CHAPTER 1
INTRODUCTION

1.1 Background

PT Alwanas Lestari Internasional is a briquette manufacturer located in Tengklik, Ngrodon, Jelobo, Kecamatan Wonosari, Kabupaten Klaten, Jawa Tengah. The company began producing briquettes in 2017 under the name CV Global Alam. On February 16th, 2021, it changed its name into PT Alwanas Lestari Internasional. The company sells briquettes in various shapes and sizes according to customer demands, primarily serving international markets in the Middle East, Europe, and America.

This company produces 2 kinds of briquettes. The briquettes for export and the local markets are distinguished by the material and quality of the briquettes. Export briquettes fully use coconut materials from two different origins, i.e.: Banyuwangi coconut charcoal mixed and Lombok coconut charcoal. On the other hand, most of the materials used for local briquettes use coconut charcoal mixed with ash or wood charcoal so that the quality produced is lower than briquettes for export.

For export products, this company makes briquettes according to customers' desires. So that the brands, shapes, and sizes of export briquettes can be accustomed based on customers' orders. The sale of local briquettes uses its trademark, namely "Briket Lestari". This product is sold to meet local needs such as henhouse, restaurants, and households. Figure 1.1. shows the Briket Lestari products.



Figure 1.1 Briket Lestari

Most briquettes produced at PT Alwanas Lestari International, especially its export products, are used for shisha. The most popular forms are cube and hexa while the sizes depend on the users' preferences. Another function of the briquettes is for barbeque in

restaurants. The restaurant briquettes are in the form of small cubes (25mm) or large hexa (40x100mm) with the size depending on the incinerator used. In addition, briquettes can be used for heating chicken coops, spas, grilling satay, and others. Table 1.1 is a list of the shapes and sizes of briquettes produced by PT Alwanas Lestari Internasional.

Table 1.1 Briquette shapes and sizes

Shapes	Sizes (mm)
Cube	22x22
	25x25
	26x26
	27x27
	28x28
Block	26x26x30
	26x26x35
	26x26x37
	25x30x40
BBQ	Cube 25
	40x100
	50x100
	50x200
Cuba	21x35
	21x40
Grill	50
	90

Shapes	Sizes (mm)
Hexa	22x40
	22x45
	22x50
	23x45
	23x50
	24x40
	24x45
	24x50
	24x52
	24x54
	24x55
	24x55
	24x56
	24x60
	25x40
	25x50

The business process at PT Alwanas Lestari Internasional involves several parties starting from customers to divisions of marketing for locals, purchase orders, production, quality control, logistics, packing, warehouse, and exports. This process starts with the customers ordering the product from the marketing division or directly from the director of the company. The company director will accept or reject the order, and the order data will be recorded and provided to the operational manager. The operations manager will create a daily work order to determine production for that day. If the materials are available, the production process will start. If there is a shortage of materials, they will fulfill parts of the order with the available materials.

PT Alwanas Lestari Internasional sells its products to other companies, or Business to Business (B2B). This allows the company to offer a wide variety of products, depending on consumer preferences. Consumers can order products according to their needs, as shown in Table 1.1, in various shapes and sizes. In addition to the various shapes and

sizes, the quality of the product in each shape and size can be adjusted to the product's use, because the same shape and size can have different compositions for different product uses. Because B2B also allows this company to create brands according to consumer brands, they can be directly reselling without changing the packaging. This is why the company uses a Make-to-Order (MTO) manufacturing system. Due to the many differences in order specifications from each customer or brand, the production process can only produce one order at a time. This type of production results in longer order fulfillment times, because consumers must wait for the production and shipping process after placing an order.

The production process takes approximately 5-7 days, from milling to oven finishing. During this time, the quality control division assesses the production quality at various stages, including material receipt, milling process, mixer process, blending, and during the oven process. As part of the quality control process, briquettes are burned to evaluate combustion characteristics, such as ash color, cracks, and odor. Additionally, strength testing is conducted by dropping the briquettes from 125 cm height to ensure they do not break. Once the oven-baked briquettes pass these tests, they are packed into sacks and sent to the packing department which is different factory from the production process.

The briquettes are packed in plastic and cardboard and stored in the warehouse, waiting for the delivery process. In this section, the export division will arrange the delivery and order a container truck. The export division will take care of the necessary files among others are certificate of origin (COO), invoice, *nota pelayanan ekspor* (NPE) or export service memorandum, *pemberitahuan ekspor barang* (PEB), bill of lading, and telex release. The delivery process can take 1-2 months depending on the ship and the destination. Once the container arrives at its destination, a Telex Release or Bill of Lading will be issued to the customer to collect the container. With these documents, the customer can pick up their briquettes.

As a growing company, PT Alwanas Lestari Internasional aims to expand its business to become more advanced and recognized by the public through its products. To achieve this goal, thorough planning is required for the company’s development. This includes improved management and corporate systems, as well as refining business processes and company systems.

1.2 Problem Exploration

The process of identifying the problem involves direct observation and interviews with various stakeholders connected to the issue. There are several internal stakeholders in this company, namely, the commissioner, director, operational manager, financial

manager, VCO manager, admin, marketing, and HRD. The commissioner and director are held by Mr. Acang and Mrs. Lina who are a married couple. Currently, the commissioner is responsible for running production operations and supervising production. The director is responsible for managing operational management activities and supervising company administration. The operational manager is responsible for operational activities, especially in ongoing briquette production activities. The financial manager is responsible for running the company's finances, especially in cash out and in. The VCO manager is responsible for managing the production, stock, and marketing of VCO products. Marketing is responsible for running the marketing process in the company and finding customers for the local markets. HRD is responsible for carrying out employee recruitment and payroll activities. The admin is responsible for recording files into digital using excel.

After conducting interviews with several stakeholders regarding the obstacles or problems faced, there are several notes regarding the problems faced. Table 1.2. explains the description of the problems in the company.

Table 1.2 Problem description

Stakeholder	Problem Description	Needs
Commissioner	Worker compliance with SOPs in briquette ovens.	Comply with existing SOPs
Director	Hard to find the market, especially the export in the Middle East. Coconut raw materials for charcoal and oil are scarce because they are exported directly. Difficult to find skilled staff. There are differences between written data and products in the field. To check files, must request the files directly from each division.	Integrated system for each department for data collection and data transmission
Operational Manager	If there is no material available, then there is no production process. Weighing techniques for incoming goods, and shipping goods using sample techniques. Maintaining the quality and shape of the briquettes to meet standards.	Not addressing needs
Finance Manager	Checking cash in and cash out is still manual. Payment activities are still from the director.	Not addressing needs

Table 1.2 Problem description (continuation)

Stakeholder	Problem Description	Needs
Marketing (Local)	It's hard to find a market and the market is still uncertain.	Integrated system for each department for data collection and data transmission
	Sales data collection and processing are still manual, especially from agents.	Online sales training
	Must check or reconfirm orders being prepared to other divisions before the goods delivery process.	
	Online sales through online stores are not running because there is no one to run it.	
Procurement	Still learning and getting used to their job description.	Not addressing needs
	Still not sure what items to buy.	
	Still working on HR job because had a role as an HR before.	
	There is no weighing process when the cardboard packaging arrives.	
	Stock checks are only conducted every month or when needed.	
HRD	It's hard to find employees for the production department, they can leave in 1-2 days.	Not addressing needs
	It is difficult to find experienced factory workers and office staff.	
	Most of the factory workers' education is in elementary school.	
	HR staff do not want to use computers or Excel.	
Customer	Long product delivery process	

The problems above were obtained from interviews in September 2024 with directors, managers, and several employees at PT Alwanas Lestari International. Each department has its problems related to human resources, methods, information systems, and others.

The problem experienced by customers is the prolonged process of orders fulfilments. This is due to the long lead time of order fulfilment from customers ordering products to receiving products. This data was obtained from the results of interviews with directors, because the director communicated directly with consumers regarding product orders and received complaints about the prolonged process of orders fulfilments. The problem of prolonged process of orders fulfilments is the main problem faced by the company for now.

A case that has occurred and affected long customer orders is when the production process is stopped because the material runs out. This happens because there is no calculation of the availability of raw materials for the production process. So that the material runs out when it will be needed for the production process, while the material has not been ordered, this adds to the lead time process for production from waiting for the material order to arrive. This case can occur because in the company there is no production planning and material usage, and material safety stock to determine the time of the material order. The material ordering process only uses estimates from production operators and there is no calculation.

The customer order fulfilment process at PT Alwanas Lestari Internasional starts from the order that received by the company until the product is delivered. The order will receive by the director and then forwarded to make the PO (Purchase Order) invoice. Then it will wait for the production process queue. The production process can run for 5-7 days until the briquettes are finished. At one time the production process can run 3 orders or Pos. After the production process, the briquettes will be sent from the Pacing Factory to the Tengklik Factory for the packing process. The packing process can take 3 days. After that it will wait for the export process. The shipping or export process can take up to 3 months from Indonesia to Lebanon for example. This is due to several factors such as waiting for the shipping ship schedule, the transit process in other countries, the shipping process by ship, and weather factors.

Table 1.3. Order Fulfillment Lead Time

Process	Duration
Order receipt and invoice creation	3-7 days
Down Payment	7-14 days
Production process queue	3-7 days
Production process	5-7 days
Packing process	3 days
Export preparation	14 days
Delivery process	3 months

Table 1.3. is the time data that obtained from various company documents, such as purchase order data, production reports, packing reports, and product export process data, as well as observations. The company itself does not directly record the required processing time, so calculations and retrieval of appropriate time data are required. From the timetable, the time from the consumer making an order offer until the product is ready to be shipped is 35 days at the fastest and 52 days at the latest.

Order acceptance can take 3-7 days due to the bidding process and negotiations with customers, followed by the down payment process, which can take 7 to 14 days. After that, there's still a 3-7-day wait for the production queue. The production process itself can take 5-7 days. After production, the briquettes are packaged, which can take 3 days. Furthermore, the product requires a 14-day quarantine period before export to ensure it is safe for shipment. The shipping process itself can take 3 months, depending on the export destination country.

From the problems given by stakeholders and the time data in Table 1.3, the problem that emerged was providing long customer orders. Each stakeholder issue contributed to the long lead time for providing customer orders. For example, material shortages halted production, manual data submissions slowed information exchange, human resource limitations, and the absence of an integrated information system prolonged coordination between departments. These operational issues collectively increased the overall lead time for customer orders. Therefore, this final project focuses on long customer order delivery times as this represents a bottleneck caused by operational issues of stakeholders and directly affects customer satisfaction.

After obtaining the interview results and time data, these problems were then grouped according to their categories, namely human resources, data processing, and business processes. Table 1.4 shows the grouping of problems obtained.

Table 1.4 Problem grouping

Problem Group	Problems
Human Resource	Existing human resources lack skills and experience
	Online sales through online stores are not running because there is no one running it.
	Hard to find employees for the production department, they can leave in 1-2 days.
	It is difficult to find experienced employees for factory workers and office staff.
	Most of the factory workers' education is elementary school.
	HR staff do not want to use computers or excel.

Table 1.4 Problem grouping (continuation)

Problem Group	Problems
Data Processing	There are differences between written data and products in the field. To check files, must request the files directly from each division. Checking cash in and cash out is still manual. Have not found and used a digital system for data collection. There are differences in stock data of up to 27 pcs. Sales data collection and processing are still manual, especially from agents.
Business Process	To check documents, must request the files directly from each division. If there is no material available, then there is no production process. (warehouse management) Weighing techniques for incoming goods, and shipping goods using sample techniques. (warehouse management) Maintaining the quality and shape of the briquettes to meet standards. (production) Payment activities are still from the director. (finance) Must check or reconfirm orders being prepared to other divisions before the goods delivery process. (sales) There is no weighing process when the cardboard packaging arrives. (warehouse management) Stock checks are only conducted every month or when needed. (warehouse management)

After categorizing the problems into three categories, human resources, data processing, and business processes. The problem category that most affects the order fulfilment process is the Company's business process. This category is the core of the Company's process that regulates the flow of the order fulfilment process. In addition, because this category was found to have the most problems that emerged.

Business processes are the backbone of the company's operations, serving as the foundation for all activities and requiring adherence from all departments within the organization. PT Alwanas Lestari International currently lacks well-defined and effective procedures for managing its business processes. As a result, the company does not have consistent standards for operations, leading to variations in processes across different cycles and causing inefficiencies in time.

The long delivery process is influenced by two factors: the order fulfilment process from the time a customer places an order until the product is shipped, and the prolonged shipping time from third-party logistics providers.

The problem groups affecting the order fulfilment process factor include:

a. A business process that is not yet optimized to reduce order fulfilment time.
b. Lack of skilled human resources to improve processing time efficiency.
c. Manual data processing, which adds to the order fulfilment time.

Based on the problems identified by stakeholders and the problem grouping, the problem identified was the longtime customer order fulfilment process, caused by three factors: unoptimized business processes, a lack of human resources to improve time efficiency, and manual data processing. Of these three factors, the most significant factor influencing the customer order fulfilment process was the unoptimized business process. This was related to inefficient operational and administrative activities.

The customer order fulfilment process itself begins with receiving the order, then production, packaging, and export or shipping. Customers place orders, which are then processed by the company. This processing time is considered a lead time for customers. Companies must minimize this lead time to improve customer satisfaction.

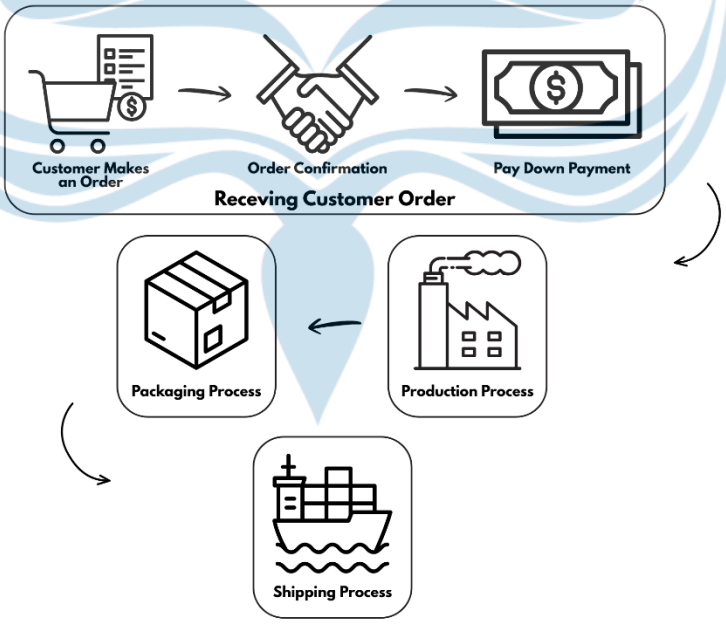


Figure 1.2 Customer order fulfillment process

Figure 1.2 shows a diagram of customer order fulfilment. Most operational and administrative processes are involved in the customer order acceptance process. To improve customer order fulfilment times, efficiency in these operational activities is

needed. Operational processes that can be improved include administrative processes for customer order acceptance, down payments, production queues, and the export or shipping process. Improving the export or shipping process will be difficult because it involves a large network of third parties, such as government agencies to manage export documents and shipping vendors, making it even more difficult to improve. Improvements in production and packaging processes are also impossible due to the Make-to-Order (MTO) system, which produces products as orders are received. Furthermore, the wide variety of products also creates operational differences for each order. Therefore, operational processes that can be improved include customer order acceptance, down payments, and production queues, which are all part of the customer order acceptance process.

The processing time for receiving customer orders, down payments, and the production queue as shown in Table 1.3 is 13-28 days. It takes quite a long time for operational processes, especially in receiving customer orders. Improvements are needed to shorten the time in this process.

PT Alwanas Lestari Internasional has a problem with the longtime customer order fulfilment process. This problem is caused by unoptimized business processes in the company, especially in operational processes such as receiving customer orders, down payments, and production queues, which are all part of the customer order acceptance process. Improvements to this process can improve the customer order fulfilment process.

1.3 Problem Statement

The main problem faced by PT Alwanas Lestari Internasional is the longtime process of fulfilling customer orders, especially in receiving customer order. This is supported by problems from stakeholders that fundamentally affect the customer order fulfilment process time.

1.4 Project Objectives

The objective of this final project is to reduce customer order fulfilment time at PT Alwanas Lestari Internasional. The Critical Success Factor (CSF) of this final project is to reduce customer order fulfilment time, especially in the process of receiving customer orders to less than or equal to 13 days. This aims to equalize the minimum time for the process of receiving orders, down payments, and production queues, which was originally 13 days.

1.5 Problem Limitations

The limitations of this final project are as follows:

a. The company's Make-to-Order (MTO) production system cannot be changed, as it is a strategic requirement for serving diverse B2B customer needs.
b. This final project does not examine the export process, as it involves multiple external parties such as government customs authorities and shipping vendors that are beyond the company's direct control.
c. This final project does not examine the duration of the product delivery (shipping) process, as it is handled by third-party logistics providers and is therefore beyond the company's control.
d. The proposed solutions are designed with consideration of minimal implementation cost, given the company's limited budget for process improvement.
e. The duration of the final project starts from September 2024 to 2026.