ROLE JUST IN TIME METHOD FOR EFFORTS TO ELIMINATE NON-VALUE ADDED ACTIVITY IN PRODUCTION GARMENT COMPANY VOXI 73

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ABSTRACT

The concept of cost effectiveness or known as the manufacturing cycle effectiveness (MCE) is the ratio between the processing time to the cycle time.This research is to identify the extent to which the benefits and role of Just In Time (JIT) Method for eliminating all activities or resources that are not value-added and to give an idea of the importance of the implementation of Just In Time for companies to improve efficiency and productivity. This research using a Garment Company "VOXI 73" Pandaan is in JalanJuanda 2 PandaanPasuruan Malang – Surabaya as a object. By using a JIT method this research found that Company make a wasting in several indicator. This is evidenced by the amount of non-value added time which consists of the top set-up time, move time, waiting time, and inspection time in throughput time. After using the JIT system efficiency of processing time becomes 93.93% means non-value added time by only 6.07%. With the efficiency that it creates a huge cost savings.advice to companies, along with the progress of science and technology is so rapid, and the increasing levels of competition among companies that are very tight, so that each managment is required to be able to compete and organize an effective strategy in the global competition.

Keywords: *just in time, production, garment.*

INTRODUCTION

Research Background

The influence of the global financial crisis caused every company is required to implement the increased effectiveness and efficiency in the production process. Characteristics of the business environment faced by the management of the rapidly changing and dynamic. Every company should be able to survive and grow in the competitive global business environment and turbulent by creating value for customers.

Changes in methods used by management to manage the company led to changes in the cost information they need. The concept of cost efficiency is replaced by the concept of cost effectiveness with a paradigm shift to customer value. The concept of cost effectiveness or known as the manufacturing cycle effectiveness (MCE) is the ratio between the processing time to the cycle time. MCE is a measure that indicates the percentage of value added activities contained in an activity that is used by companies to generate value for the customer. By using the manufacturing cycle effectiveness can be calculated percentage of how much value-adding activities are not (non-value added activities) can be reduced and eliminated from the production process in the manufacture of products or services.

This competitive pressure makes many companies leave and move on to the model approach EQQ Just In Time (JIT). Just In Time has two strategic objectives that increase revenues and improve the company's position in the competition. Both of these goals can be achieved by controlling costs, improve delivery performance and quality improvement.Wastage will also have an impact on the quality and delivery operation that is not useful to have exacerbated the tendency of qualities, namely defect, scrap and rework. Useful

processes in the business circuit will also increase lead times, resulting in a late submission. Quality and poor delivery would result in decreased levels of consumer satisfaction.

Waste reduction is the main driver of Just In Time, it is also the main goal of every company, be it manual Just In Time or not. Just In Time is more than just inventory management system. Supplies of goods which includes resources such as funding, space and labor in view as a waste.Inside the hidden inefficiencies in production and the increasing complexity of information systems of an enterprise. Although Just In Time is more than a focus on inventory management, inventory control, but it is very important boondoggle.

Market competition in the present sharp faced by many companies.in the market competition not only in the national scope, the development of transport and communication tools has driven global competition. advances in technology play an important role in the shortening of the circulation of goods and the increasing number of types of goods produced.it is a sign that rapid growth of business of each company will always provide something the best of what they have.

The competitiveness of enterprises to be created, so the company is able to excel in a particular field as compared to similar competitors. Companies need cost information to empower personnel to carry out improvement to the process used to produce products and services for customers. Cost information can describe the resource consumption in the manufacturing process of products and services.

This Research consist of 3 objectives :

1. For the kind of waste (non-value added activity) leads to a value-added costs to the company
2. To identify the exent to which the benefits and role of Just In Time (JIT) Method for eliminating all activities or resources that are not value-added
3. To give an idea of the importance of the implementation of Just In Time for companies to improve efficiency and productivity.

THEORITICAL REVIEW

Theorie of Just in Time

Basically meaning Just In Time was right on time.Talha provide understanding Just In Time as follows: "The philosophy of product quality improvement and cost efficiency through volume production inventory until the minimum" (Talha, 2002).

The Purpose of Just in Time

The main goal of JIT is to increase profit and competitive position achieved through the efforts of cost control, quality improvement, and improved delivery performance. (Adeyemi, 2010).

The Role Just In Time

First, production of a short travel time enables the deployment of production began after the order is received, while the officer can always work with a clear customer focus, as if the consumer is waiting for the completion of items ordered in the living room (Mazanai, 2012)

Target Implementation of Just In Time

Target Implementation of Just In Time presented by Gunasekaran basically consists of(Gunasekaran, 1997):

1. Inventory
2. Cycle Time
3. Continuous improvement
4. Elimination of waste

Just In Time production

Adeyemi provide understanding of Just In Time production as a production scheduling system components or products on time, in accordance with the quality and the amount needed by the next stage of production or according to customer demand (Adeyemi, 2010).

Kanban in Relation With JIT

Becker and Szczerbicka stated kanban system is a communication tool in the Just In Time production system when done with a lot of production. In Japanese, means kanban board cues, which are listed on the product or component in the belt of a certain amount of production, also the instructions for submission of specific goods in a certain amount (Becker and Szczerbicka, 1998).

Non Value Added Activity

In the through put time there is value added time (activities that add value) and non-added activity (activities that do not add value). Both activities that add value and which do not add value to this cause costs. So in conditions that increasingly tight competition, more attention is needed to eliminate activities that are a waste. If the waste is removed then the cost will be reduced. In this case the time is the most valuable resource (Ketkamon and Teeravaraprung, 2009).

The relationship between Just in Time on Non-Value Added Activity

Changes in production costs resulting calculations JIT philosophy can be linked with less concept of the whole operation. Production costing technique is affected by eliminating non-value-added components that result in waste. Where simplification is also the purpose of the JIT (Gabell, 2004). To understand the JIT approach to product costing, according to Rahman et al need to connect the elements of the underlying time the traditional production process, as follows (Rahman et al, 2012):

1. processing time is the amount af actual time worked on a product.
2. When the inspection (inspection time) is the time spent either to find a product that is damaged or defective unit reworked.
3. Time to move is the time used to move products from one operation of departement.
4. Wait time which is a product of time spent waiting to be done at the time they arrive at the next operation
5. Storage time is the time of aa product, either in storage of raw materials,semi-finished goods inventory of inventories of finished good waiting to be sold or shipped.

Previous Researches

Rosemary et al. (2001) in their research argue about the production performance benefits from JIT implementation.This study uses survey responses from executives at 95 JIT-practicing firms to better understand the benefits that firms have experienced through JIT adoption, and whether a more comprehensive implementation is worthwhile. The research results demonstrate that implementing the quality, continuous improvement, and waste reduction practices embodied in the JIT philosophy can enhance firm competitiveness. JIT implementation improves performance through lower inventory levels, reduced quality costs, and greater customer responsiveness. This study indicates that JIT is a vital manufacturing strategy to build and sustain competitive advantage.

Musara (2012) in his research about Impact of just-in-time (JIT) inventory system on efficiency, quality and flexibility among manufacturing sector, small and medium enterprise (SMEs) in South Africa.The study revealed that the majority of SMEs in the manufacturing sector were not applying the JIT inventory management principles. It was furthermore revealed that there are challenges impeding the implementation of JIT principles in the manufacturing sector SMEs. These challenges include lack of reliable supplier networks, lack of capital and lack of knowledge of immediate financial gains among others. Furthermore, statistically significant positive correlations between the application of JIT inventory management principles and cost efficiency, quality and flexibility were found.

Research Procedure

This research is to analyse about the influence of Role Just in Time Method for Efforts to Eliminate Non-Value Added Activity in Garment Production Company VOXI 73.

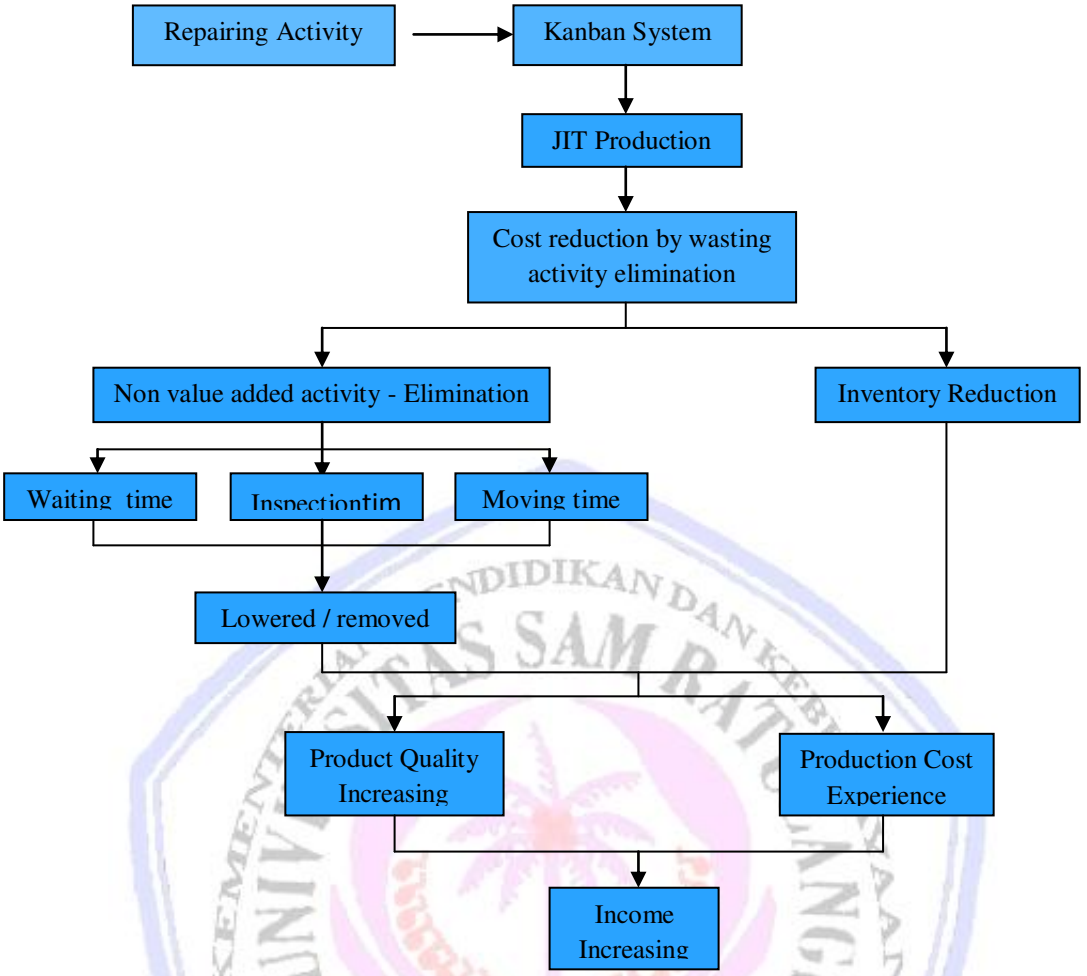

Figure 1 Conceptual Framework
Source: Theoretical Review 2014

Research Hypothesis

H_1: Minimize the company activities of Non-Value Added through the implementation of Just In Time (JIT) Method.

RESEARCH METHOD

Types of Research

This research uses causal type of research. This type of research also determines if one variablecauses another variable to occur or change. In this research is to investigate the influence of Role Just In Time Method For Efforts To Eliminate Non-Value Added Activity In Production Garment Company VOXI 73.

Place and Time of Research

This research object is Garment Company VOXI 73, East Java Province, Pasuruan, Pandaan. Jl. Ir. H. Juanda 2. Post Code 67156 between July - August.

Population and Sample

The research object is Garment Production Company VOXI 73. Object of research is used to support the measurement technique variables in the study. The population in this study is Garment Production Company VOXI 73 whereas samples taken by saturate sampling method.

Data Collection Method

This research used several methods to collect data, namely:

1. Interview technique is to do a question and answer with certain parties within the company.
2. Libary studies. Method of data collection by studying the relevant literature in order to obtain a theoretical overview of Role Just In Time Method For Efforts To Eliminate Non-Value Added ActivityIn Garment Production Company VOXI 73.

Definition of Research Variables are:

1. Move Time. Time that need to move products from one department to the next.
2. Waiting time. The time at wich the product is within the departement before being processed.
3. Inspection time. The time it takes to inspect the product to ensure that the poduct complies with the standards.

Data Analysis Method

In this study will be used 2 methods of analysis, as follows:

1. Qualitative analysis. An anlysis based on the theories and opinions of the experts on the discussion that has been done to produce a conclusion.
2. Quantitative analysis. Is a way to analyze the data that are quantitative that are generally in the form of a mathematical model as well as a table or it can be a specific measure and analysis using analysis tools are provided (sekaran,2005)

RESULT AND DISCUSSION

Discussion and Result Interpretation

After analyzing the data against existing data, will then be compared to the results of research that has been conducted with the circumstances that existed at company as follows:

1. Garment company "VOXI 73" pandaan less can use that efficient production time,because many use activities non value added. This is evidencedby the amount of time tha non value-added consist on the set up time,move time,waiting time,and inspection time in time throughput MCE of the production system is now 83,4% meaning there are still 16,6% (100%-83,4%) or 23 331 minutes of non value-added time in the throughput time.
2. There are several issues that cause non-value added time, namely
   a) Lay out the engine causing poor move time and waiting time
   b) Perform ad non value added. This is evidenced by the amount of time that non-value added Consist on the set up time, move time, waiting time, and inspection time in time throughput. MCE of the production system is now 83.4%, meaning there are still 16.6% (100% - 83.4%) or 23 331 minutes (Table 13) of non-value added time in the throughput time.
   c) Still tolerance for products that are damaged during the production process, giving rise to the move time and also waiting time
   d) Producing large amounts, causing the move time and waiting time
3. Because of the non-value added time cause a decrease in processing time (process time). The processing time is only 83,4% of the throughput time,so in completing production companies use overtime.
4. Just In Time relationships with non-value added activity. There are few things UTAU conditions that support JIT production implemented on garment company "VOXI 73" pandaan ie:
   a) The business entity has a relationship with the network of good suppliers of raw materials so as to be reliable role in terms of the quality of the delivery schedule.
   b) Lay of engine companies Garment "VOXI 73" Pandaan allow to be done to form manufacturing adjacent cells, it aims to reduce / eliminate the move time.besides there are some things that are basic elements that support JIT implementation JIT production system,namely:
   c) Additional training for workers in order to carry out more than one kind of work, so labor can be expected to operated several different types included in maintaining and repair.

d) Work in accordance with the work rhythm. Rhythm describes pulse of the market (consumer demand). Rhythm work is a number that must be considered in a company's survival. This means pulse of the market (consumer demand) can be changed at any time, and work rhythm at the company had to adjust. When process slower than work rhythm, then there is a delay of production, otherwise the process is faster than the work rhythm will result ina buildup of inventory. In other words, the management must be responsive to changes in consumer demand in the market

e) Set production flow one by one. In starting the production flow one after the other,allowed only one unit at a time flowing more than one next process. This will shorten travel time and eliminate the production of semi-finished goods between the egress part of the process to the next process.

f) The company also needs to set the physical appearance of the plant based guidelines which are Compact, Neat, Rehearsal, care, Diligent who are a five-step Diligent and maintenance work is developed through intensive efforts in the field of manufacturing.

g) Having a long-term agreement with reliable suppliers so that the quality of delivered goods and the price of the deal on time. By application of this method, the time for inspection of goods can be reduced or no longer required inspection time.

h) Minimizing the amount of preparation, because in addition to reducing the cost of warehouse administration can also reduce the waiting time for the processing of materials and the time of goods stacked the finished goods warehouse is reduced.

i) Avoid the occurrence of defective productsi f the above requirements are met, then the companies Garment "VOXI 73" Pandaan can utilize systems that commercialize products JIT production process continued without any wastage of time. With the implementation of JIT, then the non-value added time in the company's production system can be reduced / eliminated the:

j) Move time. Time to move can be reduced to 5 minutes in a day due to the lay out of the machine manufacturing cells have fomed, so that the inter-machine with other machines already closes distance.

k) Waiting time.with the engine adjacent to one another from the begnning to the end, then the waiting time can be eliminated.

l) Inspection time. Inspection time can be recuded to 5 minutes / day, because the JIT does not recognize the exitence of a product defect.

m) Set up time. Set up timecannot be eliminated, because it really is time to set up the machine, but entities can try to apply the principles set uptime rapid.

Table 1. Non-Value Added Time in JIT Year 2013

Month	Set up time 15 mnts/day	Move time 5 mnts/days	Waiting time 0	Inspection time 5 mnts/days	NVAT
January	390	130	0	130	650
February	345	115	0	115	575
March	375	125	0	125	625
April	360	120	0	120	600
May	375	125	0	125	625
June	375	125	0	125	625
July	390	130	0	130	650
August	390	130	0	130	650
September	390	130	0	130	650
October	405	135	0	135	675
November	360	120	0	120	600
December	390	130	0	130	650
TOTAL	4.545	1.515	0	1.515	7.575

Source: Data Processed, 2014

Explanation:

Set up time = 15 minutes/day x working day/month = ….. menit
Move time = 12 minutes/day x working day/month = ….. menit
Waiting time = minutes/day x working day/month = ….. menit
Inspection time = minutes/day x working day/month = ….. menit
NVAT = Set up time + move time + waiting time + inspection time

Working day / month can be seen in Table Production 2013

Table 2: Throughput Time in JIT Year 2013

Month	NVAT (minutes)	Process Time (minutes)	Throughputtime (minutes)
January	650	9.758	10.408
February	675	8.549	9.124
March	625	9.925	10.550
April	600	9.672	10.272
May	625	9.865	10.490
June	625	9.715	10.340
July	650	10.238	10.888
August	650	9.878	10.528
September	650	10.058	10.708
October	675	10.101	10.776
November	600	9.342	9.942
December	650	10.118	10.768
TOTAL	7.575	117.219	124.794

Source: Data Processed, 2014

Explanation:
Set up time= 15 minutes/day x working day/month =… menit
Move time = 12 minutes/day x working day/month =… menit
Waiting time = minutes/day x working day/month =…
Inspection time = minutes/day x working day/month =…
NVAT = set up time + move time+ waiting time + inspection time
Working day / month can be seen in Table Production 2013

CONCLUSION AND RECOMMENDATION

Conclusions

Thefollowing the conclusion of the results of research:

1. Company make a wasting in several indicator.This is evidenced by the amount f non-value added time which consists of the top set-up time,move time.waiting time,and inspection time in throughput time.
2. After using the JIT system efficiency of processing time becomes 93,93% means non-value added time bonly 6.07%. whith the efficiency that it creates a huge cost savings.
3. The importance of JIT in savings:
   a. After the application of JIT production system occurs production cost savings of lower the production costs
   b. The benefits of success in suppressing or minimize the production costs of goods sold in the statement of having safvings of the greater one.
   c. After the company implement JIT production system increased company profits in theamount of which is more.

Recommendation

The following are suggestions of research:

1. For next researcher to improve this research by adding comparison analysis before and after Just In Time method to test the significant different before and after Just In Time.
2. For the Company to do more savings by implementing the JIT so there will a huge savings in time of production and cost which in turn will improve company net income

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