery reliability is very good, since there are no inccorect delivery (in type, quantity, and recipient), no complaints, and no claims. No claims and no complaints indicates that company can hinder opportunity cost.

Despite their poor performances which need to be improved, general cost (12), warehouse utilization (18), and data connectivity (19) has low weight. Therefore, their improvement could be performed next after more important factors.

For orders without defectives (3), delivery time (4), Truck Operational Rate (5), document handling (7), Order fill Lead Time (9), profitability (13), absentheism (14), and order fulfilment rate (16), their high performances should be maintained.



FIGURE 3 PERFORMANCE(%) VS WEIGHT (%)

Legend

| | Orders without | | On-time Delivery | | | | |
|---|--------------------|---|----------------------|----|---------------|----|-----------------------|
| 1 | complaints | 6 | Rate | 11 | Logistics | 16 | Order Fulfilment Rate |
| 2 | Customer Retention | 7 | Document Handling | 12 | General | 17 | Order Success Rate |
| | Orders without | | Delivery Reliability | | | | |
| 3 | defectives | 8 | Rate | 13 | Profitability | 18 | Warehouse Utilization |
| 4 | Delivery Lead Time | 9 | Order fill Lead Time | 14 | Absentheism | 19 | Data Connectivity |
| | Truck Operational | 1 | | | Customer | | |
| 5 | Rate | 0 | Claims | 15 | Reorder Rate | | |

CONCLUSSION AND SUGGESTION

From this research, the performance score is range from 72 % to 84%, and company should prioritise customer retention, logistics cost, profitability, customer reorder rate, and order success rate to be improved.

What has been conduct from this research, company needs a structured method to audit this performance measurement system continually and renew key performance indicators/measures to hinder obsolences and to enhance its measurement systems for gaining competitive advantage.

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| Area: Quality | | Area: Cost | |
|-------------------------|---|-------------------------|---|
| Indicator 1 | Orders without complaints | Indicator 1 | Claims |
| Definition | Number of orders without complaint divided by total orders | Definition | Claim expenses divided by total revenue |
| Reason for measuring | A high complaints indicates insufficient service quality and leads to opportunity cost | Reason for measuring | Claims are risk cost and associated with deterioration and damage |
| Reference Object | process, number of deliveries | Reference Object | Item, process |
| Fact to measure | sub area order in a month, number of complaints in a month | Fact to measure | Number of claims, total revenue in a month |
| Indicator 2 | Customer Retention | Indicator 2 | Warehouse Cost |
| Definition | Number of customers who place order more than one in a month divided by total customers | Definition | Warehouse cost (inventory, rental cost) divided by total revenue |
| Reason for measuring | Customer satisfaction could drive shipper and retailer loyalty. | Reason for measuring | Efficiency in warehouse cost |
| Reference Object | Process, number of deliveries | Reference Object | Work centre, time period |
| Indicator 3 | Orders without Defectives | Indicator 3 | Delivery Cost |
| Definition | Orders without defectives divided by total orders | Definition | Total delivery cost divided by total revenue |
| Reason for measuring | A high defective items inidcates unsafe delivery rate | Reason for measuring | Efficiency in delivery cost |
| Reference | Number of returns, number of | Reference | Work centre, time period |

ATTACHMENT TABLE A.1. EXPLANATION OF PERFORMANCE INDICATOR

| Object | deliveries | | Object | |
|---------------------|---|---|---------------------|---|
| Indicator 4 | Delivery Lead Time | | Indicator 4 | Truck Maintenance Cost |
| Definition | Lateness divided by between actual deliv standard delivery tin | the difference ery time and ne | Definition | Total maintenance cost for all trucks divided by total revenue |
| | | Performance | | |
| | Lateness (days) | Score (%) | | |
| | 0 | 100 | | |
| | ≤ 0.5 | 87,5 | | |
| | 0,5-1 | 75 | | |
| | 1-1.5 | 62.5 | | |
| | 1.5 -2 | 50 | | ¥ |
| | 2-2.5 | 37,5 | | |
| | 2.5 -3 | 25 | | |
| | 3-3,5 | 12.5 | | |
| | 3.5-4 | 0 | | |
| Reason for | Less delivery time w | ill increase | Reason for | Maintenance cost should be kept |
| measuring | customer satisfaction delivery lead time in lateness. | n. Higher dicates less | measuring | as low as possible |
| Reference | Ordering time; stand | ard delivery | Reference | Process, time |
| Object | time | time | | |
| Indicator 5 | Truck Operational | Rate | Indicator 5 | Administration |
| Definition | Number of operation month divided by tot | al trucks per al number of | Definition | Total monthly actual administration cost divided by total revenue |
| Reason for | A breakdown truck o | A breakdown truck can hold up the | | Efficiency in administration |
| measuring | delivery (quantity, ti | me, etc) | measuring | process |
| Reference | Number of breakdov | vn truck in a | Reference | Organizational unit, time period |
| Object | month (unit), numbe | r of trucks (unit) | Object | |
| Area: Delivery | I. | | | |
| Indicator 1 | On time delivery ra | te | Indicator 6 | Salary for Logistics Staffs |
| Definition | Number of jobs with delivery divided by t | on time otal orders | Definition | Monthly salary of logistics staffs divided by total revenue |
| Reason for | Good delivery sched | uling raises on | Reason for | Efficiency in logistics process |
| measuring | time delivery, and re | duces the | measuring | |
| Reference | Methods, delivery s | schedule | Reference | Work centre, time period |
| Object | | | Object | |
| Indicator 2 | Document Handlin | g | Indicator 7 | Insurance |
| Definition | Number of ordes div of Receipt of Deliver STTB(Surat Tanda T | ided by number ry Order or Ferima Barang) | Definition | Insurance cost divided by total revenue |
| Reason for | To make sure that ev | ery customer | Reason for | Insurance cost should be kept as |
| measuring | order has been documented and filed in order to tracking the transcation | | measuring | low as possible |
| | | | | |
| Reference Object | Process | | Reference Object | Process, time |
| Indicator 3 | Delivery Reliability | Rate | Indicator 8 | Training |
| Definition | Number of correct c | lelivery (in | Definition | Training cost divided by total |
| | quantity, recepient, t total order | ype) divided by | | revenue |
| Reason for | Poor delivery reliabi | lity rate leads | Reason for | Training could enhance |
| measuring | into opportunity cost | , and depending | measuring | employees' skill to do job |

| | on contract, penalty cost | | efficienly and effectively |
|---------------------|---------------------------|---------------------|---|
| Reference Object | Process, item | Reference Object | Time period, work center, organizational unit |
| Indicator 4 | Order fill lead time | Indicator 9 | Profitability |

TABLE A.2. PERFORMANCE MEASUREMENT RESULT

| Period | Aug 08 | Sept 08 | Oct 08 | Nov 08 | Dec 08 | Jan 09 | Feb 09 | Mar 09 |
|---------------------|---------|---------|--------------|--------------|---------|---------|-----------|------------|
| | | Orc | lers withou | it complaint | ts | | | |
| Orders without | | | | | | | | |
| complaints | 89 | 52 | 40 | 32 | 61 | 57 | 48 | 69 |
| Total Orders (jobs) | 92 | 54 | 42 | 33 | 64 | 58 | 51 | 72 |
| Performance score | 06.74 | 06.20 | 05.04 | 04.05 | 05.01 | 00.00 | 04.10 | 05.00 |
| (%) | 96.74 | 96.30 | 95.24 | 96.97 | 95.31 | 98.28 | 94.12 | 95.83 |
| C | 10 | 11 | Customer I | Retention | 1.5 | 17 | 10 | 14 |
| Customer freq. >1 | 19 | 11 | 9 | 2 | 15 | 16 | 12 | 14 |
| customer/month | 22 | 21 | 10 | 14 | 23 | 23 | 22 | 22 |
| Performance score | 22 | 21 | 17 | 14 | 25 | 20 | 22 | <i>L L</i> |
| (%) | 86.36 | 52.38 | 47.37 | 35.71 | 65.22 | 69.57 | 54.55 | 63.64 |
| | | Ord | ders withou | at defective | s | | | |
| Orders without | | | | | | | | |
| defectives(kgs) | 16104.8 | 4544.16 | 8394.9 | 4013.61 | 2997.53 | 3511.13 | 4152.57 | 3743.08 |
| Total orders(kgs) | 16104.8 | 4544.16 | 8394.9 | 4013.61 | 2997.53 | 3511.13 | 4152.57 | 3743.08 |
| Performance score | | | | | | | | |
| (%) | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | | 1 | Delivery L | ead Time | | | | |
| Performance score | 00.4 | 00.00 | 02.45 | 02.10 | 04.61 | 06.24 | 00.5 | 02 75 |
| (%) | 89.4 | 90.09 | 93.45 | 93.18 | 94.61 | 96.34 | 99.5 | 93.75 |
| Douformonoo cooro | | 11 | uck Opera | tional Rate | | | | |
| (%) | 100 | 100 | 66 67 | 100 | 33.33 | 100 | 100 | 66.67 |
| (/0) | 100 | 0 | n-time Del | ivery Rate | 00100 | | 100 | 00101 |
| On-time Delivery | | 0 | | invery reace | | | | |
| (jobs) | 85 | 46 | 32 | 28 | 39 | 29 | 31 | 30 |
| Number of Orders | | | | | | | | |
| (jobs) | 92 | 54 | 42 | 33 | 64 | 58 | 51 | 72 |
| Performance score | 00.00 | 05 10 | 76.10 | 04.05 | (0.04 | 50.00 | (0.79 | 41 (7 |
| (%) | 92.39 | 85.19 | /6.19 | 84.85 | 60.94 | 50.00 | 60.78 | 41.6/ |
| T 10 1 (1) | 02 | ا مح | Document | Handling | 64 | 20 | 51 | 70 |
| Total Orders (jobs) | 92 | 54 | 42 | 33 | 64 | 28 | 51 | 12 |
| Number of | 02 | 54 | 12 | 33 | 64 | 58 | 51 | 72 |
| Derformance score | 92 | 54 | 42 | 33 | 04 | 50 | 51 | 12 |
| (%) | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | | De | liverv Reli | ability Rate |) | | 100070470 | |
| Number of correct | | | | | | | | |
| delivery | 92 | 54 | 42 | 33 | 64 | 58 | 51 | 72 |
| Total Orders (jobs) | 92 | 54 | 42 | 33 | 64 | 58 | 51 | 72 |
| Performance score | | | | | | | 2 32-34 | |
| (%) | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | | (| Order fill L | ead Time | | | | |

| Number of orders | | | | | | | | |
|---------------------|-------------|--------------------|------------|-----------------|-----------|-----------|---------|---------|
| fill the standard | 15 | 10 | 22 | 20 | 70 | <i></i> 1 | 50 | 10 |
| delivery time | 65 | 40 | 32 | 28 | 58 | 51 | 50 | 49 |
| Total Orders (jobs) | 92 | 54 | 42 | 33 | 64 | 28 | 51 | 72 |
| Performance score | 70 65 | 74.07 | 76 10 | 01.05 | 00 (2 | 07.0 | 09.04 | (0.0) |
| (70) | /0.03 | /4.0/ | /0.19 | 04.00 | 90.03 | 87.9 | 98.04 | 08.00 |
| | 0 | 0 | Clan | ns | 0 | 0 | 2 | 0 |
| Claims (Rp) | 0 | 0 | 0 | 0 | 0 | 0 | 0 | 0 |
| D | 17,551,21 | 9,849,4 | 7,684,1 | 6,347,2 | 9,062,2 | 5,311,3 | 5,876,9 | 5,397,8 |
| Revenue (Rp) | 3 | 93 | 23 | 49 | 11 | 38 | 50 | 8/ |
| Katio (in | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 | 0.00 |
| Derformance score | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 | 0,00 |
| (%) | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| (/0) | 100 | 100 | Deliver | Cost | 100 | 100 | 100 | 100 |
| | 12 285 84 | 6 106 6 | 6 070 4 | 4 601 7 | 7 068 5 | 3 611 7 | 4 113 8 | 3 778 5 |
| Delivery (Rn) | 9 | 85 | 80 | 55 | 25 | 10 | 65 | 21 |
| Denvery (np) | 17.551.21 | 9.849.4 | 7.684.1 | 6.347.2 | 9.062.2 | 5,311,3 | 5 876 9 | 5 397 8 |
| Revenue (Rp) | 3 | 93 | 53 | 49 | 11 | 38 | 50 | 87 |
| Ratio (in | - | | | | | | | |
| percentage) | 70 | 62 | 79 | 73 | 78 | 68 | 70 | 70 |
| Performance score | | | | | | | | |
| (%) | 52.94 | 100.00 | 0.00 | 38.24 | 5.88 | 64.71 | 52.94 | 52.94 |
| | | | Warehou | se Cost | | | | |
| Biaya Gudang/bln | | 1,500,0 | 1,500,0 | 1,500,0 | 1,500,0 | 1,500,0 | 1,500,0 | 1,500,0 |
| (Rp) | 1,500,000 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| 0 5 2 | 17,551,21 | 9,849,4 | 7,684,1 | 6,347,2 | 9,062,2 | 5,311,3 | 5,876,9 | 5,397,8 |
| Revenue (Rp) | 3 | 93 | 53 | 49 | 11 | 38 | 50 | 87 |
| Ratio (in | | | | | | | | |
| percentage) | 8.55 | 15.23 | 19.52 | 23.63 | 16.55 | 28.24 | 25.52 | 27.79 |
| Performance score | | | | ~~ | | 0.00 | 10.00 | 2.20 |
| (%) | 100 | 66 | 44 | 23 | 59.35 | 0.00 | 13.80 | 2.30 |
| | | Tr | uck Mainte | nance Cost | | | | |
| Maintenance Cost | (= 0 0 0 0 | 005 000 | (00 750 | 5 (5,000 | 705 000 | 006 750 | 700 (50 | 765 250 |
| (Rp) | 658,000 | 825,000 | 698,750 | /65,000 | /95,000 | 826,750 | /89,030 | /05,250 |
| Decrement (Dat) | 1/,551,21 | 9,849,4 | /,084,1 | 0,347,2 | 9,062,2 | 3,311,3 | 5,870,9 | 5,597,8 |
| Revenue (Rp) | 3 | 93 | 55 | 49 | 11 | 30 | 50 | 07 |
| Natio (iii | 0.04 | 0.08 | 0.00 | 0.12 | 0.09 | 0.16 | 0.13 | 0.14 |
| Performance score | 0.04 | 0.00 | 0.09 | 0.12 | 0.07 | 0.10 | 0.15 | 0.14 |
| (%) | 100.00 | 60.84 | 54 77 | 29.73 | 57.49 | 0.00 | 18.02 | 11.75 |
| (70) | 100.00 | 00.01 | Administra | tion Cost | | 0.000 | | |
| Administration | | | Aummona | tion cost | | | | |
| (Rn) | 575.000 | 599,750 | 725,000 | 615.000 | 625.815 | 650.000 | 495.000 | 625.000 |
| (A.P. | 17.551.21 | 9,849.4 | 7,684.1 | 6.347.2 | 9,062.2 | 5,311.3 | 5,876.9 | 5,397.8 |
| Revenue (Rp) | 3 | 93 | 53 | 49 | 11 | 38 | 50 | 87 |
| Ratio (in | 1 | 900 0 2 | | | | | | |
| percentage) | 3.28 | 6.09 | 9.44 | 9.69 | 6.91 | 12.24 | 8.42 | 11.58 |
| Performance score | | | | | | | | |
| (%) | 100 | 68.61 | 31.28 | 28.44 | 59.50 | 0.00 | 42.57 | 7.36 |
| | | | | | | | | |

| Γ | | | <u> </u> | | | | | |
|--|--------------|-------------|--|-------------|--------------|-----------------|---------|---------|
| | | | Sala | ry | | | | |
| 100 CT 10000 - 1000 | | 5,200,0 | 5,200,0 | 5,200,0 | 5,200,0 | 5,200,0 | 5,200,0 | 5,200,0 |
| Salary (Rp) | 5,200,000 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| ** *** | 17,551,21 | 9,849,4 | 7,684,1 | 6,347,2 | 9,062,2 | 5,311,3 | 5,876,9 | 5,397,8 |
| Revenue (Rp) | 3 | 93 | 53 | 49 | 11 | 38 | 50 | 87 |
| Ratio (in | | | | | | | | |
| percentage) | 29.63 | 52.79 | 67.67 | 81.93 | 57.38 | 97.90 | 88.48 | 96.33 |
| Performance score | | | | | | | | |
| (%) | 100.00 | 66.07 | 44.28 | 23.40 | 59.35 | 0.00 | 13.80 | 2.30 |
| | | | Insura | ince | | | | |
| | | 2 925 0 | 2 925 0 | 2 925 0 | 2 925 0 | 2 925 0 | 2 925 0 | 2 925 0 |
| Insurance (Rn) | 2 632 500 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| mouranee (rep) | 17 551 21 | 9 849 4 | 7 684 1 | 6 347 2 | 9 062 2 | 5 311 3 | 5 876 9 | 5 397 8 |
| Revenue (Rn) | 3 | 93 | 53 | 49 | 11 | 38 | 50 | 87 |
| Ratio (in | 5 | 15 | 55 | 12 | 11 | 50 | 50 | 07 |
| nercentage) | 15.00 | 20.70 | 38.07 | 46.08 | 32.28 | 55.07 | 10 77 | 54 10 |
| Derformance score | 15.00 | 29.70 | 30.07 | 40.00 | 52.20 | 55.07 | 49.77 | 54.19 |
| | 100 | 62.22 | 12 14 | 22.42 | 56 99 | 0.00 | 12 22 | 2 20 |
| (70) | 100 | 05.52 | 72.44 T. ' ' | 22.43 | 50.00 | 0.00 | 13.23 | 2.20 |
| | | 1 000 0 | I raining | g COST | 1 000 0 | 1 000 0 | 1 000 0 | 1 000 0 |
| (m · · · /m) | 1 000 000 | 1,080,0 | 1,080,0 | 1,080,0 | 1,080,0 | 1,080,0 | 1,080,0 | 1,080,0 |
| I raining (Rp) | 1,080,000 | 00 | 00 | 00 | 00 | 00 | 00 | 00 |
| | 17,551,21 | 9,849,4 | 7,684,1 | 6,347,2 | 9,062,2 | 5,311,3 | 5,876,9 | 5,397,8 |
| Revenue (Rp) | 3 | 93 | 53 | 49 | 11 | 38 | 50 | 87 |
| Ratio (in | 121 212 | 1.2.222 | | | | 1212 212 | | |
| percentage) | 6.15 | 10.97 | 14.05 | 17.02 | 11.92 | 20.33 | 18.38 | 20.01 |
| Performance score | | | | | | 1700 - Augenber | | |
| (%) | 100.00 | 66.07 | 44.28 | 23.40 | 59.35 | 0.00 | 13.80 | 2.30 |
| | | | Prof | ĩt | | | | |
| | | 3,742,8 | 1,613,6 | 1,745,4 | 1,993,6 | 1,699,6 | 1,763,0 | 1,619,3 |
| Profit (Rp) | 5,265,364 | 07 | 72 | 93 | 86 | 28 | 85 | 66 |
| 2.4.0 | 17,551,21 | 9,849,4 | 7,684,1 | 6,347,2 | 9,062,2 | 5,311,3 | 5,876,9 | 5,397,8 |
| Revenue (Rp) | 3 | 93 | 53 | 49 | 11 | 38 | 50 | 87 |
| Ratio (in | | | | | | | | |
| percentage) | 30.00 | 38.00 | 21.00 | 27.50 | 22.00 | 32.00 | 30.00 | 30.00 |
| Performance score | | | | | | | | |
| (%) | 52.94 | 100.00 | 0.00 | 38.24 | 5.88 | 64.71 | 52.94 | 52.94 |
| | | | Absent | neism | | | | |
| Performance score | | | Trosenti | ie i sin | | | | |
| | 97 35 | 08 00 | 97.88 | 98 89 | 100 | 100 | 99 49 | 98 48 |
| (70) | 71.55 | | ustomor Do | order Dete | 100 | 100 | 77.17 | 50.10 |
| Defe | | C | usioniei Ke | oruer Rate | | | | |
| reriormance score | 10.35 | 16.07 | 10.00 | 714 | 10.05 | 12 01 | 24.20 | 12.24 |
| (%) | 18.25 | 10.07 | 10.00 | 7.14 | 19.03 | 13.01 | 24.29 | 12.24 |
| 0 C C MARINA *** | | C | order Fulfill | ment Rate | | | | |
| Number of fulfilled | | | | | | | | =0 |
| job | 92 | 54 | 42 | 33 | 64 | 58 | 51 | 72 |
| Total orders | 92 | 54 | 42 | 33 | 64 | 58 | 51 | 72 |
| Performance score | | | | | | | | |
| (%) | 100 | 100 | 100 | 100 | 100 | 100 | 100 | 100 |
| | | | Order Succ | ess Rate | | | | |
| Number of orders | 92 | 54 | 42 | 33 | 64 | 58 | 51 | 72 |
| I ATUINOVA UL ULGULO | | | 100 March 100 Ma | | 10.4 | " | 70 | 105 |
| Number of hide | 120 | 62 | 58 | 90 | 114 | 00 | 1) | 105 |
| Number of bids | 120 | 62 | 58 | 90 | 124 | 60 | 12 | 105 |
| Number of bids Performance score | 120 | 62 87 10 | 58 72 41 | 90 36.67 | 124 51.61 | 00 87 88 | 70.83 | 68 57 |
| Number of bids Performance score (%) | 120 76.67 | 62 87.10 | 58 72.41 | 90 36.67 | 51.61 | 87.88 | 72 | 68.57 |

| | | V | Varehouse | Utilization | | | | |
|---|-------|-------|-----------|-------------|-------|-------|-------|-------|
| Utilized volume (m ³) | 752 | 684 | 642 | 573 | 724 | 628 | 711 | 792 |
| Space availability (m ³) | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 | 1000 |
| Performance score (%) | 75.20 | 68.40 | 64.20 | 57.30 | 72.40 | 62.80 | 71.10 | 79.20 |
| | | | Data Conr | nectivity | | | | |
| Online Connection (hours) | 176 | 126 | 140 | 126 | 194 | 114 | 165 | 156 |
| (hours) Performance score | 198 | 189 | 180 | 162 | 198 | 171 | 198 | 216 |
| (%) | 88.89 | 66.67 | 77.78 | 77.78 | 97.98 | 66.67 | 83.33 | 72.22 |

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