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ANALYSIS OF WAREHOUSE OPERATIONAL EFFECT ON ITS DISTRIBUTION EFFECTIVENESS IN PT ARTA BOGA CEMERLANG IN TANGERANG

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Abstract

Proper operation can affect how the company is able to distribute goods running well can also be determined how effective distribution of the goods is carried out. With the operations of a company can carry out their respective functions and roles to produce output in the form of goods and services. Especially hypermarkets and minimarkets in the Greater Jakarta area. This research uses the observation method, literature study method, and questionnaire method. This study uses the Product Moment correlation formula (Corrected Item-Total Correlation) consisting of: correlation coefficient, coefficient of determination and regression equation, and t test results. The results of this study indicate that between warehouse operations and the effectiveness of the distribution of goods there is a very strong relationship with a correlation coefficient of 0.865, while for the calculation of the determination obtained 74.8% results, which means that 74.8% influence of warehouse operations on the effectiveness of the distribution of goods and the rest of 25.2% is influenced by other factors and it is concluded that if there is an increase in warehouse operations, the value of the effectiveness of the distribution of goods will increase or increase.

Keywords: Operational, Distribution, Effectiveness, and Operation.

1. Introduction

A strong understanding of the role of operations in an organization is a big advantage. Managers who succeed in designing and providing goods and services throughout the world are managers who understand operations management. A company that is able to provide the best service for its customers is a measure of the company's success such as; start order orders, supply of goods, storage of goods, preparation for delivery, until the goods are sent according to consumer demand on time or can be said to be an effective delivery.

Implementation of good distribution of goods into a technique or a method that is quite difficult to apply any company, unexpected obstacles often occur in the distribution process. Then, the correct operation can influence how the company is able to distribute goods running well, it can also be determined how effective the distribution of goods is carried out.

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PT Arta Boga Cemerlang is a company engaged in the field of distribution, PT Arta Boga Cemerlang is believed to be the sole distributor of Orang Tua Group (OT) which is very successful in delivering Parent Group products to consumers in Indonesia. Famous for products that are not foreign to hear, namely; Tango, Glass Tea and others. PT Arta Boga Cemerlang believes that good warehouse operations can affect the effectiveness of goods distribution.

One of Arta Boga's strengths is that it has a strong distribution network support, both in large and small cities throughout Indonesia. Currently Arta Boga Cemerlang's sales division is divided into 3 divisions, namely:

1) Personal & Home Care (PC) Division, this is the most difficult division in distributing its products, because it contains hard products such as brushes, toothpaste, and batteries.

2) Sweet Water Plus (SW +) Division, this division specifically distributes beverage products to all corners of the country. Most of the products are well known and familiar in the community, such as; glass tea, uc 1000, vitamilk milk, kratingdaeng.

3) Food & Confectionery (FC) Division, this division is specifically for distributing food products and sweets. One of the most famous products is the tango wafer, mintz candy.

The main activities of the company in distribution are as follows:

1) The process of requesting goods by the leadership

Searching and handling stock in the warehouse must be more than the goods that will be issued, the leaders (RBM, BM, SM) look for the needs of suppliers and other depots before the goods will be used according to the number of cartons to be ordered.

2) Process of Entry of Goods in and Out

Goods that have entered will be entered after the goods are in accordance with the request and the goods will be issued either to the depot or customer will be entered first.

3) Work Order Process

When there is a demand for goods from the customer, the sales assistant sales department is obliged to issue SPK in the form of a data recap of all customers and will be processed by the administration department that works at the Depo.

4) Shipping Preparation Process

Delivery is said to be ready when the goods that have been loaded in the fleet are in accordance with the Goods Delivery Recapitulation (RPB).

5) The process of sending goods to Depos and Stores

The shipping of goods has been arranged by the Planner section which assigns the shipment to each customer or store. Usually according to the number of cartons or the number of shops will be adjusted to the capacity of the existing fleet.

6) Turnover Process

Goods that have been sent and received by customers or stores will be processed and turned into turnover and can be recognized how many cartons and rupiahs are received by customers or stores.

2. Literature Review

Operation Management

According to Haizer and Render (2015) operational is one of the three main functions of each organization and is fully connected with all other business functions, all organizations market (sell) finance (record profit and loss), and produce (operate) so it is very important to find out how operational activities work and learn how people organize themselves for companies that produce.

According to Herjanto (2008), "operational management can be interpreted as a continuous and effective process of using management functions to integrate various resources efficiently in order to achieve

goals." According to Herjanto (2008), Operations are part of an organization that carries out a process of transformation from inputs to outputs. Input takes the form of all the resources needed (eg materials, capital, equipment), while output is in the form of finished goods, semi-finished goods or services. This process is usually complemented with feedback activities to ensure that the outputs obtained are as desired.

Meanwhile, according to Bayangkara, (2008) Understanding effectiveness is "the level of success of a company to achieve its goals or the size of output." Understanding effectiveness according to Siagian (2007) is "the use of resources, facilities and infrastructure in a certain amount that is consciously determined in advance to produce a number of goods for the services carried out activities.".

Distribution Channel

The definition of distribution channels or marketing channels according to Tjptono (2008: 185), Distribution is "Marketing activities that seek to facilitate and facilitate the delivery of goods or services from producers to consumers, so that their uses are in accordance with what is needed (type, price, quantity and place). " While the definition according to Tjiptono (2008: 187), states that "Distribution channels are a route or series of intermediaries, whether managed by marketers or independent, in delivering goods from producers to consumers."

According to Tjiptono and Chandra (2012: 395), distribution channels are "a series of organizational participation that performs all the functions needed to deliver products / services from sellers to end buyers."

Companies in carrying out their activities must have a measure to analyze the situation, according to Sabran (2008: 369), the cost of distribution as an element of several percent of the total distribution, therefore these factors are used as a measure to influence the effectiveness of the distribution, namely:

1. Order Management

Order management is the acceptance and delivery of selling order information, although management sometimes ignores the importance of this activity, so that efficient processing facilitates product flow. Orders can be submitted in various ways by post or telephone, by salesman, or via online and electronic data exchange. Upon receipt of an order, it must be processed quickly and precisely, products that do not exist are considered pending orders, items sent are accompanied by shipping and billing documents, usually sent to various parts.

2. Inventory

Inventory is the control of goods or efforts to monitor and determine the optimal level of material composition in supporting the smoothness and effectiveness and efficiency of company activities. An important factor in distribution is the effective inventory of the composition and size of the inventory, the goal is to drink the amount of investment and drink the amount of investment and to drink fluctuations in inventory while serving orders from the buyer. Inventory here, managers must pay attention to the fragile balance between selling too little, the company bears the risk of not having the product when customers have to buy. Inventory decisions involve knowing when to order and how much to order. In deciding when to order, the company balances the risk of lack of goods against the cost of storing too much.

3. Warehousing

The company must decide how many and what kind of warehouse it needs and where the warehouse is located. The company might use a warehouse or distribution center. From some of the above opinions it can be concluded that warehousing is a means to store products before they can be sold. A company must be able to decide how much and type of warehouse it needs, and where the warehouse will be located. Therefore it must balance the level of customer service with the cost of distribution.

4. Transportation

Transportation choices affect product pricing, shipping performance, and the condition of the goods when the goods arrive will all affect customer satisfaction. Marketers need to pay attention to their company's transportation decisions. Companies can choose to use land transportation using trucks and trains or by water using ships.

Warehouse

According to Hadiguna and Setiawan (2008: 153), the main functions of the warehouse are:
1) Receiving (receiving), namely receiving company order materials, guaranteeing the quality of materials sent by suppliers, and distributing materials to the production floor.
2) Inventory, which guarantees that requests can be met because the company's goal is to meet customer needs.
3) Storage (storage) is the physical form of goods stored before there is demand.
4) Allowance (put away), namely placing goods in storage locations.
5) Order taking (order picking), namely taking goods from the warehouse according to the order and needs.
6) Packing, i.e. the packaging step or the choice step after the picking process.
7) Sorting, i.e. making batches into individual orders and accumulating distributed taking due to large variations in goods.
8) Packing and shipping, i.e. inspection of goods in containers or distribution capital up to shipping.
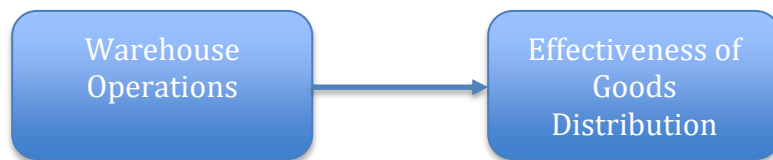
Framework

Figure 1. research framework
Source: Processed research data, 2019.

Research in this journal provides the hypothesis that:

H1 : It is suspected that warehouse operations do not affect the effectiveness of the distribution of goods at PT Arta Boga Cemerlang.

H2 : It is suspected that warehouse operations affect the effectiveness of the distribution of goods at PT Arta Boga Cemerlang.

3. Methods

The data source of this research was carried out with the following procedures:
1) Primary data sources, namely instruments used to obtain primary data, are questionnaires made referring to the Likert model scale.
2) Secondary Data Sources, Done by quoting directly or indirectly certain parts of the literature.

To test the hypothesis of this study using, validity and reliability, Correlation Coefficient (R) and Determination (R2), while the data analysis technique uses simple linear regression because it only uses two variables, namely the independent variable and the dependent variable. For all these tests, all data management and analysis were performed using SPSS (Statistical Product and Service Solution) software.

Variable Operations

A. Independent variable (warehouse operations) has dimensions:
1) Manager / Leader
2) Employee Behavior

3) Working Group Behavior
4) Organizational External Factors

B. Dependent Variables (effectiveness of distributing goods) have dimensions:
1) Order Management
2) Inventory
3) Warehousing
4) Transportation

In this study the authors also conducted the following data collection methods:

a) Interview Method
    Data collection techniques by asking questions to the parties concerned with the problem under study, in order to obtain the data needed.
b) Documentation Study
    The writing is done by studying various libraries related to the distribution of warehouses, especially books and records that have to do with journal preparation material.
c) Observation Method
    Data collection techniques by observing objects directly at the observation site can find out directly the object being observed.
d) Questionnaire Method (Questionnaire)
    Taking primary data by giving several statements containing the independent and dependent variables to the respondent as a reference to determine the extent of the relationship and influence between existing warehouse operations and the effectiveness of the distribution of goods that have been running.

Population and Sample

According to Hasan (2002: 58) "population is the totality of all individual objects to be examined which have certain characteristics, clear and complete". The population in this study were employees of PT Arta Boga Depo Tangerang. The total population is 32 people, sampling using Slovin formula with an error rate of 5%, as follows:

$$n = \frac{N}{1+Ne^2} \qquad Sample = \frac{32}{1+32(0,0025)} \qquad Sample = \frac{32}{1+0.08}$$

$$Sample = \frac{32}{1.08} \qquad Sampel = 29.63 \ \text{sample}$$

According to Sugiyono (2010: 102), the calculations that produce fractions (there are commas) should be rounded up. Therefore, the number of samples the author rounded up to make it easier to add up. So the number of samples is 30 samples.

4. **Results and Discussion**

Test Research Instrument

According to Sugiyono (2010: 137), "good instruments in the form of tests and non-tests must be valid and reliable. Instruments that have not been tested for validity and reliability when used for research will produce data that is hard to believe. Research instruments play an important role in quantitative research because the quality of the data used in many cases is determined by the quality of the instruments used. That is, the data in question can represent and or reflect the state of something measured in the subject of research with the data owner.

Measuring instruments used to collect research data are first tried out to determine their validity and reliability. In this study the instrument validity level was measured by: Corrected item-total correlation method,

which is a method by correlating each total item score and making corrections to the overestimated correlation coefficient (estimated value higher than actual).

In this study the validity and reliability tests were carried out on all variables, namely: warehouse operations, effectiveness of the distribution of goods, Validity test is used to test the extent to which a measuring instrument (questionnaire) measures what you want measured. The requirement that must be met is the correlation (the value of r) must be positive (can be seen in the corrected item-total correlation in SPSS), the value of r (correlation coefficient) must count> r table. With 30 respondents, r tables were found at the 0.05 significance with 2-tailed test and the amount of data n = 30, df = n-2, df = 30-2 = 28, then obtained r table = 0.361, the correlation used in validity testing The instrument is a corrected item – total correlation method using the SPSS program.

Normality Test

This test is conducted before the regression analysis is intended to test whether in a regression, the dependent and independent variables, both have normal distribution or not. A good regression model is a normal or near normal distribution. This test was carried out with statistical assistance for computer science (SPSS) computer assistance software.
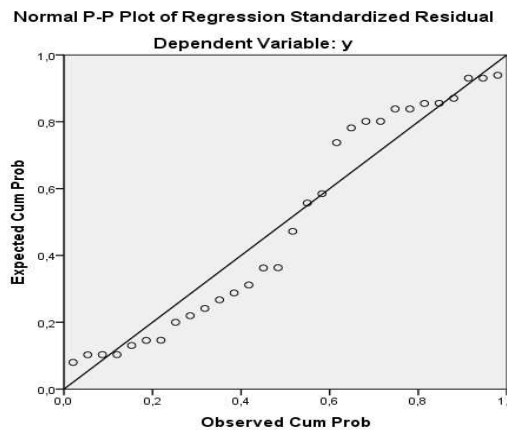

Figure 2. Graph NPP of Regression Standardized Residual Warehouse Operational variables on the Effectiveness of Goods Distribution

Source: Processed research data, 2019.

From the graph in the picture above, it can be seen that the data (points) of the regression spread around the diagonal line and the distribution follows the direction of the diagonal line, meaning that the regression model is feasible to predict the dependent variable (Effectiveness of Goods Distribution) based on input of the independent variable, Warehouse Operations. If the data spreads around the diagonal line and follows the diagonal line, the regression model meets the normality assumption.

Correlation Coefficient Test

Table 1. Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,865[a]	,748	,739	2,030

Source: Processed research data, 2019.

Based on the SPSS calculation table above, it can be seen that the correlation coefficient is 0.865 and the level of the relationship is very strong. The direction of the relationship is positive because the value of r is

positive, meaning that the higher the influence of warehouse operations, the higher the effectiveness of the distribution of goods.

After finding the results of the correlation coefficient then the next step is to find the coefficient of determination. Determination coefficient is used to find out how much operational affect the effectiveness of the distribution of goods Determination coefficient (KD) is calculated by squaring the correlation coefficient that has been found before and then multiplied by 100%.

Based on the SPSS calculation table above, the adjusted determination coefficient (R Square) is 7.748 meaning that 74.8% of the variable effectiveness of the distribution of goods is influenced by the variable. While the remaining 25.2% (100 - 74.8), influenced by other factors not included in this research model.

Regression Equation Test

Simple regression analysis is used to test the effect of one independent variable on the dependent variable. In this study we will look for how the influence of the Independent variable (warehouse operations) on the dependent variable (the effectiveness of the distribution of goods. Based on the analysis using the SPSS program, the results of the regression between warehouse operations and the effectiveness of distributing goods are obtained as follows:

Table 2. Results of Warehouse Operational Regression Analysis of the Effectiveness of Goods Distribution

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3,367	5,108		,659	,515
	X	,572	,063	,865	9,109	,000

a. Dependent Variable: Y

Source: Processed research data, 2019.

Based on the SPSS calculation table above, it can be seen that the coefficients table in Column B the value of constant (a) is 3.367, while the value of trust (b) is 0.572, so the regression equation can be written:

$$Y = a + bX$$
$$Y = 3.367 + 0.572X$$

From the above function equation, it can be interpreted that warehouse operations are constant or have a value of 0 (zero) then Y (effectiveness of distributing goods) is 3.367. The regression coefficient of 0.572 states that each addition (due to a positive sign) 1 time for warehouse operations will increase the effectiveness of distributing goods by 0.572. And conversely, if the warehouse operations are predicted to decrease once, the effectiveness of the distribution of goods is predicted to decrease by 0.572. So the direction of the relationship between warehouse operations and the effectiveness of goods distribution is positive, meaning that it is in the same direction.

5. **Conclusion**

Based on the results of the analysis and discussion that has been presented, then a conclusion can be given as follows, PT Arta Boga Cemerlang established on January 20, 1985, is the sole distributor of the Parents of the Group, which has the main task of distributing products from a number of producers to all regions in Indonesia, including various categories, namely biscuits, wafers, sweets, instant noodles, health drinks, snacks, batteries and others. Warehouse operations with the effectiveness of distributing goods at PT Arta Boga

Cemerlang have a very strong relationship, it is shown based on the calculation of the correlation coefficient using SPSS with a result of 0.865 and the direction of a positive relationship because the value of r is positive.

The influence of variable X (Warehouse Operations) on variable Y (Effectiveness of Goods Distribution) which is indicated by the results of the coefficient of determination obtained results of 0.748. This means that warehouse operations affect the effectiveness of the distribution of goods by 74.8% and the remaining 25.2% is influenced by other factors. From the simple linear regression analysis results, it can be seen that the functional relationship between warehouse operations and the effectiveness of distributing goods is Y = 3.367 + 0.572X. This equation shows, if (X) warehouse operations are 0 (zero) then Y (effectiveness of distributing goods) is equal to 3,357. Regression coefficient of 0.572 states that each addition (due to a positive sign) 1 time for warehouse operations will increase the effectiveness of distributing goods by 0.572 and vice versa, if warehouse operations have decreased 1 time then the effectiveness of distributing goods will decrease by 0.572. So the direction of the relationship between warehouse operations and the effectiveness of distributing goods is positive, meaning that it is in the same direction.

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