

CHAPTER I INTRODUCTION

A. Research Background

Globalization has a significant impact on the manufacturing sector as it continues to evolve at a rapid pace. Market needs, product designs, product life cycles, production modifications, and technological developments in manufacturing capacities have changed due to globalization, prompting manufacturing industries to respond by implementing proactive measures to stay competitive (Asokan, 2022). Manufacturing companies are now focusing more on product quality, cost reduction, and timely delivery. Companies are putting a premium on efficiency.

Quality control plays a major role in the reduction of variations in any manufacturing and service enterprise. The problem solving tools called the “management seven”, are traditional management tools, namely check sheets, histograms, Pareto charts, cause and effect diagrams, scatter diagrams and control charts. These tools are very popular and are commonly called the 7 QC tools. Their applications for quality improvement are found in almost everything manufacturing and service organizations. Many researchers have done successful implementations of these tools in their work (Memon, 2019).

In this era, manufacturing companies has several positions in the midst of an increasingly sophisticated technology era. Manufacturing companies has

activities such as procurement of raw materials and then processing raw materials by incurring additional costs for selling finished products. Its function as a seller of products and business activities makes a manufacturing sales company categorized as a trading company.

Many factors influence the success of achieving company goals. One of the most important forces that supports the success of achieving company goals and increasing the growth rate of companies in the market is quality or quality factors. The role of quality greatly supports the smooth production of a product within the company. The quality control system provides a significant contribution to achieving optimal quality. Basically, a quality control activity has a broad scope, because it must pay attention to all the factors that can affect the results of reviews of these qualities (Fattah, 2020).

Currently, the company has a lot of operational activities, so the more activities carried out, the more problems that will be faced. Problems that may occur are in very limited organizational elements. One person does more than two jobs, recording errors when purchasing and receiving raw materials to record them in the inventory section.

اقْرَأْ فِي الْكِتَابِ وَ فِي الْفُؤَاءِ الَّذِينَ وَإِنْ بِالْحَقِّ الْكِتَابَ لَ اللَّهُ لَكَ

Arabic-Latin: ālika bi`annalāha nazzalal-kitāba bil-ḥaqq, wa innallażīnakhtalafu fil-kitābi lafi syiqāqim ba`d

Translation Meaning: That is because Allah has sent down the Qur'an with the truth, and verily those who dispute about (the truth) of the Book, are indeed in a far deviation (from the truth). (Q.S.Al-Baqarah 2:176)

The growing global market creates competition between companies to supply high-quality products that meet consumer desires. Due to the increasing consumer demand for certain products, companies are struggling to meet consumer needs, thus demanding companies improve their products' Quality. Subjectively, people claim that Quality is something that suits their tastes, seen from consumer perceptions. The manufacture will benefit in terms of marketing and customer loyalty with high-quality products.

Since businesses have worked hard to produce goods made of high-quality products, they may have defects. One of the common problems that all businesses have is defective products. Usually, physical changes are created by defective substances found in a product that do not conform to the specified requirements due to causes in the manufacturing process as well as other causes. Products with disabilities can be associated with the computer, human or environmental variables. Product defects, such as development costs and time, can also cause company losses (Omar, 2016).

Moreover, if some defective products are produced, maintenance costs and other expenses will increase. Not only that, the selling price is often eroded

by defective products. To overcome product defects, every company must have a quality control department in charge of checking whether the product is defective before being marketed. This company is engaged in the textile sector which is often found with defective products.

To respond to the frequent finding of defective fabric products, it is therefore necessary to control the Quality of existing products to reduce defective products later (Omar, 2016). One of the basic ways of controlling product quality is to make corrections to elements related to production and evaluation of results. So with proper quality control the company will know how to overcome existing problems and get useful results for the following excretion process.

Quality control is a system that consists of testing, analysis, and actions that must be taken using a combination of all equipment and techniques that are useful for controlling the quality of a product with minimal costs, in accordance with the wishes of consumers. Whereas to know the meaning of quality control, we need to know first the meaning of "control" and "quality". Quality control can be defined as the overall way we use to determine and achieve quality standards. In other words, quality control is to plan and implement the most economical way to be able to make a product that will benefit and satisfy the demands of consumers to the fullest (Sisay, 2019).

There are many different methods and techniques used in quality control, including statistical process control, inspection, and testing. Statistical process control involves analyzing data about a manufacturing process to identify patterns or trends that may indicate problems. Inspection involves visually inspecting products for defects or errors, while testing involves subjecting products to a series of tests to ensure that they meet specific standards.

To solve quality problems, the seven QC tools used are Pareto Charts, Cause & Effect Diagrams, Histograms, Control Charts, Scatter Charts, Graphs and Check Sheets. These tools are essential tools used extensively in manufacturing to monitor overall operations and continuous process improvement. This tool is used to find out the root cause and eliminate it to improve the manufacturing process.

The Seven Quality Control (QC) Tools are a set of techniques that are commonly used in quality management to analyze and solve quality-related problems. These tools are simple, yet effective, and can be applied in various situations to identify, analyze and solve problems (Lemma, 2019).

1. Pareto Chart: This tool is used to identify the most common problems or issues in a process. It is a graphical representation of data that helps to prioritize issues by showing the frequency and cumulative impact of each problem.

2. Cause and Effect Diagram: Also known as Ishikawa or Fishbone diagrams, this tool helps to identify the root causes of a problem. It is a visual representation that helps to break down a problem into its individual causes and sub-causes.
3. Histogram: This tool is used to display the distribution of data. It is a graphical representation of the frequency distribution of a set of data, usually displayed as bars.
4. Control Chart: This tool is used to monitor the quality of a process over time. It is a graph that displays data over time and shows how the process is performing within acceptable limits.
5. Scatter Chart: This tool is used to identify relationships between two variables. It is a graph that displays data points on a two-dimensional plane to show the relationship between two variables.
6. Graph: This tool is used to display data in a simple and easy-to-understand format. It is a visual representation that can help to identify trends and patterns in the data.
7. Check Sheet: This tool is used to collect and organize data. It is a simple form that helps to standardize data collection and analysis, making it easier to identify problems and trends.

B. Formulation of Research Problem

In accordance with the limitations of the existing problems, the problems that will be discussed in this study are as follows:

1. How is product damage minimized with Quality Control tools?
2. What are the factors that cause quality failure in batik products produced by Sogan Batik Rejodani?

C. Purpose of the Research

1. To analyze the Quality Control on Sogan Batik Rejodani in reducing the risk of product damage.
2. To find out what factors cause quality failure in batik products produced by Sogan Batik Rejodani.

D. Benefit of the Research

1. Theoretical Benefit
 - a. As a writing reference for further research
2. Practical Benefit
 - a. This study provides an overview of how Seven Tools of Quality Control is implemented in Batik companies to reduce product defect.
 - b. The company can reduce the occurrence of product damage that occurs due to causes in the manufacturing process as well as other causes.

- c. The company can find out the factors that cause defects in embroidery products to improve the quality of products in meeting customer expectations.
- d. And this research has implications for consideration of company policy in responding to and understanding how important production and process management is in producing two company products to increase a company's income.

