

ANALYSIS OF THE STOCK CONTROL SYSTEM FOR INVENTORY OF GOODS READY TO SELL PT DUA KELINCI PATI

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Abstract

Control of a company's finished goods inventory which includes preparing stock of goods ready for sale, handling sales progress, recording the entry and exit of goods or movement of goods in the warehouse, stock reports of finished goods inventory, similarities between data and the physical goods on hand. With good stock control, stock will be ideal so that consumer demand is met. Apart from that, the delivery was also smooth and received on time by consumers. The purpose of this writing is to determine finished goods inventory control and understand the finished goods inventory system implemented at PT Dua Kelinci Pati, which is a food company that has many types of products. This research uses qualitative methods, because with qualitative methods data can be obtained regarding work processes, development of an activity, broad and in-depth descriptions, work ethic and culture adopted in the work environment, so that the research objectives can be achieved. The research was carried out directly at PT Dua Kelinci Pati with the research subject being a PPC (Planning Production Control) Planner. Data was collected based on direct observation and interviews. Data analysis uses the SWOT analysis method (strengths), weaknesses, opportunities and threats. With SWOT analysis, you can find out the strengths, weaknesses, opportunities and threats faced by a company. The results of this research show that the stock control system at PT Dua Kelinci Pati can be carried out as follows: using the Stock Buffer method, the MPP (Master Production Planning) Making method, & the FIFO (First In First Out) method. So you can find out whether the stock position is over, lower or ideal stock. As well as determining when production scheduling is carried out, what must be produced and how much quantity must be produced referring to Forecast or Delplan to meet market demand or customer needs. Then, after the goods arrive at the warehouse, stock control is used using the FIFO method. With the buffer, MPP creation and FIFO method, stocks will be easily controlled and monitored.

Keywords: SWOT Analysis, FIFO, Warehouse, Control, Inventory

Introduction

In the industrial world, the word excess in the production process or over stock in the warehouse is something that is detrimental to the company. Because if there is over stock, the allocation of places will be full & this could create a risk of stock discrepancies because the counting process will be difficult to carry out. Apart from that, with over stock, finished goods that have already been made without considering consumer demand, the stock will stagnate and expire quickly. Meanwhile, if there is lower stock, the company cannot meet consumer demand. Over stock and lower stock occur because the planning & control system is not appropriate for determining the number of orders that must be produced. Lower stock and over stock are problems that must be paid attention to in order to make improvements so that the problem can be resolved.

According to Heizer, Jay & Render, Barry (2014), in the book Operations Management: Sustainability and Supply Chain Management, stock control is defined as stock management to achieve a balance between storage costs and meeting customer needs effectively.

Inventory is merchandise that is purchased and then stored for sale in the company's normal operations so that the company always pays great attention to inventory. Inventory has an important meaning in a trading company. Inventory is storing goods for use or resale, inventory is always needed in company activities. Inventory plays an important role so that the company runs well.

A warehouse is a building used to store goods. Goods stored in the warehouse can be raw materials, semi-finished goods, spare parts, or goods in process that are prepared to be absorbed by the production process. According to Ruswanto (2022) a warehouse is an area that has been planned for storing and handling goods or materials.

One of the snack companies in Pati City is PT Dua Kelinci which is located on Jl. Pati-Kudus No. KM 6.3 Lumpur, Bumirejo District. Margorejo District. Pati Central Java 59163. In accordance with its vision to be the best in the food and beverage industry, therefore it is necessary to process and manage raw materials and ready-to-sell products as well as possible. Due to its large quantity, inventory requires good management starting from procurement, storage, to its release from the warehouse for sale.

Based on the description above, the aim of this research is to find out what the stock control system for ready-to-sell goods is at PT Dua Kelinci.

Formulation of The Problem

formulation of the problem in this research is as follows:

1. What inventory control strategy is implemented at Dua Kelinci Pati?
2. How to determine the quantity needed and production schedule?
3. What is the SWOT analysis of inventory stock control at PT Dua Kelinci Pati ?

Research Methods

This type of research is qualitative research. Moloeng, (2007:6) explains that qualitative research is research that aims to understand the phenomena experienced by research subjects as a whole, by describing them in the form of words and language, and by utilizing various scientific methods. This research was conducted at PT Dua Kelinci. The object of this research is the stock control system for ready-to-sell goods at PT Dua Kelinci. The subject of this research is the PPC Admin of PT Dua Kelinci. The data collection method was carried out by interviewing the PPC admin with direct observation. Data analysis using SWOT Analysis. SWOT analysis is a classic strategic planning instrument that provides a simple way to estimate the best way to determine a strategy.

Results and Discussion

A Brief History of PT Dua Kelinci Pati

Starting from a simple home industry with the brand "Sari Gurih" packaged in the "Dua Kelinci" logo by husband and wife Mr Ho Sie Ak and Mrs Lauw Bie Giok. These two inventors with a simple vision of "producing quality savory peanuts" created the crispy kagang brand "Sari Gurih" with the "Dua Kelinci" logo for the first time produced in Surabaya. Then it was marketed in Surabaya and surrounding areas until it finally developed throughout East Java. Then in 1982 the "Sari Gurih" brand was replaced with the "Dua Kelinci" brand and then obtained a patent in 1985 and the company was named PT Dua Kelinci.

On July 15 1985, a factory was built in Pati Regency by the second generation, namely Ali Arifin and Hadi Sutiono. Choosing a location in the Pati district area because it is close to a better supplier of peanuts so it can better guarantee quality and can meet market demand which is quite large and spread throughout Indonesia. In 2000 product development began, and technology was introduced. In 2006 wheat and cereal products started.

Then in 2007 the implementation of international quality standards, food safety and halal standards began for all products. In 2012 quality improvement through products by adding advanced human resources and improving service quality. PT Dua Kelinci also became a sponsor for Real Madrid's La Liga in 2010. This also started its existence in foreign markets.

The PT Dua Kelinci factory is located across the Pati - Kudus highway, which is around 6.3 km from the center of Pati city to the west and around 37 km from Kudus city to the east. Apart from producing processed products such as crispy peanuts, roasted peanuts and onion peanuts, as time goes by and technology develops, PT Dua Kelinci has also succeeded in producing various processed grains, coated peanuts, snacks such as Tic Tac, Roni, Tos Tos, Banana Crunch, Puff, Tatoo and wafer.

In accordance with PT Dua Kelinci's vision, namely "To become the most popular snack manufacturer in Indonesia, and will be perfect in food processing methods and business ethics," to achieve this vision, PT Dua Kelinci in its mission will strive:

- a. Increase competitiveness and focus on quality, efficiency and technological improvements.
- b. Work consistently to improve performance and strengthen the company brand by utilizing networks and expanding global distributors.
- c. Applying new technology and remaining responsive to the needs and desires of consumers in Indonesia and internationally

The following are the results of an interview with the PPC (Planning Production Control) admin:

Researcher : What methods do PPC admins use to control the stock of ready-to-sell goods so that there is no over or under stock?

Resource Person: There are several methods for controlling stock in the warehouse, namely by looking at the stock buffer. With a stock buffer, we can see whether the current stock is at lower, over or ideal stock. The buffer figure we get is from the average sales per 13 weeks. So we must always review to revise the buffer numbers. So stock control is more optimal.

Researcher : Is stock control carried out only using the stock buffer method, ma'am?

Resource Person: Not just by looking at the stock buffer, there is another method to optimize stock control, namely by proper production scheduling. With proper production scheduling, the warehouse will not experience low or over stock. So delivery will be smooth so that consumers don't disappoint.

Researcher : how to plan production scheduling correctly and based on what numbers to schedule production?

Resource Person: Production scheduling or often called MPP (Master Production Planning) is made once a week. We look at the numbers from the delplan (Delivery Plan) numbers. Previously we used the Salfo (Sales Forecasting) figure, because the Salfo figure was less accurate, now we rely on the Delplan figure. Delplan numbers will appear every Friday and have been processed by the logistics team. MPP making is done on Saturday. Once the MPP is ready, the MPP is shared with the production team to be used as a benchmark for production planning.

Researcher : If the finished goods have arrived at the warehouse, what is the stock control system, ma'am?

Resource Person: If the goods have arrived at the warehouse, the stock control process is by recording incoming and outgoing goods by the WMS (Warehouse Management System) team and also using the FIFO method. The goods that come in first must be sold first. If there is a stock discrepancy, the FIFO team must carry out an investigation to find out the cause of the item discrepancy.

Researcher : Is the stock control system at PT Dua Kelinci Pati good, ma'am?

Resource Person: The stock control system at PT Dua Kelinci Pati is already good. Although sometimes there are still problems such as wrong input, stock differences, and inaccurate Delplan. But with the buffer stock method, making MPP and FIFO, these obstacles can be minimized.

So the stock control system method at PT Dua Kelinci Pati uses several methods, namely by looking at the stock buffer, making MPP and the FIFO system. Controlling by looking at the stock buffer, we will know whether the stock position is over, lower or ideal. Then making MPP based on Delplan numbers is very accurate for planning production scheduling. MPP helps determine what should be produced, in what quantities, and when it should be produced to meet market demand or customer needs. MPP is usually used to ensure that production resources, such as raw materials, labor, and facilities, are utilized optimally. With the FIFO system, goods will be better monitored and stock differences can be minimized.

The following is the stock control strategy implemented by PT Dua Kelinci Pati:

Stock Control Using the Stock Buffer Method

Buffer Stock is a security inventory that functions to protect or guard against the possibility of shortages of goods, for example due to the use of goods that are larger than originally estimated or delays in receiving the goods ordered. Reserve inventory is held to anticipate uncertainties in customer demand or disruptions in supply. The main function of buffer stock is to maintain operational continuity and avoid shortages of goods (stockouts) which can affect the smooth running of the business. The following is an example of stock control using stock buffer numbers:


		STOK USAGI PUFF		No Form : FM/PP/12 Revisi : 0 Tanggal : 03/02/2021 Halaman : 1 dari 1	
NO	DESCREPTION	SAT	STOK	BFR	THD BFR
1	Usagi Puff 10gr	Dos	1.000	2.089	-52%
2	Usagi Puff 60gr	Dos	480	303	58%
Total Usagi Puff (T)			2,1	3,1	68%
TOTAL STOK OKE (T)			2,1		
TOTAL STOK AGING (T)			-		
TOTAL STOK (T)			2,1	3,05	0,68

Figure 1
Stock Control Using Stock Buffer Figures
 Source: Internal data from PT Dua Kelinci Pati Company

The picture above shows that the Usagi Puff 10gr item, stock is below the buffer number so production must be scheduled immediately, to increase stock so that later if there is demand from consumers it can be fulfilled. Meanwhile, for the Usagi Puff 60gr item, stock is above the buffer number, so you have to be careful in scheduling production so that stock doesn't become overstock.

Stock Control Using the MPP (Master Production Planning) Manufacturing Method

Master Production Planning (MPP) is a strategic process in operations management that functions to plan the production of a company as a whole. MPP helps determine what should be produced, in what quantities, and when it should be produced to meet market demand or customer needs. MPP is usually used to ensure that production resources, such as raw materials, labor, and facilities, are utilized optimally. According to Heizer & Render (2014), MPP is part of a high-level planning process that integrates demand planning and capacity planning to manage production resources effectively.

			MPP (MASTER PRODUCTION PLANNING) USAGI												
NO	ITEM	SATUAN	WEEK 48	SENIN, 25/11	SELASA, 26/11	RABU, 27/11	KAMIS, 28/11	JUM'AT, 29/11	SABTU, 30/11	MINGGU, 01/12	TOTAL			Stok thd	BUFFER
			Saw	MPP	MPP	MPP	MPP	MPP	MPP	MPP	DP WEEK 48	MPP	Perkiraan Stok	Buffer (%)	
1	USAGI PUFF CARAMEL - 10g R10	ds	1,204					583	1,000	1,600	2,895	3,183	1,492	65%	2,300
2	USAGI PUFF CARAMEL - 60g	ds	854					400	400		1,130	800	524	75%	699

Figure 2
MPP USAGI
 Source: Internal data from PT Dua Kelinci Pati Company

From the data above, it can be seen that the Usagi Puff 10gr item has an initial stock of 1204 doses, while the Delplan is 2895 doses, so the stock is insufficient to meet consumer demand. So production must be immediately scheduled according to the capacity and capabilities of the production team so that the Delplan / consumer demand is met.

Stock Control Using the FIFO Method (First in First Out)

The FIFO method is also called the First in, First Out (MTKP) method. The FIFO/MPKP method is a method for determining ending inventory value which is based on the assumption that the goods purchased first are the goods sold first. Thus, goods in inventory are considered to come from the last purchase, because goods originating from previous purchases are considered to have been sold (Pura, 2019). With the FIFO method, stock control will be easier because with the FIFO method stock differences will be easily visible. If there is a stock discrepancy, the FIFO team must investigate the cause of the stock discrepancy.

The strategies used by PT Dua Kelinci Pati in carrying out stock control can be illustrated based on the business conditions of PT Dua Kelinci Pati, both from the aspects of strengths, weaknesses, opportunities and threats faced by PT Two Rabbit Pati, namely as follows:

1. Strengths

According to Fredy Rangkuti, strength is a situation or condition that is the current strength of the organization. Strength is an internal factor that supports a company in achieving its goals. Supporting factors can be resources, expertise, or other advantages that may be obtained thanks to financial resources, image, market advantages. These strengths are as follows:

a. Stock Management Speed

An organized Stock Control System allows the PT Dua Kelinci company to track inventory quickly and accurately. By using a control method based on buffers, it will be seen that inventory will run out or be over stock. Meanwhile, by using the control method by making MPP, if an item is out of stock, production can be immediately planned or scheduled. So with MPP, it will be easier and faster for the production team to process the product.

b. Efisiensi Operasional

A good system helps companies avoid over stock or under stock, thereby reducing storage costs. By making MPP, it will minimize the occurrence of over stock or under stock. Because the process of making MPP will be adjusted to the number of consumer requests.

c. Reduction of Loss of Goods

With good control, the risk of stock loss or theft can be minimized. PT Dua Kelinci Pati has implemented a FIFO system to control stock in the warehouse. So that loss of goods can be minimized.

2. Weaknesses

Weaknesses are obstacles faced in carrying out activities that affect the achievement of the desired profit by the PT Dua Kelinci Pati company. These weaknesses include:

a. Data Input Error

The system relies heavily on data inputted by humans. A small mistake can have a big impact. Like if PT Dua Kelinci employees entered the wrong data when making the MPP. So consumer demand and the amount of MPP production do not match. So consumer demand may not be met or overstock may occur, resulting in large storage costs.

b. Dependence on technology

If the computer used experiences problems, stock control can be disrupted. Because all the data used in stock control is on the computer.

c. Stock buffer numbers that are not updated

Buffer stock figures that are not reviewed will be a threat to the company. The stock buffer must be reviewed every 3 months because it is adjusted to market demand. If the stock buffer is not reviewed it will affect warehouse storage. So the warehouse capacity may be full.

3. Opportunities

a. Growing market

Efficient stock management, companies can capture new market opportunities more quickly. With high consumer demand, companies can meet market demand.

b. Products That Are Always Developing

The growing needs of society. This provides an opportunity for PT Dua Kelinci to continue to innovate to develop increasingly varied products.

4. Threats

a. Changes in market demand

Uncertainty in market trends can create excess or shortage of inventory. Of course, this condition will pose a threat to PT Dua Kelinci. If market demand falls and there is excess stock, the operational costs incurred will be large. If market demand rises and stock is lacking then consumer demand will not be met.

b. Damaged production equipment

If production equipment is damaged, it will have an impact on stock control. The MPP created may not be achieved, resulting in consumer demand not being met.

c. Damage or loss of goods occurs

Damage or loss of goods occurs due to carelessness in the warehouse process. Goods that were initially thought to be safe turn out to be damaged or lost, which will affect stock control. However, to meet consumer demand, substitute goods must be made.

The following is a table for analyzing and determining strategic decisions using the SWOT matrix approach:

Tabel 1
SWOT Matrix at PT Dua Kelinci Pati

IFAS	EFAS	<div>Strengths (S)</div> <div>a. Speed of stock managementEfisiensi Operasional</div> <div>b. Reducing loss of goods</div>	<div>Weaknesses (W)</div> <div>a. Data input error</div> <div>b. Dependence on technology</div> <div>c. Stock buffer numbers that are not updated</div>
<div>Opportunities (O)</div> <div>a. Growing market</div> <div>b. Products that are always developing</div>	<div>Strategi SO</div> <div>a. Leverage the speed of stock management to optimize growing markets</div> <div>b. Using operational efficiency to support product innovation</div> <div>c. Integrating stock management with ever-evolving product trends</div>	<div>Strategi WO</div> <div>a. Adopt an automation system to reduce data input errors</div> <div>b. Increase HR training to reduce dependence on technology</div> <div>c. Updated the stock buffer monitoring process to capture evolving product trends</div>	
<div>Threats (T)</div> <div>a. Changes in market demand</div> <div>b. Damaged production equipment</div> <div>c. Damage or loss of goods occurs</div>	<div>Strategi ST</div> <div>a. Using stock management speed to respond to changes in market demand</div> <div>b. Optimizing operational efficiency to anticipate damage to production equipment</div> <div>c. Optimize the FIFO system to avoid damage or loss of stock</div>	<div>Strategi WT</div> <div>a. Implementing a double verification system to reduce data input errors</div> <div>b. Build a backup system to reduce dependence on technology</div> <div>c. Integrate a preventive monitoring system for production equipment and stock</div>	

Source: Processed from researchers, 2024

Conclusions

Based on the description of the research results, it can be concluded that PT Dua Kelinci Pati uses several methods in stock control, namely by looking at stock buffers, making MPP and using the FIFO system. When using the stock buffer, you will see that the stock position is over, lower or ideal. Meanwhile, making MPP based on delplan numbers will be more accurate when compared to using salfo numbers. With accurate numbers, it will result in optimal stock control. Then using the FIFO system can minimize stock differences in the warehouse. The stock control system at PT Dua Kelinci has main strengths such as speed of management, operational efficiency, and the ability to reduce loss of goods, which can be utilized to capture opportunities such as growing markets and new products that continue to emerge. However, drawbacks such as data input errors, dependency on technology, and lack of stock buffer updates can become obstacles if not addressed properly.

Suggestions

Based on the results of this research, several suggestions that researchers can put forward include that PT Dua Kelinci Pati has external threats, such as changes in market demand, damage to production equipment, as well as the potential for damage or loss of goods, thus requiring PT Dua Kelinci to develop a mitigation strategy. By combining strengths to overcome threats (ST) and exploiting opportunities to overcome weaknesses (WO), PT Dua Kelinci can maintain operational stability and increase competitiveness in the market. Implementing solutions such as automation, HR training, stock monitoring

systems, and regular evaluation of stock buffers will help companies improve the accuracy, efficiency and resilience of stock control systems in the face of market dynamics.

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