

1. Shipment Accuracy

Definition

Shipment accuracy refers to the percentage of order lines shipped without errors.

Question

Given that the number of perfect orders shipped in a warehouse is 45940 and the total number of orders shipped is 46600 in February 2020. Calculate and explain.

Formula

$$\text{Shipment accuracy} = \frac{\text{Number of perfect orders shipped}}{\text{Total number of orders shipped}} \times 100\%$$

Calculation

Shipment accuracy =

Justification

2. Inventory Accuracy

Definition

Inventory accuracy measures the difference between actual and recorded stock.

Question

A company sells clothes, and the workers count that there are 1,500 clothes in the warehouse. According to the record, it should have 1,520 clothes in stock.

Formula

$$\text{Inventory accuracy} = \frac{\text{Total physical quantity verified}}{\text{Total system quantity}} \times 100\%$$

Calculation

Inventory accuracy =

Justification

2. Inventory Accuracy

2 (i) Inventory Location Accuracy (ILA)

Definition

Inventory location accuracy refers to the percentage of locations without discrepancies (differences).

Question

A company counts items in the warehouse and finds there are 130 items, out of the 70 locations that are verified, 60 of them had no record discrepancies. Calculate and explain.

Formula

$$ILA = \frac{\text{Total number of storage locations without discrepancies}}{\text{Total number of storage locations verified}} \times 100\%$$

Calculation

ILA =

Justification

2. Inventory Accuracy

2 (ii) Inventory Discrepancy Accuracy (IDA)

Definition

Inventory discrepancy accuracy is an accurate measurement of inventory accuracy based on line item discrepancies (differences).

Question

A company has an initial inventory record of 1000 items line. When it does a physical inventory count in store, it finds 1010 products, meaning that 10 were miscounted.

Formula

$$\text{Inventory discrepancy accuracy} = \frac{\text{Total no. of line items without discrepancies}}{\text{Total of line items stored}} \times 100\%$$

Calculation

IDA =

Justification

2. Inventory Accuracy

2 (iii) Inventory Liability Accuracy (ILA)

Definition

Inventory liability accuracy is usually used to determine the financial liability of the 3PL provider.

Question

A company has a total value of discrepancies (differences) of RM3050, and a total value of the product stored of RM10100. Calculate and explain..

Formula

$$\text{Inventory liability} = \frac{\text{Total value of discrepancies}}{\text{Total value of products stored}} \times 100\%$$

Calculation

Inventory liability =

Justification

6

Definition

Order fill rate is a measure of the number of orders and lines that can be filled by the current inventory.

Question

Type	Item	System Qty	Order Qty	Physical Qty	Variance
Order #1	A	10	10	10	0
	B	10	10	10	0
Order #2	C	10	10	10	0
	D	30	30	28	(2)
Order #3	E	30	20	20	0
	F	50	5	5	0

3. Order Fill Rate

Based on the table above, the company can satisfy products A, B, C, E and F orders but cannot meet those of product D due to variance.

Formula

$$\text{Order Fill Rate} = \frac{\text{Total \# of orders fulfilled by existing inventory}}{\text{Total number of orders shipped}} \times 100\%$$

$$\text{Line Fill Rate} = \frac{\text{Total \# of orders fulfilled by existing inventory}}{\text{Total number of line items shipped}} \times 100\%$$

Calculation

Order fill rate =

Line fill rate =

Justification

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4. Picking Accuracy

Definition

Picking accuracy is the percentage of order lines picked without errors.

Question

Lazada's warehouse picked 1,000 orders in the month of December, 900 orders were picked accurately out of the 1,000 orders, while 100 orders were inaccurate and picked for 20 hours. Calculate the picking accuracy in December.

Formula

Picking rate per labor hour = $\frac{\text{Total quantity picked for shipment}}{\text{Total no. of labor hours}}$

Example #1

Calculation

Picking rate per labor hour =

Justification

4. Picking Accuracy

Definition

Picking accuracy is the percentage of order lines picked without errors.

Question

Lazada's warehouse picked 1,000 orders in the month of December, 900 orders were picked accurately out of the 1,000 orders, while 100 orders were inaccurate and picked for 20 hours. Calculate the picking accuracy in December.

Formula

Picking accuracy rate = $\frac{\text{No of perfect order picked}}{\text{Total no. of order picked}} \times 100\%$

Example #1

Calculation

Picking accuracy rate =

Justification

4. Picking Accuracy

Definition

Picking accuracy is the percentage of order lines picked without errors.

Question

In a warehouse, there are 6 workers working a 7-hour shift in the picking area. The workers picked a total of 1,000 line items during that shift for the shipment. Calculate and explain.

Formula

Picking rate per labor hour = $\frac{\text{Total no. of line items picked for shipment}}{\text{Total no. of labor hours}}$

Example #2

Calculation

Total no. of labor hours =

Picking rate per labor hour =

Justification

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5. Putaway Accuracy

Definition

Putaway accuracy refers to the percentage of inventory accurately put into the correct locations.

Question

In November, a warehouse putaway 3,000 items, and out of these, 2,800 items were putaway correctly while the rest were incorrectly putaway. What is the putaway accuracy of the warehouse?

Formula

Putaway Accuracy = $\frac{\text{Total inventory putaway correctly}}{\text{Total inventory putaway}}$

Calculation

Put away accuracy =

Justification

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6 (a) Units handled per labor hours

6. Productivity Ratio

Definition

Units handled per labor hours refers to the number of completed units realized per hour of work.

Question

Given that a warehouse handled 10,000 units of shampoo in a day. There are 10 workers, and each one of them works a standard of 5 hours a day to complete the orders. What is the number of units handled per labor hour in the warehouse?

Formula

Units handled per labor hour = $\frac{\text{Total number of units handled (in and out)}}{\text{Total number of labor hours}}$

Calculation

Total number of labor hours =

Units handled per labor hours =

Justification

6. Productivity Ratio

6 (b) Order Processing Rate

Definition

The order processing rate is a measure of the productivity of order processing staff when they receive orders from customers.

Question

Given that a warehouse employee must work 5 hours per day and the total number of line items processed is 10. Calculate and explain.

Formula

Line items processed per labor hour = $\frac{\text{Total number of line items processed (in and out)}}{\text{Total number of labor hours}}$

Calculation

Line items processed per labor hour =

Justification

6. Productivity Ratio

6 (c) Inbound turnaround performance

Definition

Inbound turnaround performance refers to the elapsed or passed time from the arrival of the goods at the warehouse to the time the goods are putaway in storage.

Question

Given that a warehouse had received 10 orders but only 3 of the orders were able to meet the turnaround time. What is the inbound turnaround performance of the warehouse?

Formula

$$\text{Order Fill Rate} = \frac{\text{\# of orders that agreed turnaround time}}{\text{total number of orders received}} \times 100\%$$

Calculation

Order fill rate =

Justification

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6. Productivity Ratio

6 (d) Warehouse order cycle performance

Definition

Warehouse order cycle performance refers to the time elapsed or passed from the time the order was released by the customer to the warehouse to the time the order was processed, picked, packed, labelled and ready for shipment.

Question

A warehouse had received 10 orders, but only 5 were shipped, and only 2 of them meet the agreed cycle time. What is the warehouse order cycle performance of this warehouse?

Formula

$$\text{Order Cycle Performance} = \frac{\text{\# of orders that meet agreed order cycle time}}{\text{Total number of orders shipped}} \times 100\%$$

Calculation

Order Cycle Performance =

Justification

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6. Productivity Ratio

6 (e) Storage cost per unit

Definition

Storage costs are the amount of money incurred as a result of storing inventory.

Question

A warehouse stored 1,500 average units and charged a storage cost of RM5,000 during the 2022 accounting period. What is the storage cost of the warehouse?

Formula

$$\text{Storage cost per unit} = \frac{\text{Total storage cost}}{\text{Average units stored over the accounting period}}$$

Calculation

Storage cost per unit =

Justification

6. Productivity Ratio

6 (f) Handling cost per unit

Definition

Handling costs refer to the types of costs associated with preparing and transporting inventory.

Question

During the 2022 accounting period, a warehouse had a total handling cost of RM2,000 while the throughput units were 500 units. What is the handling cost of the warehouse?

Formula

$$\text{Handling cost per unit} = \frac{\text{Total handling cost}}{\text{Total throughput units over the accounting period}}$$

Calculation

Handling cost per unit =

Justification

6. Productivity Ratio

6 (g) Order processing cost per line item

Definition

Refers to the cost of the process associated with the picking, packing and delivery of the packed items to a shipping carrier.

Question

M&P warehouse processed 3,500 units over the 2022 accounting period and charged a processing cost of RM7,000. What is the order processing cost per line item in the warehouse?

Formula

Order processing cost per line item = $\frac{\text{Total processing cost}}{\text{Total line items processed over the accounting period}}$

Calculation

Order processing cost per line item =

Justification