

## Implementation of Total Quality Management (TQM) in Plywood Production Control (Case Study of PT. SJL Global Tbk Samarinda)

Astitionsyah<sup>1</sup>, Zainal Abidin<sup>2</sup> Ike Purnamasari<sup>3</sup>

<sup>1</sup>(Master of Management, Faculty of Economics and Business, Mulawarman University, Indonesia)

<sup>2</sup>(Master of Management, Faculty of Economics and Business, Mulawarman University, Indonesia)

<sup>3</sup>(Master of Management, Faculty of Economics and Business, Mulawarman University, Indonesia)

**ABSTRACT:** This study aims to analyze the implementation of Total Quality Management (TQM) in controlling plywood production at PT. SLJ Global Tbk, Samarinda. This study uses a qualitative descriptive method to evaluate the effectiveness of the implementation of TQM principles, such as customer focus, continuous improvement, and participation of all parties in production control. The results of the study indicate that the implementation of TQM at PT. SLJ Global Tbk has succeeded in increasing production efficiency and reducing the level of product defects, so that it can provide added value to the company and increase customer satisfaction.

**Keywords** - Total Quality Management (Tqm), Production Control, PT. SLJ Global Tbk, Continuous improvement

### I. INTRODUCTION

Plywood or often called tripleks or plywood is a type of manufactured board consisting of layers of wood (wood veneer) glued together. PT SLJ Global Tbk which is used as a case study in this research is a public company in the field of integrated wood processing industry and exploitation of natural forest products that produces plywood with its head office in Jakarta and operational center in Samarinda, East Kalimantan. PT SLJ Global Tbk was established on April 14, 1980 under the name PT Sumalindo Lestari Jaya Tbk which since the beginning has managed a forest area of 132,000 Ha and a plywood factory with a production capacity of 66,000 m<sup>3</sup>/year.

In the operational process of plywood production, the company management implements Total Quality Management (TQM) which is supported by:

1. Quality Control (QC), which is the part that ensures that the products produced are of high quality and meet production quality standards.
2. Quality Control Group (GKM), which is a quality control approach through increasing employee participation.
3. Final Quality Inspection (FQI), which is an inspection of finished products as a whole, from appearance to functionality.

In facing the post-COVID-19 recovery, competition in the industrial revolution era and global market conditions, and to produce plywood production that still has very good quality as before, Total Quality Management (TQM) can be applied by management in company operations to control plywood production. Where currently in running the operations of a plywood company, various problems are found, such as:

1. In the implementation of TQM, one time you can face obstacles either due to technical or non-technical problems.
2. Methods and strategies that are not in accordance with the implementation of TQM.
3. Lack of consistency in the implementation of Quality Management, resulting in deviations from the quality of employee performance which has an impact on plywood production.

The implementation of TQM in accordance with the right concepts and principles is expected to overcome these existing problems. Based on the background that occurred, the research conducted raised "Implementation of Total Quality Management (TQM) in Plywood Production Control" by taking a case study of a public company engaged in the plywood industry, namely PT SJL Global Tbk which is located in Sengkokotek Loa Janan Ilir, Samarinda City, East Kalimantan Province.

### II. LITERATURE REVIEW

#### Industrial Company Management

In the book Industrial Company Management, Minto Waluyo said that industrial company management is a series of activities to create value in the form of goods and services through the transformation of input into output. Where activity is a process or a set of activities that require one or more inputs, change and add value to the input, so that it can provide one or more outputs for customers. Input consists of human resources (labor), capital (equipment and facilities), purchase of raw materials and services, and land and energy. While the output is goods and services. Minto Waluyo further explained that industrial company management is identical to operations management and is related to industrial management, and quality management.

There are 10 (ten) strategic decisions in industrial company management consisting of Service and product design; Quality management; Process and capacity design; Location; Layout design; Human resources and job design; Supply Chain Management; Inventory, material requirements planning, and JIT (just-in-time); Intermediate, short term, and project scheduling; Maintenance. (Haizer & Render, 2011:39).

### Operations Management

Operations Management is a series of activities that create value in the form of goods and services by transforming inputs into results. (Heizer & Render, 2019:3) According to Heizer and Render in the book Operations Management, competitive advantage is the creation of a unique advantage over competitors by including: Competing on Differentiation, Competing on Cost, and Competing on Response.

### Industrial Management

According to Muhamad Ali in the book Industrial Management, Industrial Management includes Management and Organization, Decision Making, the Role of Management in Industry, Operations and Production Management, Quality Management Systems, Human Resource Management, Information Systems Management, Product Design and Industrial Processes, Work Procedures and Ergonomics, and Quality Management.

### Quality Management

Quality management of a production process cannot be separated from what is called quality, quality management systems, and total quality management known as TQM. Quality is something that is unique and abstract so that each expert has a different view even though it is essentially the same. Philip B. Crosby argues that quality is conformance to requirements of specifications, using a top-down approach. (Ali, 2018:147-148) W. Edwards Deming put forward the definition of quality as problem solving to achieve continuous improvement, using a bottom-up approach, where continuous improvement is the focus in understanding quality. (Ali, 2018:148). Westinghouse argues that quality is work performance that can meet customer desires quickly and accurately. Meanwhile, Joseph M. Juran argues that quality is fitness for use, with an approach that is more oriented towards meeting customer expectations. A product that does not match its use is said to be of poor quality. (Ali, 2018:148)

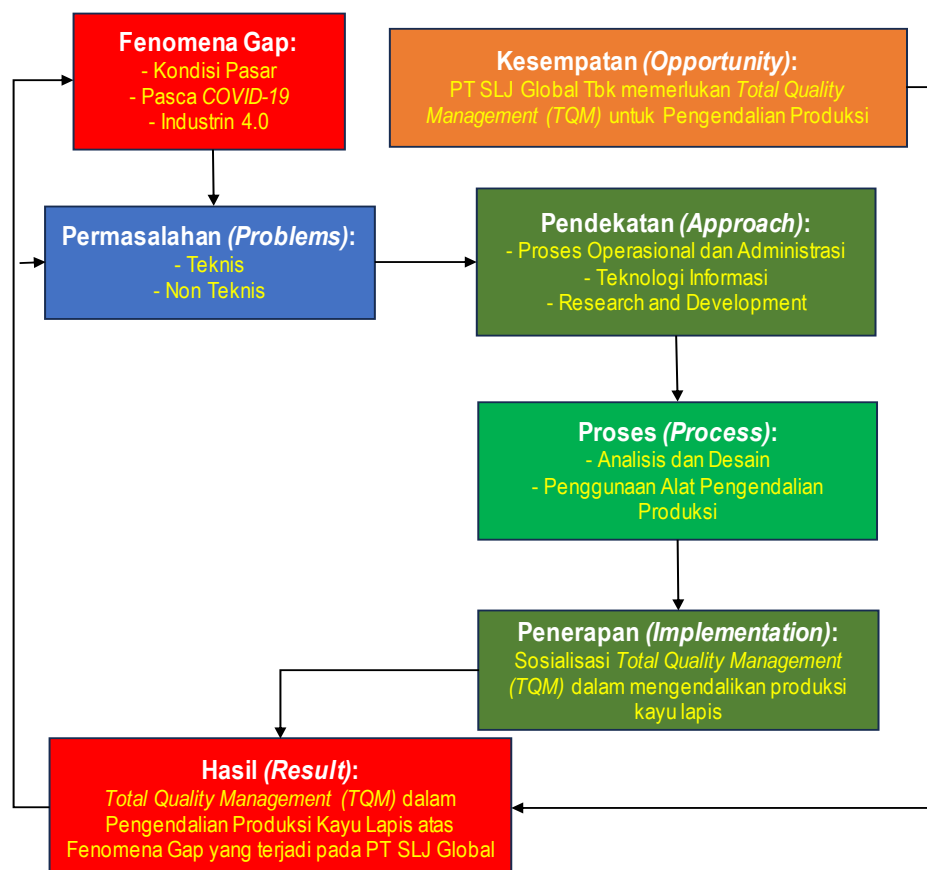
### Total Quality Management (TQM)

Total Quality Management is one of the approaches in quality management that is widely used by large companies because it is believed to be able to significantly improve industrial performance.

## III. CONCEPTUAL FRAMEWORK AND HYPOTHESIS

The conceptual framework of the research on the Implementation of Total Quality Management (TQM) in Plywood Production Control with a case study at PT SLJ Global Tbk is in Figure 1 as follows:

Figure 1 Conceptual Framework



Based on the background of the research and the conceptual image above, the problem formulated and focused on in this research is: "How can Total Quality Management (TQM) help the plywood industry company, namely PT SLJ Global Tbk in the process of controlling plywood production to deal with existing problems?"

#### IV. RESEARCH METHODS

The research method used is the Qualitative Research Method, where the research on the application of Total Quality Management (TQM) in controlling plywood production with a case study at PT SLJ Global Tbk will be carried out using Naturalistic Research or often called Qualitative Methods to obtain data with qualitative descriptive research in providing descriptions and descriptions of the phenomena studied for use in Qualitative Data Analysis using data collection techniques and data processing approaches.

##### Population and Sample

In qualitative research, the sampling techniques that are often used are purposive sampling and snowball sampling. Purposive Sampling is a technique for taking samples of data sources with certain considerations, such as people who are considered to know the most about what we expect or maybe they are the rulers so that it is easier for researchers to explore the objects/social situations being studied such as Owner, Deputy Chief Executive (DCE), Production Manager, and Head of Quality Control. Snowball Sampling is a technique for taking samples of data sources, which at first the number is small but over time becomes large because the small number of data sources is not yet able to provide complete data so that other people are sought who can be used as data sources. (Sugiyono, 2010:300) Determination of samples in qualitative research is carried out when researchers begin to enter the field and during the research by selecting certain people who are considered to provide the necessary data, and based on the data and information obtained from the sample, researchers can determine other samples that are considered to provide more complete data and information.

In this qualitative research, the data source sample is still temporary, including:

1. Deputy Chief Executive (DCE).
2. Production Manager.
3. Head of Quality Control.
4. Head of Production Administration.
5. Sales Manager.
6. Warehouse Manager.
7. Procurement Manager.
- 3.4 Data Collection Techniques

##### Data Collection Techniques

The data collection that will be carried out is the collection of primary data and secondary data, where primary data is data that is collected directly or obtained from direct sources to be used as analysis material, while secondary data is data that is obtained indirectly or from the party collecting the data. In the qualitative research that was carried out, data collection was carried out in Natural Settings (natural conditions) with primary data sources and data collection techniques were more on participant observation, in-depth interviews, and documentation.

##### 1. Participant Observation.

In this observation, directly involved in daily activities that are used as sources of research data, while doing what the data sources do and listening to what they say. This observation activity is carried out in 3 (three) stages, namely Descriptive Observation, Focused Observation/Reduction, and Selected Observation. Entering Social Situations: there are places, actors, activities Determining Focus: Choosing among those that have been described Breaking Down Focus: Into more detailed components Conclusion Conclusion Conclusion Data collection is carried out accompanied by observation sheets, observation guides, and observation guides in the form of observation sheets/schedules.

##### 2. In-Depth Interviews

In this qualitative research, the interviews used are semi-structured and unstructured. Semi-structured interviews to find problems that are formulated more openly where the interviewee is asked for opinions and ideas and listens to and records what is stated by the informant. Unstructured interviews for free interviews without using systematically arranged interview guidelines, but rather directed at the objects and informants being interviewed while still adhering to the 5W (Who, Why, What, When, Where) and 1H (How). Interviews are aimed at the middle level of management.

##### Data Analysis

To assist in the process of data analysis from qualitative research conducted, NVivo is used, a software for the development, support, and management of qualitative data analysis whose main function is to code data effectively and efficiently. NVivo is very helpful in qualitative research that faces the greatest challenges with the problems of subjectivity (researcher-biased), validity, and reactivity.

##### Discussion

Based on the research results obtained both through observation or direct observation in the field both by observing the operational process of plywood production and the administrative process carried out starting from the location of procurement of raw materials for log wood as material to the process of cutting, processing, finishing and entering the warehouse ready for shipment, including the results of direct interviews with sources by researchers, it can be said that "The implementation of Total Quality Management (TQM) in Plywood Production Control at PT SLJ Global Tbk is in accordance with the principles of TQM.

Basically, plywood companies in implementing total quality management have been carried out systematically by a system that has been designed by several managers with operational standards that apply to the company, one of which is the company using the ISO 9000 operational standard so that there are no audit activities and all are controlled by the system that runs and applies in the company such as the Quality Plan (QP) specifically production refers to applicable standards. This discussion contains several questions with sources who are interested or who understand, know about the ongoing production control process, examples of some answers from the interview results:

1. The view of the Head of Plywood Production on the Implementation of Total Quality Management in Production Control" that this company, namely PT.SLJ, is a very large company and has several subsidiaries that have implemented total Quality management in accordance with the aspects that have been prepared starting from quality human resources, technology that helps the running system, machines that process production results, quality control (QC) in order to be able to analyze the results of quality production.
2. Providing an overview of the quality of wood production in controlling the system faced such as log selection, of course has certain criteria such as size, type, and quality and this section is to find out the log grade such as, grade A, B, C and D for example starting from the log cutting machine site A for the level of defects from not having eyes so that the process is immediately separated by the machine, from these four grades there is an exception, namely grade D where grade D is defective material both from the site, the exception is about this log that is purchased by the company and this is almost no continuous incident in the production control process.
3. Control carried out by several employees who hold direct production positions starting from supervising log cutting to checking tasks when the product assembly process takes place. This check is carried out at every stage of production. This means that if a product is found to not meet standards at a certain stage, the product will not proceed to the next production stage.

### V.CONCLUSION

The implementation of Total Quality Management (TQM) in controlling plywood production at PT. SLJ Global Tbk Samarinda has made a significant contribution to improving product quality and production process efficiency. Through the implementation of TQM principles, the company can reduce the number of defects in products, increase customer satisfaction, and optimize the use of resources. The main focus of TQM at PT. SLJ Global Tbk includes continuous improvement, improving employee skills, and implementing a strict quality control system at every stage of production.

From this study, it can be concluded that:

1. Continuous Improvement: TQM encourages continuous improvement in the production process, which significantly impacts the final quality of plywood products.
2. Employee Involvement: Active employee involvement in quality control has a positive impact on individual motivation and responsibility for product quality.
3. Customer Satisfaction: The implementation of TQM has increased customer satisfaction through more consistent and high-quality products.

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