

CHAPTER 1

INTRODUCTION

1.1 Background

The production system in a company is a crucial aspect of the industry, functioning as a process that transforms various inputs such as human resources, raw materials, energy, technology, and information into outputs in the form of products that meet specific company standards and criteria. Designed to maximize efficiency and effectiveness, the production system aims to meet daily production while minimizing costs without compromising quality, thereby enhancing overall profitability. Achieving this requires a well-planned and carefully executed process, from material processing to assembly, supported by collaboration among multiple individuals to ensure a fair and effective system that fulfils consumer needs.

PT XYZ is one of the tobacco manufacturing industries located in Diponegoro Street No. 185, Kalongan Village, Purwodadi District, Grobogan Regency, Central Java, under PT HM Sampoerna. Established with a vision to dominate the tobacco sector, the company has strategically positioned itself to leverage Indonesia's rich tobacco cultivation environment. Although the company has not been established for long, PT XYZ has expanded its production capacity to ensure high standards of quality and compliance with global manufacturing practices.

The production capacity in PT XYZ is based on the demand from PT HM Sampoerna. PT XYZ will handle the overall manufacturing process, starting from handling the raw materials until the finished product in the form of a package that will be delivered to PT HM Sampoerna, but not the marketing of the cigarette. The company is responsible for the fulfilment of the demand made and ensuring the quality of the finished product meets the standard.

1.2 Problem Exploration

After interview with the production department supervisors, production head, manager, quality control supervisor, and the cell leaders, there are several problems that are explained. Here is the result from the interview:

a. The production department supervisors

The production department supervisors have the responsibility to lead the cell leaders and brief the daily production starting from the rolling section until the end process, which is the packaging. There are several people with this role, and the difference between them is the section of the production that they manage. The concern is that the daily production of cigarettes cannot meet the targeted weekly demand which causing overtime work at the Sunday. The main issue is an imbalance in the production line, leading to suboptimal production efficiency.

b. The production head

The production head has responsibility for making the production planning for the production department based on the demand made by PT HM Sampoerna. The production head will later brief the supervisors on his daily production plan. He is concerned that the production capacity is still below the standard, causing issues in production planning and execution.

Table 1.1. Example of Overtime Work Production

Day	Working Hour	Production Planning / day	Production/ day	Weekly Demand
Monday	7	2,100,000	1,862,400	12,150,000
Tuesday	7	2,100,000	1,910,400	
Wednesday	7	2,100,000	1,910,400	
Thursday	7	2,100,000	1,876,800	
Friday	7	2,100,000	1,992,000	
Saturday	5	1,650,000	1,392,000	
Sunday	5	-	1,206,000	

c. The cell leaders

The cell leaders are responsible for managing the workers in each cell in the production line. Each leader manages three to four cells, with the exact number depending on the number of workers in each cell. They faced trouble fulfilling the production capacity set by the supervisors. Their primary concern is the skills and absence of workers, which frequently lead to changes in the already-made production plan.

d. Quality Control Supervisor

The quality control supervisor is responsible for overseeing the quality of cigarette during the production. The concern is the bad quality in the cigarette that the workers produced, especially in the rolling and cutting section.

e. Manager

The manager is the person that responsible for overseeing all the operation that works in the company. The main concern that he has is the worker skills and enthusiasm in the work, because many workers tend to get discouraged due to high demand in the production and overtime work on Sunday that almost occurred every week. Table 1.1 shows one of the example from daily production report that needs overtime work on Sunday.

From the interview with all five stakeholders, the problem centred in the actual daily production that is being unstable due to various causes such as low-quality cigarette, workers that are not up to standard, and inefficiency in the production line which causing overtime work on Sunday. The stakeholders want to eliminate the overtime work on Sunday.

1.3 Problem Statement

The primary problem faced by PT XYZ Moro is inconsistent actual daily production that made the company has overtime work on Sunday to fulfil the weekly production demand.

1.4 Research Objectives

Based on the problem statement, the purpose of this research is to propose a solution that can be applied in PT XYZ to solve inconsistent daily production and eliminating overtime work on Sunday.

1.5 Scope of Limitations

This research focuses solely on the production department of PT XYZ. The study will not involve any changes to the overall dimensions of the factory or production space. Additionally:

- a. The research is limited to improvement in the *kemas* and pack department
- b. Restriction in the implementation of the prototype design by limiting the implementation on the internship workstation only

- c. There will be no expansion of the factory's physical structure, limiting layout changes to existing spaces.
- d. The implementation from this thesis shall be considered, but the company does not give a guarantee of full implementation

