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IMPLEMENTATION OF SALES PLANNING AND CONTROL OF RAW MATERIALS FOR THE CURRENT PRODUCTION PROCESS IN WINGKO COMPANY BAMBANG INDRAAYA

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Abstract - Raw material control is the control carried out to carry out the production process at the company. Raw material control is very important.

so that there is no delay in **the availability of raw** materials, the company must determine **the supply of raw materials** properly. **The purpose of writing this scientific paper is to determine the implementation and control of raw materials for the** smooth production process. In writing this scientific paper, the writer uses three methods, namely the interview method, the observation/observation method, and the literature study method.

The results **and conclusions of this scientific work can determine the sales plan for the future, it can be seen that the Wingko Bambang Indrajaya company produces the same sales composition as the previous year. The sales plan in 2021 is 132,000 while in 2020 it is 130,900** so the sales before and after being analyzed are the difference of 2,000 bags.

The production process carried out by Wingko Bambang Indrajaya Babat is a continuous production process, this can be seen from the course of the production process, where the available materials are sufficiently used according to the work schedule, as well as keeping the flow of materials through the work steps. which exists. So that with a continuous production process or continuously will produce quality goods, namely

wingko. Keywords: raw material control, sales planning 1.

INTRODUCTION Every company was founded with the aim of making a profit, in getting this profit, of course, the company must make a plan in advance because profits cannot be obtained without going through several company operating activities whose planning is standard. Thus planning must be prepared by every company both planning short term and long term.

To ensure that the plans that have been set by the company can be implemented and achieve the objectives, it is necessary to have supervision, because after all a good plan without supervision is most likely not going well. As for one of the supervision to achieve the goals that have been set is budgeting which is part of the planning.

Budget is one form of planning that is very effective, because in the budget there is an integrated planning and control system mechanism. Planned control of an activity is a basic characteristic of modern industry because basically effective control over people, materials, machines and money is a very important aspect for the survival of the company. In line with the development of a company, it is necessary to face the factors mentioned above.

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RESEARCH PROCEDURE This research includes quantitative research because this method has been used for a long time so that it has become a tradition as a research method. **Descriptive method is a method** of examining the status of a human group, an object, a condition, a system of thought, or a class of events in the present.

The data obtained, then rearranged, grouped according to the purpose of the data analysis used is an analysis with quantitative methods, namely the analysis used to connect two or more variables which are expressed in mathematical form or in the form of numbers. Adi Sapuptro, Gunawan and Marwan Asri (1998:159), in the calculation and data processing the following formula is used Sales planning The sales budget can be prepared using the trend equation as follows: $Y: a + bx$ To project this trend line, the least square method is used.

By formula $a = \frac{\sum y - b \sum x}{n}$ Where : y = sales rate a = value of y if $x = 0$ b = the magnitude of the change in the variable y that occurs for every change in one unit of the variable x
 x = time period n = number of data
Production planning Sales xx Ending inventory xx - Total xx Beginning inventory xx + Budget xx 147 **Journal of Industrial Engineering** & Management Research Vol.3 No. 2 DOI: <https://doi.org/10.7777/jiemar.v2i3>

<http://www.jiemar.org> e- ISSN : 2722 - 8878 Raw material planning Raw material requirements Production plan (from production budget) xx Standard usage per unit of raw material xx Raw material requirements (in units of weight) inventory of raw materials in units of money Raw material requirements (from production budget) xx Ending inventory xx+ number xx beginning inventory xx Raw materials to be purchased in units of weight xx purchase of raw materials in units of money Raw materials to be purchased (in units of weight) xx Purchase price of raw materials (per unit weight) xx- Purchase of raw materials (in units of money) xx calculate the most economical purchase to calculate the most economical purchase using the formula: $EOQ = \frac{R}{p} \sqrt{\frac{2s}{p}}$ Where EOQ = economic order quantity R = raw material requirements for a certain period of time s = ordering cost p = unit cost of raw materials To determine the maximum inventory level $I =$ storage cost expressed in percentage and average inventory.

Calculating reorder points To calculate the reorder point using the formula $ROP = (LixAU) + SS$ 148 Journal of Industrial Engineering & Management Research Vol.3 No. 2 DOI: <https://doi.org/10.7777/jiemar.v2i3> <http://www.jiemar.org> e- ISSN : 2722 - 8878 Where : ROP : Unit value of raw materials purchased or reordered. LT : Lead Time, which is the period of time required from the time an order is placed until the arrival of the ordered raw materials.

SS : Safety stock, which is the minimum inventory that is newly owned AS : Average stock, is the average requirement Determine the maximum inventory To Determine the maximum inventory level is used. Using the formula: $MS = SS + EOQ$ M : maximum inventory level, which is the maximum amount that does not need to be added EOQ : Economic order quantity SS : Safety stock (safety stock) 3.

RESULTS AND DISCUSSION Discussion and analysis of data is an attempt to present ways to solve problems that are being faced by Wingko Bambang Indrajaya Babat Lamongan Company at this time, before proceeding further to the company, the data used in problem solving efforts will be presented as follows: Table 1 Hypothesis Test Results Source: Wingko company, Bambang Indrajaya, Tripe Lamongan Evaluation of Problem Solving Alternatives Year Production Sales Remainder 2018 156.000 127.200 28.800 2019 156.000 129.900 26.100 2020 156.000 130.000 25.100 149 Journal of Industrial Engineering & Management Research Vol.3 No. 2 DOI: <https://doi.org/10.7777/jiemar.v2i3> <http://www.jiemar.org> e- ISSN : 2722 - 8878 a) Determine the number of products to be produced.

Namely the determination of the number of products based on the results of a sales plan or the size of the sales plan is determined as a result of the product to be implemented. b). Prepare a badge for raw material needs This budget is a plan

regarding the amount of raw materials that will be used in production, how to calculate the number of wingko to be produced and how much raw material is used in each production process. c). Prepare Budget for Purchase of Raw Materials.

This budget is a continuation of the raw material needs budget, where the purchase of raw materials is based on the amount of raw material that has been budgeted or planned so that the amount of raw materials purchased is in accordance with what is needed, thus the possibility of a buildup of raw material inventory that can be avoided. In making purchases of raw materials, the company cannot be separated from or always pays attention to: d).

Prepare Raw Material Inventory Budget In preparing the raw material requirement budget and the raw material purchase budget, it is seen that the problem of the value of the initial inventory and ending inventory of raw materials is always taken into account. One of the objectives of preparing a raw material inventory budget is to control uncontrolled raw materials, because uncontrolled raw material supervision will endanger the company. e).

Prepare Budget for Consumed Raw Materials Not all of the available raw materials are used up for the production process, this is due to iron stock and ending inventory. Raw materials that are used up for the production process must be calculated in value Discussion Step _ Troubleshooting Steps To be able to realize the solution to this problem, several steps are needed.

And this problem solving step is from the best alternative with the hope that this alternative will be able to overcome the problems that exist in the Wingko Bambang Indrajaya Babat company. The steps for solving problems in the company are as follows: a) Determine the number of products that must be produced. b. Prepare a budget for the purchase of raw materials. c. Prepare a budget for the purchase of raw materials.

150 Journal of Industrial Engineering & Management Research Vol.3 No. 2 DOI: <https://doi.org/10.7777/jiemar.v2i3> <http://www.jiemar.org> e- ISSN : 2722 - 8878 d. Deciding on an economical purchase e. Determine iron stock / safety stock. f. Determine the reorder point. Testing Steps - Solving Steps a) Determine the number of products to be produced As previously stated, the determination of the number of products to be produced is done by planning future sales and then determining the results to be produced.

The calculation method will use the least query method as follows: Table 2 2021 sales plan (in bag) Year Sales X XY X2 2018 127.200 -1 -127,200 2 2019 129.900 0 0 0 2020

130,900 1 130,900 2 Amount 388,000 0 3,700 4 Equality $Y = a+bx$ $a =$ number of Y n $b =$ sum YX n So the number to be sold in 2021 is 194,925 bags and this amount will be used and defined as the number of products to be produced. And then compile a production budget from the amount of production that has been set.

Information **The sales plan in 2021 is** 132,000 while **in 2020 it is** 130,900 so the sales before and after being analyzed are the difference of 2,000 bags. For more details, it has been presented as shown in the following table: Information Wingko produced 151 **Journal of Industrial Engineering** & Management Research Vol.3 No. 2 DOI: <https://doi.org/10.7777/jiemar.v2i3> <http://www.jiemar.org> e- **ISSN : 2722 - 8878**
 Information Sales plan Ending inventory 132.000 394.041.200 Initial inventory 394.054.400 106.314 Production quantity 393.948.086 Table 3 2021 Raw Material Needs Budget (in bag) , Month Day Coconut (grain) Sugar (kg) Glutinous Rice Flour (kg) Januari 30 6.240 1.040 832 Februari 30 7.500 1.250 1.000 Maret 30 6.900 1.150 920 April 30 6.240 1.040 832 Mei 30 7.500 1.240 1.000 Juni 30 7.800 1.250 1.040 Juli 30 6.120 1,300 816 Agustus 30 6.900 1.020 920 September 30 6.240 1.150 832 Oktober 30 6.900 1.040 920 November 30 6.240 1.040 832 Desember 30 7.200 1.200 960 Jumlah 360 81.780 13.630 10.904 Source: Wingko company, Bambang Indrajaya, Tripe Lamongan This budget is prepared with the aim of Raw material requirement plan per day Coconut 200 grains = 1,400,000 Sugar 23 Kg = 368.000 Glutinous Bers Flour = 30 Kg 345.00 Thus the amount **of raw materials in** 2021 that must be purchased or needed can be calculated as follows: Coconut = 83,460 grains Granulated Sugar = 13.

910 Kg Glutinous Rice Flour 11,128 Kg Total of all raw materials = 108,490 Based on past experience and historical data, to calculate economic purchases it can be known The cost of each time **the purchase of raw materials** Rp.2.113.000 Storage costs 10% of average inventory Economical raw material requirement in 2021 is 108,490 152 **Journal of Industrial Engineering** & Management Research Vol.3 No.

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 Prices **of raw materials in** 2021 Coconut = 7,000 Sugar = 16.000 Glutinous Rice Flour = 11.50 Thus EOQ can be calculated as follows: $EOQ = \sqrt{\frac{2 \times R \times S}{P \times I}}$ Information : $R =$ Amount of Raw Materials needed $S =$ Cost per order $P =$ Price per kg **of raw materials** $I =$ Average storage cost supply EOQ For Coconut = $\sqrt{\frac{2 \times 108,490 \times 2.113,000}{10 \times 7000}} = \sqrt{458,478,740}$ For Granulated Sugar = $\sqrt{\frac{2 \times 108,490 \times 2.113,000}{10 \times 16.00}} = \sqrt{733.565.984}$ For Glutinous Rice Flour = $\sqrt{\frac{2 \times 108,490 \times 2.113,000}{10 \times 11,500}} = \sqrt{527.50.551}$ total 1,749,295,275 3 = 583,098,425 Based on the EOQ calculation, it can be known or determined how many times to buy raw materials, then it can be calculated = Total requirement Amount of each purchase = $\frac{108.409 \times 583,098,425}{1}$ cal On the basis of the above calculations, it is better if Wingko Bambang Indrajaya Babat Lamongan

Company makes a purchase The purpose is to determine the most appropriate time to make a purchase or purchase or reorder for the purchase of the raw materials needed reorder points 153 **Journal of Industrial Engineering** & Management Research Vol.3 No. 2 DOI: <https://doi.org/10.7777/jiemar.v2i3> <http://www.jiemar.org> e- ISSN : 2722 - 8878 = usage during grace period + net inventory = 5,868 + 112,300 = 118.168 Each company established has the same goal, namely to obtain results or profit as well as **the Wingko Bambang Indrajaya** Babat Lamongan Company.

By carrying out the solution steps that have been proposed, the company will obtain several results or benefits, including the following: 1. By determining the amount of production to be produced on the basis of the sales plan, the company can find out the number of goods to be produced. 2. The amount of raw material needs that will be used in the production process can be clearly identified so that the company can adjust the needs according to usage.

3. Purchases can be made in accordance with the required quantity. so that there will be no accumulation **of raw material inventory** in the production process 4. The company knows how much it costs to provide for the production process. Production And Production Process The production process carried out by Wingko Bambang Indrajaya Babat is a continuous production process, this can be seen from the course of the production process, where the available materials are sufficiently used according to the work schedule, as well as keeping the flow of materials through the work steps. which exists.

So that with a continuous production process or continuously will produce production goods, namely quality wingko The stages of the product process as for the raw materials are as follows: A. Basic ingredients Materials that are directly used in the production process, namely, among others: 1. Glutinous flour Which is the main ingredient obtained by the company from flour traders in the market 2.

Coconut The ones used are also obtained from the nearest market 3. Sugar Granulated sugar is the sweetener for wingko. The granulated sugar used by this wingko company is ordinary granulated sugar which is sold in shops close to the company. B. Auxiliary materials Is a material that indirectly helps complement the basic materials to produce finished goods consisting of: a. Banana leaf b. firewood c.

plastic bag d. Wingko wrapping paper e. Glue to wrap wingko 154 **Journal of Industrial Engineering** & Management Research Vol.3 No. 2 DOI: <https://doi.org/10.7777/jiemar.v2i3> <http://www.jiemar.org> e- ISSN : 2722 - 8878 a. mixing process Before the mixing process begins, the coconut must be removed from

the shell or skin, after that the coconut is washed clean until there is no sap.

baking pan or put in the furnace for the first stage about 30 minutes then turned over and put again. b. Oven Process This process takes a little longer because in this process the finished wingko dough is placed on a baking sheet and baked on the stove and then has to be turned back and forth for maximum results. c.

gluing process After finishing the next oven process, the gluing process, this gluing process is carried out by female workers. In this process we can find out how many pockets the company produces wingko. Production result The result of production at this company is that it only produces one kind of product, namely Wingko Bambang Indrajaya tripe.

Price Policy In determining the selling price, the Wingko company, Bambang Indrajaya, sets the selling price based on the price of raw materials, if the raw material increases, the selling price also increases, but the wingko company does not set a price for agents to sell to consumers, which is important for mutual benefit, the company earns profit. profit.

Determination of Quality Standards In the implementation of quality control, the determination of product quality standards plays an important role because it is expected that the resulting product can be in accordance with what is desired. Meanwhile, the production quality standards are as follows: a) Glutinous flour The glutinous rice flour used must be of good quality and has not been exposed to fleas and is still clean. b) Coconut, The coconut used must be good and not rotten. c). Sugar The granulated sugar used must be of good quality.

Implementation of inspection (inspection) The inspection carried out by wingko company Bambang Indrajaya Babat Lamongan on the course of the production process, starting from raw materials until the product is finished processing. Quality inspection is only carried out on some of the raw materials or only for finished goods. Because the inspection of the goods used in the production process, the inspection **at the Wingko Bambang Indrajaya** Babat Lamongan company includes direct inspections carried out by the production department on the production process and from raw materials to finished materials.

Production Sales 155 **Journal of Industrial Engineering** & Management Research Vol.3 No. 2 DOI: <https://doi.org/10.7777/jiemar.v2i3> <http://www.jiemar.org> e- **ISSN : 2722 - 8878** In selling its products, the Wingko company initially only covered areas in the provinces of East Java, but with the development of the company and the increasing

consumer demand for the Wingko company and after getting a muri record, Bambang Indrajaya's wingko company was able to develop its marketing not only in the regions but throughout East Java. a.

Problems faced by the company Company problems occur because of obstacles in achieving company goals, where obstacles that become problems require immediate action to overcome and eliminate them so that company goals can be achieved so that problems faced by companies can be resolved quickly and correctly so that companies can carry out the production process properly and efficiently. fluent. b.

Cause of Problem In the previous description of the problems that will be faced by the company along with the data to prove it, then next look for the cause of the problem, because the problem must be shown so that a way can be found to solve the problems faced by the company as for the causes of the problem are as follows: 1). There is no planning for the production process 2). There is no preparation of raw material badges for the production process 3).

The company has not determined the method for determining the inventory of raw materials. 4. CONCLUSION Based on the analysis and discussion above, it can be concluded as follows 1. To be clearer, from the budget in table 5 it can be seen that the Wingko Bambang Indrajaya company produces the same sales composition as the previous year a.

2021 Sales Plan = 132,000 b. Ending inventory Coconut = 584,220,000 Granulated Sugar = 222.560.000 Glutinous Rice Flour = 127,972,000 Quantity = 208,650,000 c. Beginning inventory Coconut = 83,460 Granulated Sugar = 13.910 Glutinous Rice Flour = 11.128 Quantity = 108,498 Information The sales plan in 2021 is 132,000 while in 2020 it is 130,900 so the sales before and after being analyzed are the difference of 2,000 bags. 2.

The production process carried out by Wingko Bambang Indrajaya Babat is a continuous production process, this can be seen from the course of the production process, where the available materials are sufficient to be used in accordance with the work schedule, and to keep the flow of materials through the following steps: existing job steps. So that with a continuous production process or continuously will produce quality goods, namely wingko.

156 Journal of Industrial Engineering & Management Research Vol.3 No. 2 DOI: <https://doi.org/10.7777/jiemar.v2i3> <http://www.jiemar.org> e- ISSN : 2722 - 8878 In the stages of the Wingko production process, the Wingko company requires raw materials, auxiliary materials and machines in the production process as for the raw materials and

auxiliary materials and the machines used are as follows: A.

Basic ingredients Materials that are directly used in the production process, namely, among others: a. Glutinous rice flour Which is the main ingredient obtained by the company from flour traders in the market. b. Coconut The ones used are also obtained from the nearest market c. Sugar Granulated sugar is the sweetener for wingko.

The granulated sugar used by this wingko company is ordinary granulated sugar which is sold in shops close to the company. B. Auxiliary materials Is a material that indirectly helps complement the basic materials to produce finished goods consisting of: a. Banana leaf b. Firewood c. plastic bag d. Wingko wrapping paper e.

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