

Determination of Warehouse Performance Measurement Indicators at PT Pos Logistik Indonesia with The Balanced Scorecard Method

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ABSTRACT

PT Pos Logistik Indonesia is a subsidiary of PT Pos Indonesia. This research focuses on PT Pos Logistik Indonesia Unilever Cakung warehouse, which later researchers will determine warehouse performance indicators using the Balanced Scorecard method. In the current conditions, the company only measures performance on employees and internal business activities and only focuses on one financial indicator. Therefore, it is necessary to have indicators that cover all aspects in realizing the vision and mission of the company. This study aims to compile appropriate indicators and propose additional indicators that need to be applied by companies for each perspective on the Balanced Scorecard method and determine priority weights for each perspective. The thing to do is to solve it by determining a strategy that is in accordance with the company's vision and mission that is adjusted to the company's activities, then by being able to determine suitable performance indicators to be implemented in the company PT Pos Logistik Indonesia. Then you can weight the interests of each performance indicator from four perspectives to find out which indicators are the most important to implement and prioritize. After calculating using Super Decision software, it is found that the customer perspective has a priority weight value of 0.333, the finance perspective has a priority weight value of 0.298, the internal process perspective has a priority weight value of 0.257 and the learning and growth perspective has a priority weight value of 0.113. The highest weight is on the customer perspective so that this perspective is more important than other perspectives

1. INTRODUCTION

PT Pos Logistik Indonesia which is a subsidiary of PT Pos Indonesia (Persero) and one of the State-Owned Enterprises (BUMN) engaged in logistics. PT Pos Logistik Indonesia has a warehouse that functions to serve customers who have problems with storage space, labor issues and daily business operations so that customers can focus more on handling product development, brand marketing and customer satisfaction. At PT Pos Logistik Indonesia's warehouse located in Cakung, it serves inventory management, manages Inbound and Outbound as well as product distribution to all stores in Indonesia. This warehouse serves special customers, namely PT Unilever Indonesia Tbk and the products stored in this warehouse are PT Unilever products in the form of Ice Boxes Cabinet (PT Pos Logistik Indonesia 2021) . The system designed to carry out activities and manage the warehouse uses a system from PT Pos Logistik Indonesia and PT Unilever.

Companies can find out an employee's performance by just looking at the company's profitability. This profit is included in one indicator of the successful performance of a company during a certain period. Most of the stakeholders to assess and evaluate performance in managing a company will be seen based on analyzing financial statements by looking at profitability ratios and comparing them with previous profitability data whether profitability is increasing or decreasing. This profitability ratio is also one of the company's success in obtaining profits.

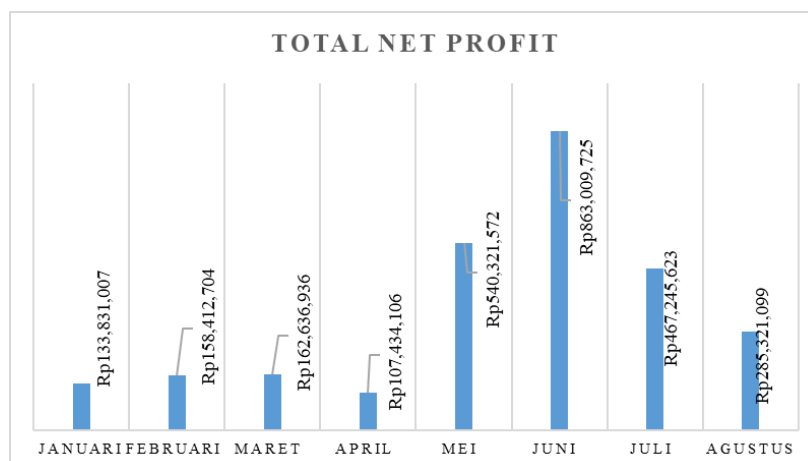


Figure 1. Total Net Profit of PT Pos Logistik Indonesia

Based on Figure 1, it can be seen that the total net profit of PT Pos Logistik Indonesia. From January to March, PT Pos Logistik Indonesia experienced a slight increase in total net profit for each month, but in April it experienced a decrease in total net profit. Did not last long in that condition in May and June again experienced very rapid increases. In July and August the total net profit returned which had an impact on the company's profitability. Based on the results of interviews conducted by researchers with the head of the warehouse, it is clear that human error still occurs. In the operational process which includes the process of sending goods to customers such as goods sent not in accordance with the correct address or the wrong delivery of goods to fellow customers and so on. From these problems, the company had to send twice so that there was an additional expenditure of the company's money to compensate for the error.

Research that has been done before that leads to this research is under the title Warehouse Performance Measurement Using Balanced Scorecard Method – Case Study On PT. GMS - Jakarta, this research concludes Performance measurements should be established and monitored regularly. shows that three aspects: financial, customer, internal processes must be maintained and one aspect must be improved: learning and growth (Chandra 2014). Further similar research discusses performance measurement at a shipping company, PT. CY. Performance measurement carried out with Balanced Scorecard. The results show that the performance measurement method used by the company at this time is very inadequate and the Balanced Scorecard method is the right measurement system needed by PT. CY at the moment (Pradipto 2020). Subsequent research on Defining key performance indicators for warehouses performance measurement – case studies in construction material warehouse, In the To improve warehouse performance, it is necessary to identify Key Performance Indicators (KPI). Different warehouses have different KPIs. In this study, 25 warehouse KPIs were identified in five warehouse activities based on Frazelle model. The most important KPIs are then determined for each warehouse activity using the Analytical Hierarchy Process (AHP). Warehouse performance was measured and the final score was determined using SNORM. From In this study, it was found that the most important KPI for earnings is productivity (revenues per hour worked), KPI for save is cycle time (save cycle time), KPI for storage is utilization (% location and cube filled), The KPI for order picking is the cycle time (order picking cycle time) and the KPI for shipping is productivity (order picking). prepared for delivery per person hour) (Kusrini, Novendri, and Helia 2018).

Based on this, it is necessary to determine performance indicators that are more comprehensive and comprehensive and not limited to employee performance, so that companies can determine and set strategic goals in improving company performance. Therefore, the method used in this study is a qualitative method by interviewing informants from the company to be able to obtain data that will be used for performance indicators at PT Pos Logistik Indonesia, the Unilever Cakung warehouse. In addition, questionnaires were distributed to obtain data on the importance of each performance indicator.

From these problems, the research will determine the performance of PT Pos Logistik Indonesia's warehouses using the Balanced Scorecard method with four perspectives, namely, financial, customer, internal business process, and learning and growth. After designing and determining performance indicators, the company can reduce company problems and can improve the performance of the company which will advance the company in accordance with company goals by establishing a strategy

2. LITERATURE REVIEW

Warehouse

Warehouse is a building that is useful for storing goods or products. Goods that will later be stored in the warehouse can be raw materials, semi-finished materials, or an unfinished product that is ready to be included in the production process (Warman 2012). There are several warehouse activities, namely receiving goods, storing goods, order-picking, and shipping (Berg and Zijm 1999). The purpose of having a storage area and the function of warehousing in general is to maximize the use of existing resources while maximizing service to customers with limited resources. Warehouse and warehousing resources are room, equipment and personnel (Cahyaningtyas 2023). In planning factory facilities, it is necessary to determine the pattern of material flow which aims to optimize every activity in the warehouse and maximize productivity (Ruswandi and Sukarno 2020).

Performance Indicators

Performance is the result of work in quality and quantity achieved by an employee in carrying out their duties in accordance with their responsibilities (Kasmir 2018). Performance is the result of work achieved by someone based on terms of employment or job recruitment (Sinambela 2017).

Performance indicators are quantitative and quantitative measurements that can describe the goals that have been set or the achievement of these goals. Performance indicators must be able to be calculated, measured and used as a basis for evaluating or showing the level of performance both in planning, implementing or activities that have been completed and functioning (Sedarmayanti 2014). According to (Wibowo 2016) there are several things that can affect performance indicators, namely, as follows:

a. Objective

A goal is a state to be achieved in which each individual has different goals to achieve. It can be concluded that the goal is not a desire or a requirement.

b. Standard

Standards are important because they indicate when an objective can achieve a goal. Standard is a measure of whether the desired goals can be achieved. Without standards it is impossible to know when something has been achieved.

c. Feedback

Feedback is used to see performance progress, performance standards, and goal attainment. By providing feedback, an evaluation is carried out and for the results it can be carried out to improve performance as a result.

d. Tools or means

Tools and means are resources that can be used to achieve a goal. Tools or facilities are factors that support the achievement of a goal. Without tools or facilities, certain work tasks cannot be carried out and goals cannot be achieved.

e. Competence

Competence is the main requirement for performance. Competence is the ability to successfully perform a given task properly.

f. Motive

Motive is a supporting reason for someone to do something.

g. Opportunity

Every employee has the same opportunity to be able to show the achievements of his work. There are two things you can have to have the opportunity to excel, namely, having the time available and fulfilling all the requirements.

Balanced Scorecard method

Balanced scorecard is a management tool contemporary designed to enhance company's ability to multiply outstanding financial performance on an ongoing basis (sustainable outstanding financial performance) (Yuwono, Ikhsan, and Sukarno 2003).

Balanced Scorecard has two words, namely Balanced and Scorecard. In the words scorecard, it means a score card, meaning a score card that will later be used to plan scores that will be realized in the future. Whereas the word Balanced has a balanced meaning, so as to measure an executive performance in a balanced manner which is divided into financial and non-financial in the short term and long term, internal and external (Mulyadi 2007).

be used by companies to measure company performance in a more comprehensive manner. By using the Balanced Scorecard, it will be viewed in terms of financial performance and non-financial performance, namely internal business perspective, learning and growth perspective, as well as a customer perspective (Kaplan and Norton 1996).

This method uses a strategic management system that looks at the company's vision, mission and strategy for operational goals and performance measurement. The perspectives in the Balanced Scorecard method are as follows:

1. Finance Perspective

Usually the Balanced Scorecard method uses a financial performance benchmark system by looking at net profit and ROI in this benchmark, companies generally use it to determine company profits. However, financial benchmarks alone cannot describe the factors that make a change in the wealth generated by the company.

2. Customer Perspective

From this customer perspective, companies usually determine in advance which market segment will be the target of a business entity or an organization. The thing that needs to be considered is that if a company wants to be successful in achieving superior financial performance in a long time, companies need to create and prepare new products or services or have more value for their customers.

3. Internal Process Perspective

From this perspective, it will show critical progress that enables a business unit to provide value propositions that can attract and retain its customers in market segments according to the wishes and meet the satisfaction of expectations from shareholders through financial returns.

4. Learning and growth perspective

This perspective complements the previous three perspectives and provides the infrastructure for generating long-term growth and improvement.

Analytic Hierarchy Process

Analytical Hierarchy Process is a decision support method developed by Thomas L. Saaty. Decision support models this would describe a multi-factor or multi-factor problem complex criteria into a hierarchy (Saaty 2008). AHP is one of the tools (process) in the decision decisions developed by Thomas L Saaty in the 70's. This procedure is very powerful so it has been widely applied to the process important decision making. AHP can be believed to be efficient, because every priority composed of a variety of possible options is the criterion previously described first, so that priorities are determined based on a structured process as well makes sense. AHP basically helps to solve

complex problems in a way arrange a hierarchy of criteria, assessed subjectively by stakeholders, then draw a variety considerations for developing weights or priority (Imron 2009). The Analytic Hierarchy Process method is a method used to help rank decision alternatives based on the extent to which each alternative meets the criteria for decision making (Taylor 2014). Usually the AHP method is often used to make a decision from a multi-criteria, planning, selection of interest weights and other issues.

The Analytical Hierarchy Process is used as a problem solving method compared to other methods for the following reasons (Agnia and Mubarok 2017):

1. A hierarchical structure, as a consequence of the selected criteria, up to the deepest sub-criteria.
2. Take into account validity up to the tolerance limit for inconsistency as criteria and alternatives chosen by the taker decision.

There are several principles that need to be understood in using the AHP method, namely as follows (Alfeno, Sudarto, and Maulana 2016):

1. Decomposition

Decomposition is a problem solving from a whole into several elements. If you want to get accurate results, then solving the problem must be done by solving the problem into several elements until further solving cannot be done, when solving the problem has been carried out several levels of the problem will be obtained. This process is often also called a hierarchical structure. Here is an example of a hierarchical structure.

2. Comparative Judgment

In the Principle of Comparative Judgment is to make an assessment of the relative importance of two elements from a certain level related to the previous level. These assessments are the core point of AHP because they can affect the priority of an element.

3. Synthesis of Priorities

In each Pairwise comparison, the eigenvector will be searched to get local priority. This pairwise comparison exists at every level, so to be able to get global priority, calculations must be made for each local priority. The way to do this calculation is different because it depends on the hierarchical structure. To sort these importance weighting elements through the priority setting procedure.

4. Logical Consistency

In this principle, consistency has two meanings, the first is that similar objects can be grouped according to similarities. The second is related to objects based on certain criteria.

3. METHOD

Multiple linear regression is used as a method of secondary data analysis in this research. Descriptive statistics and classical assumption test as data analysis used in research. Descriptive statistical tests are defined as statistics to obtain conclusions without analyzing the data, only describing the object under study through sample data. After performing a descriptive statistical test, then proceed with the classical assumption test. Classical assumption tests include normality test, autocorrelation test, heteroscedasticity test, and multicollinearity test. After testing the classical assumptions, then testing the hypothesis to look for an effect of the independent variable on the dependent variable. In this study, the multiple linear regression analysis model is as follows:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \varepsilon$$

Y = Tax Avoidance

α = Constant

β = Regression Coefficient

X_1 = Company Social Responsibility (CSR)

X_2 = Leverage

X_3 = Corporate Size

ε = Error

4. RESULTS AND DISCUSSION

Descriptive Graphic

Chart 1. Results of Descriptive Graphic

	N	Minimum	Maximum	Mean	Std. Deviation
CSR	44	0.571428	0.92307	0.74125	0.10125
Leverage	44	0.096539	1,9068	0.7088	0.4415
Company Size	44	2,84	3,1590	2,9859	0.8769
Tax Avoidance	44	0.033336	0.74425	0.27089	0.12547
Valid N (listwise)	44				

Based on the outcome of the descriptive statistical test, namely the minimum value on the CSR variable is 0.5714 owned by PT Harum Energy Tbk, the maximum value is 0.9230 owned by PT Bayan Resources Tbk, and the mean value is 0.7412 with a standard deviation of 0.1012, the average value is greater than the standard deviation so that the data not varied or homogeneous, meaning that the average manufacturing company in the coal mining sub-sector that carries out CSR is 74.12% of the 91 CSR indicators. The Leverage variable has a minimum value of 0.0965 owned by PT Harum Energy Tbk, a maximum value of 1.9068 owned by PT Petrosea Tbk, and a mean value of 0.7088 with a standard deviation of 0.4415, meaning that the average manufacturing company in the mining area sub-sector coal has a small debt ratio value because it is below 50%, which indicates that bank loans in the company have small debts to carry out their operations until the company experiences pressure from high external parties. The company size variable has a minimum value of 2.84 owned by PT Harum Energy Tbk, a maximum value of 3.1590 owned by PT Adaro Energy Tbk, and a mean value of 2.9859 with a standard deviation of 0.8769, meaning that manufacturing companies in the mining area, coal sub-sector, have large total sales. Variable Tax Avoidance PT Darma Henwa Tbk which low level among other companies of 0.03333, the high level of 0.7442 variable Tax Avoidance has owned by PT Indo Tambangraya Megah Tbk, and the mean values of 0.2708 with a standard. deviation of 0.1254, meaning the average company that does tax avoidance by reducing its tax burden reaches 27.08%.

Influence of Company Social Responsibility, Leverage, and company size on Tax Avoidance

Based on the results of the F-test CSR variables, Leverage, and company size when tested together simultaneously influence tax evasion in coal subsector mining area corporates. Then hypothesis 1 that simultaneously does not influence tax evasion is acceptable. It is similar to the researcher of Ayufa et al., 2018. CSR disclosure in the form of Corporate Responsibility and one way to gain public trust. If a company's positive public trust has been realized, then the company will consistently strive to increase that trust. One way is by not carrying out tax evasion. The value of Leverage has no influence on tax evasion so that the interest expense of the resulting long-term debt of the company has a low value and can not have a significant *influence* on tax avoidance. The larger the size of the company, the greater the ETR in the company which means a reduced level of tax

avoidance. Corporate that are included in a large company will have abundant resources that can be used for certain purposes.

Impact of Company Social Responsibility on Tax Evasion

This study states that the CSR variable does not have a significant positive influence on Tax Avoidance in coal subsector mining area companies, meaning that it is in line with the hypothesis put forward earlier. In hypothesis 2, it is explained that the Company Social Responsibility (CSR) variable does not have a significant positive influence on Tax Avoidance, it can be concluded that it is acceptable. Agree with research conducted by Saputra et al., (2022) which states that CSR has a positive influence not significantly on Tax Avoidance, which means that here companies that disclose CSR widely, then not to practice tax avoidance, because by disclosing CSR widely, it shows the awareness of the company with its responsibilities, as well as the taxes it must pay. The high sense of corporate responsibility, it will tend not to practice the tax evasion and in the corporate's annual report the level of disclosure of Social

Responsibility activities cannot be standardized in the low level of tax evasion by the company (Safitri & Muid, 2020).

The Influence of Leverage on the Tax Avoidance

Those study states, the leverage variable has no significant influence on Tax Avoidance in coal subsector mining area companies, meaning that this study agrees with research conducted by Darmawan and Sukartha (2014); Putri & Putra (2017) which together prove that Leverage has no influence on Tax Avoidance. Significant value shows leverage variable has no influence on tax evasion therefore hypothesis 3 is Leverage influence on tax Avoidance is accepted. Leverage calculates the level of debt used for financing in a company. Interest expense must be paid if there is a composition of financing in the company using debt. The use of debt in corporates can be used to save on tax payments by obtaining incentives in the form of interest expenses which will be a deduction from taxable income. The higher the value of Leverage, the higher the amount of funding from third parties used by the corporate and the higher the interest costs. Higher interest costs will have the effect of reducing the corporate's profit before tax. So that the use of debt by corporates can be used for tax savings because they get incentives in the form of interest expenses which will be a deduction from taxable income. So that the management will take advantage of financing derived from debt so that the corporate's profits will be smaller since of the large interest expenses will cause the company's tax burden will be low (Putri & Putra, 2017).

The influence of Company Size on Tax Avoidance

This study states that the company measure variable has a significant influence on Tax Avoidance in coal subsector mining area companies, meaning that this study agrees with research conducted by (Aulia, 2020); (Ratu & Meiriasari, 2020) which also proves that company size has an influence on Tax Avoidance. Therefore, hypothesis 4 is that the size of the company has an influence on Tax Avoidance is acceptable. Total sales do not constantly identify the company's profit is also high. Due to the increase in sales, the assets of the corporate also increased. Increasing in total assets was

Data Collection

The data collected are primary data and secondary data. Primary data resulted from joint discussions with the company and the results of the questionnaire. Data from the discussion results, obtained performance indicator data at PT Pos Logistik Indonesia Unilever Cakung warehouse. The secondary data is obtained from historical performance appraisal data belonging to PT Pos Logistik Indonesia, the Unilever Cakung warehouse.

Determination of Performance Indicators

The company PT Pos Logistik Indonesia previously had a Key Performance Indicator that could measure performance from a financial perspective as well as business activities and from customer satisfaction, however this performance measurement could not be seen from the growth and

learning side of its employees. The performance indicators at PT Pos Logistik Indonesia Unilever Cakung warehouse can be seen in the following table:

Table 1. Key Performance Indicator PT Pos Logistik Indonesia Unilever Cakung Warehouse

Objective	KPI	Information	Calculation
Making invoices on time	<i>Invoice Accuracy</i>	The amount of time to execute the invoice	The average time for making an invoice
Improving the quality of service to customers	<i>Customer Satisfaction</i>	The number of fulfillment requests in accordance with what the customer wants	The number of fulfillment of customer requests / month
Monitor delivery of goods to customers	<i>In Good Conditions</i>	<i>Perfect order</i> = the condition of the goods is in good condition and no damage	Amount per product that is perfect order / total per product
Monitor delivery of goods to the right address	<i>Order Fulfillment Management (OFM)</i>	The amount of goods to the right address	Average goods arrive at the right address/ period
Monitor delivery in full condition	<i>In Full Delivery</i>	Number of containers carrying goods in full condition	The average container transports goods in full condition / month
Improve the process of spending or receiving	<i>Cycle Time</i>	The amount of time for unloading or loading goods	Average loading time per container
Monitor worker safety	<i>Lost Time Injury</i>	Number of work accidents	Number of work accidents / month
Monitor the timeliness of the goods to the customer	<i>On Time Delivery</i>	The amount of timely delivery of goods to the customer	Average on-time delivery to Customer / period
Implementation of 5R (Brief, Neat, Clean, Care, Diligent)	<i>Safety and 5S Implementation</i>	% 5R that has been done	Number of 5R activities that have been carried out

Identification of Performance Indicators with the Balanced Scorecard Method

Identification of these performance indicators uses the Balanced Scorecard method in which this method involves the company's vision and mission as contained in the strategic map plan which has the function of mapping a company's strategic objectives that contain cause and effect to describe the stages of the strategy journey with the aim of facilitating the communication of its strategy to its employees. . The company compiling this strategy map is to be able to clearly define the vision and mission and to be able to see the complete management process of a company. The Strategy Map from four perspectives can be seen as follows:

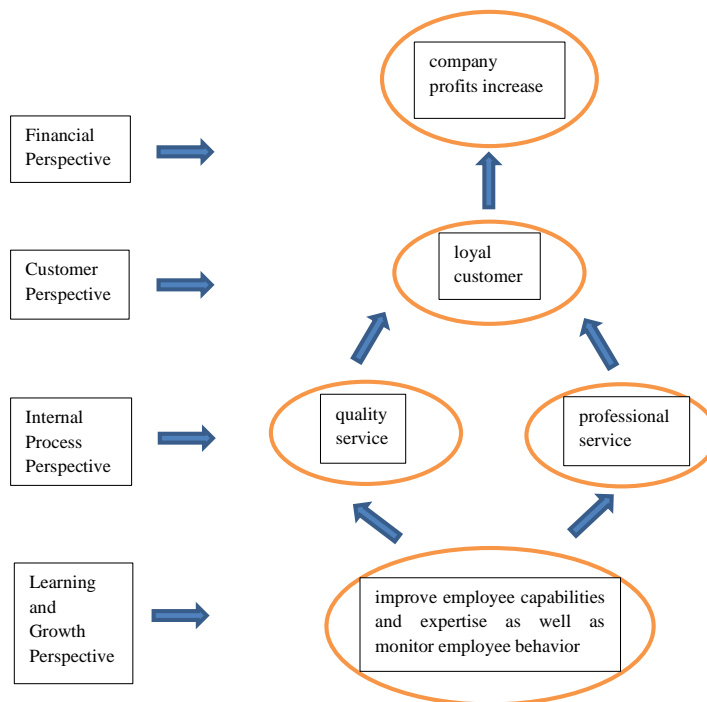


Figure 2. Four Perspectives Strategy Map

The design of performance indicators using the Balanced Scorecard model is as follows:

1. Financial Perspective

Table 2. Financial Perspective

Perspective	Strategy Goals	Performance Indicator
Finance	Making invoices on time	<i>Invoice accuracy</i>
	Increase the benefits of logistics contract efficiency	<i>Gross Profit Margin</i>

From this financial perspective, there are strategies that need to be carried out in the future in order to provide benefits for the company. Performance indicators from a financial perspective consist of two, namely invoice accuracy and gross profit margin. The performance indicator that has been implemented for a long time is invoice accuracy, where this invoice must be completed in a maximum of one month which will later be handed over to the customer, namely PT Unilever. This second indicator is a new indicator that researchers suggest for companies. The selection of this indicator is seen from a financial perspective, where the efficiency of the logistics contract is very influential in increasing the company's profits. Efficiency of this logistics contract, such as saving wrap for packing the freezer, which was originally done 5 times to wrap only 3 times, and so on.

2. Customer Perspective

Table 3. Customer Perspective

Perspective	Strategy Goals	Performance Indicator
<i>Customer</i>	Increase customer satisfaction	<i>Customer Satisfaction</i>
	Improving the quality of service to customers	<i>Customer Complains</i>

From the customer perspective, the strategy is to retain old customers, increase customer satisfaction, improve service quality to customers, improve service quality to customers and increase the company's competitiveness in controlling the market from competitors. In this customer perspective, there are two old performance indicators, namely customer satisfaction, while the new performance indicator that the researcher suggests is customer complaints. The reason for choosing this indicator is to measure how good the quality of the company's services is and how fast the company's response is when there are complaints from customers.

3. Internal Process Perspective

Table 4. Internal Process Perspective

Perspective	Strategy Goals	Performance Indicator
<i>Internal Process</i>	Efficient loading and unloading time	<i>Cycle Time</i>
	Increase the company's ability to meet product delivery requests	<i>On Time Delivery</i>
	Maximizing the process of sending customer orders to product delivery to the appropriate address	<i>Order Fulfillment Management (OFM)</i>
	Maximize delivery in full condition	<i>In Full Delivery</i>
	Maximizing the delivery of goods to a good condition	<i>In Good Conditions</i>
	Maintaining zero work accidents	<i>Lost Times Injury</i>

In this internal process perspective, it has a strategic goal of improving the company's activity processes in carrying out their duties properly. There are five old performance indicators and one new performance indicator that researchers suggest for companies. This new performance indicator is the cycle time where this selection is based on the time of loading and unloading of goods. This loading and unloading of goods must be carried out effectively and efficiently so that the process can run on time.

4. Learning and Growth Perspective

Table 5. Learning and Growth Perspective

Perspective	Strategy Goals	Performance Indicator
<i>Learning and Growth</i>	Reducing employee tardiness	<i>Employee Punctuality</i>
	Lowering alpha and pain levels	<i>Employee Absenteeism</i>
	Maximizing the stability of employees in the company	<i>Turnover Rate</i>
	Improve security and 5S implementation	<i>Safety and 5S Implementation</i>

From a Learning and Growth perspective, this is more of a strategy for company employees where the goals are to increase employee productivity in carrying out their duties, reduce alpha and illness levels, maximize employees in the company and increase security and 5s implementation. there are two old indicators and two new indicators. The new indicators are turnover rate and employee absenteeism. This turn over rate is selected based on the length of time the employee has worked and the number of employees who have resigned and for employee absenteeism this is based on employee absences. From making this new indicator it is hoped that it can minimize employee resignation for company stability and reduce the training of new employees. Furthermore, the company also hopes to reduce the number of sick and alpha employees during working days.

Table 6. Identify Performance Indicators

Criteria	Strategy Goals	Performance Indicator	Code
Financial Perspective	Making invoices on time	<i>Invoice Accuracy</i>	IK-1
	Increase the benefits of logistics contract efficiency	<i>Gross Profit Margin</i>	IK-2
Customer Perspective	Increase Customer Satisfaction	<i>Customer Satisfaction</i>	IK-3
	Improving the quality of service to customers	<i>Customer Complains</i>	IK-4
Internal Process Perspective	Efficient loading and unloading time	<i>Cycle Time</i>	IK-5
	Increase the company's ability to meet product delivery requests	<i>On Time Delivery</i>	IK-6
	Maximizing delivery of customer orders until product delivery to the appropriate address	<i>Order Fulfillment Management</i>	IK-7
	Maximize delivery in full condition	<i>In Full Delivery</i>	IK-8
	Maximizing the delivery of goods to a good condition	<i>In Good Conditions</i>	IK-9
	Maintaining zero work accidents	<i>Lost Time Injury</i>	IK-10
Learning and Growth Perspective	Increase employee productivity in carrying out their duties	<i>Employee Punctuality</i>	IK-11
	Lowered alpha and sick windows	<i>Employee Absenteeism</i>	IK-12
	Maximizing the stability of employees in the company	<i>Turnover Rate</i>	IK-13
	Improve security and 5S implementation	<i>Safety and 5s implementation</i>	IK-14

After carrying out the identification stage of the performance indicators that have currently been determined and which will be tested by the head of the PT Pos Logistik Indonesia warehouse at the Unilever Cakung warehouse, then from the grouping results obtained 14 (fourteen) performance indicators that are in accordance with the Balanced Scorecard criteria.

Preparation of AHP Hierarchical Structure

After obtaining performance indicators using the Balanced Scorecard method, a hierarchical structure will then be arranged. This structure is arranged based on the existing problems. This hierarchical structure consists of several elements that are at different levels. Each element needs to be determined to make it easier to find a solution.

From the hierarchical structure, it can be seen that there are 3 levels, namely at level 1 is the goal to be achieved by the company, which is to improve the performance of the PT Pos Logistik Indonesia warehouse, the Unilever Cakung warehouse. Then at the second level are elements of the criteria for warehouse performance using the Balanced Scorecard method, which consists of a finance perspective, a customer perspective, an internal process perspective, and a Learning and Growth perspective. Furthermore, the last one at level 3 is a sub-criteria, namely the performance indicator of the elements at level 2.

Data Processing

At this data processing stage, the results of the questionnaire that has been filled in by 5 respondents will be processed using the Super Decision software. The Super Decision software will display pairwise comparisons for each element at each level contained in the hierarchical structure of the AHP method. This Super Decision software will help weight the interests by providing a scale of importance for pairwise comparisons of criteria and sub-criteria. The results of processing questionnaire data with Super Decision software can be seen in the following figure:

The screenshot shows a pairwise comparison matrix in the Super Decision software. The title is 'Comparisons wrt "X dan Y" node in "perspektif" cluster'. The first comparison is 'Customer is equally as important as Finance'. The matrix has 6 rows and 10 columns. The first column lists the criteria: 1. Customer, 2. Customer, 3. Customer, 4. Finance, 5. Finance, 6. Internal Pro~. The first row of the matrix shows a value of '>=9.5' for the comparison between Customer and Finance. The rest of the matrix contains numerical values from 1 to 9, representing the relative importance of the criteria. The last column of the matrix is labeled 'No com'.

Figure 3. Questionnaire Data Processing with Super Decision Software

After the data is processed with the Super Decision Software, the results of the weight of the importance of the data will be obtained from the weight of the data for each criterion and sub-criteria, as shown in the following table:

Table 7. Value of Interest in Each Criterion and Sub-Criteria

Criteria	Weight	Performance Indicator	Weight
Financial Perspective	0.298	<i>Invoice Accuracy</i>	0.667
		<i>Gross Profit Margin</i>	0.333
		Total	1.000
Customer Perspective	0.333	<i>Customer Satisfaction</i>	0.667
		<i>Customer Complains</i>	0.333
		Total	1.000
Internal Process Perspective	0.257	<i>Cycle Time</i>	0.087
		<i>On Time Delivery</i>	0.205
		<i>Order Fulfillment Management</i>	0.160
		<i>In Full Delivery</i>	0.185
		<i>In Good Conditions</i>	0.175
		<i>Lost Time Injury</i>	0.188
		Total	1.000
Learning and Growth Perspective	0.113	<i>Employee Punctuality</i>	0.243
		<i>Employee Absenteeism</i>	0.182
		<i>Turnover Rate</i>	0.379
		<i>Safety and 5s implementation</i>	0.197
		Total	1.000

After obtaining the weight results, you must first check the level of inconsistency ratio in the assessment. There is a maximum tolerance limit for knowing the inconsistency ratio in the assessment, which is 0.1 or 10%. When the results of the assessment at each stage show an inconsistency ratio ≥ 0.1 , then the assessment is considered inconsistent and needs to be corrected. In this study, the results of the assessment for each stage with the largest inconsistency ratio found were

0.03. It can be seen in Figure 13. Based on the results of the inconsistency ratio value, the ratio is accepted and included in the consistent category because it fulfills the inconsistency ratio ≥ 0.1 .

Inconsistency: 0.0390		
Cycle Time		0.08735
In Full D~		0.18526
In Good C~		0.17469
Lost Time~		0.18800
On Time D~		0.20489
Order Ful~		0.15981

Figure 4. Results of Data Processing with Super Decision Software

After obtaining the weight of each criterion and sub-criteria, then the calculation of the overall weighting or often referred to as the global weight is carried out. This calculation will produce priority interests from the performance indicators of PT Pos Logistik Indonesia Unilever Cakung warehouse. Can be seen in Table 10 below:

Table 8. The value of the overall weight and Priority of Performance Indicators

Performance Indicator	Overall Weight	Priority
<i>Customer retention</i>	0.998	1
<i>Invoice Accuracy</i>	0.198	2
<i>Customer Complains</i>	0.111	3
<i>Gross Profit Margin</i>	0.099	4
<i>On Time Delivery</i>	0.053	5
<i>Lost Time Injury</i>	0.048	6
<i>In Full Delivery</i>	0.048	7
<i>In Good Conditions</i>	0.045	8
<i>Turnover Rate</i>	0.043	9
<i>Order Fulfillment Management</i>	0.041	10
<i>Employee Punctuality</i>	0.027	11
<i>Safety and 5s implementation</i>	0.022	12
<i>Cycle Time</i>	0.022	13
<i>Employee Absenteeism</i>	0.020	14

Based on the results of this overall weighting using the AHP method, all weight values in the table above are acceptable because they have an inconsistency ratio ≥ 0.1 and this overall priority weight value is of particular concern to companies in seeing how significant each performance indicator is for each performance goals. Basically, the weighted value of a performance indicator is the same if it has the same significant level in measuring the achievement of performance targets. With the provision of this overall weight, it can be used in calculating the performance measurement of each individual as a whole. It can be seen that the highest priority from the overall weighting results is customer retention, which is then followed by invoice accuracy, Customer Complains, Gross Profit Margin, On Time Delivery, Customer Satisfaction and so on.

5. CONCLUSION

This study employs the analytical hierarchy process (AHP) to identify indicators for warehouse performance measurement. This methodology is consistent with previous research conducted by Chandra, Pradipto, Kusri, etc.; the AHP methodology has been demonstrated to identify and create a hierarchy of criteria. As a result, we can concentrate our limited resources on particular needs. Since the process of continuous improvement consists of a series of continuous steps, we must carefully consider and design our budget. Using the result of the hierarchy, we can plan process improvement based on the importance of the indicators from most to least important. This study employs balanced scorecard indicators including customers, finances, internal processes, and learning and development. This is somewhat similar to (Chandra 2014), with the exception that they only employ financial, customer, and internal processes. It also varies from (Pradipto 2020) (using the Frazelle model) and (Kusri, Novendri, and Helia 2018) (utilizing shipping performance indicators). This study's findings

revealed a slight distinction with other findings. We can conclude that for the case study of POS Indonesia, the customer perspective carries the most weight, and that this customer perspective will have an effect on the perspectives of finance, internal processes, and learning and growth. Customer retention, invoice accuracy, customer complaints, gross profit margin, on-time delivery, customer satisfaction, lost time injury, in-full delivery, in good conditions, turnover rate, order fulfillment management, employee absenteeism, market share, safety and 5S implementation, cycle time, and employee activity are the performance indicators that have the highest priority value, as determined by the results of the overall priority weight.

After the research that has been done, the results of determining the performance indicators of PT Pos Logistik Indonesia Unilever Cakung warehouse using the Balanced Scorecard method consist of a finance perspective with a priority weight of 0.298, a customer perspective which has a priority weight of 0.333, an internal process perspective with a priority weight of 0.257, and a learning and growth perspective with a priority weight of 0.113. The highest weight is on the customer perspective so that this customer perspective will have an impact on the perspective of finance, internal processes, and learning and growth. From the results of the overall priority weight, the performance indicators that have the highest priority value to the lowest are obtained, namely Customer retention, Invoice Accuracy, Customer Complains, Gross Profit Margin, On Time Delivery, Customer Satisfaction, Lost Time Injury, In Full Delivery, In Good Conditions, Turnover Rate, Order Fulfillment Management, Employee Absenteeism, Market Share, Safety and 5s implementation, Cycle Time, and Employee Activity.

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