CHAPTER I
INTRODUCTION

Chapter one contains the background, problem formulation, research objectives, research scopes, and outline of the research report.

1.1 Background

The rapid development of the industry causes increasingly strong competition in various industrial sectors. Every company wants to increase productivity while still paying attention to the quality of the products produced. Product quality depends on the process, people, and the system as a whole (Azmiyati and Hidayat, 2016). One strategy that can be used by companies to win market competition apart from maintaining and improving the quality of their products is good supply chain management. Every company must realize that cooperation between companies in a coordination-based partnership through the development of supply chain management is an alternative strategy to be able to compete in today's increasingly competitive environmental conditions (Hastuti *et al.,* 2020).

Industry performers are starting to realize that to provide cheap, quality, and fast products, internal improvements in a manufacturing company are not enough (Pujawan, 2005). The participation of all parties is needed starting from suppliers who process raw materials from nature into components, factories that convert components and raw materials into finished products, transportation companies that deliver raw materials from suppliers to factories, as well as distribution networks that will deliver products to customers' hands. This is incorporated in a system called a supply chain management system. According to Rahardjo (2019) in Sriwana *et al.* (2021), supply chain management is a product distribution concept that can produce a more optimal product distribution pattern.

The importance of implementing good supply chain management so far is often only realized by large-scale enterprises, while medium and small-scale enterprises are not yet fully aware of the importance of good supply chain management. The correct application of supply chain management can be used to deal with and solve one of the problems that are often faced in the industrial sector, that is sudden changes in product demand which will affect changes in the number of orders for raw materials to suppliers and not all suppliers can fulfill their orders (Wulandari and Farid, 2021). Therefore, it is necessary to implement Supply Chain Management (SCM) correctly to increase the competitive advantage of the product and the supply chain system built in the company.

Small and medium industries have a strategic role to create a better economy (Prasetyo et al., 2021). This industrial sector is expected to be able to compete with the intense competition in the business world. Supply chain management in an industry is important to be applied in order to increase the company's competitive advantage. According to Kumar et al. (2013) in Hastuti et al. (2020), the application of supply chain management can overcome various uncertainties and variations in business, such as demand uncertainty, fluctuations in raw material prices, delivery delays, and seasonal demand. Hence, it is necessary to measure the performance of supply chain management to determine the relative position of the company against competitors as well as the objectives to be achieved and determine the direction of continuous improvement in these companies.

According to Pujawan (2005), effective supply chain performance management requires a measurement system that can evaluate supply chain performance holistically. One of the fundamental aspects of supply chain management is performance management and continuous improvement (Pujawan, 2005). However, in reality, only a few small and medium-sized companies, such as SMEs, measure supply chain performance, resulting in low competitiveness at the domestic and international market levels (Subhan et al., 2022). The company's selected suppliers that are not managed properly allow suppliers to be late in procuring raw materials for the company, which can reduce the performance of

suppliers and there is no transparency in bargaining prices between suppliers and the company (Mutakin and Hubeis, 2011).

Cabe Onang Chips SME is an SME that is engaged in food production, especially snacks. This business was founded by Mrs. Nurmanilawati who is usually called Mrs. Onang in 1996. Cabe Onang Chips SME is located at Jalan Ampang Karang Ganting No. 30, Lubuk Lintah, Kuranji District, Padang City, West Sumatra. Cabe Onang Chips SME sold P&D products and produced kue bawang at the start of this business. However, over time, this SME began to switch to producing three types of products, including cabe onang chips, jariang cabe onang chips, and kue bawang, which had been running for more than ten years. Cabe onang chips products can be seen in **Figure 1.1** as follows.

Figure 1.1 Cabe Onang Chips Product

The cabe onang chips product is the product with the highest demand compared to other types of chips. Cabe onang chips products are produced every day by this SME. On the other hand, the demand for jariang cabe onang chips and kue bawang is not very high, so that, these two types of products are only produced every other day or three times a week. Production of cabe onang chips begins with the process of frying the chip raw materials which are then stirred with chili

seasoning by a mixer machine, then filling the chips into plastic, and the final process is packing. The coordination that occurs from purchasing raw materials to delivering finished products to end customers is a Supply Chain Management (SCM) activity carried out by the Cabe Onang Chips SME.

The supply chain is a long channel that stretches from raw materials to components and to the final product that is delivered to the final customers. The supply chain for Cabe Onang Chips SME includes raw material suppliers, Cabe Onang Chips SME as actors in the production process, distributors, and retailers as providers of products before they reach the end consumers. The raw materials needed in making cabe onang chips include chip raw materials obtained from suppliers located in Payakumbuh, oil and flour obtained from suppliers located in Bypass, as well as chilies and seasoning obtained from suppliers located in Pasar Raya.

The problem that often occurs in Cabe Onang Chips SME is delays in the delivery of raw materials by suppliers. In addition, the amount of raw materials sent by suppliers is also sometimes less than the number of raw materials ordered by SME. Data on supplier delays in the process of sending raw materials can be seen in **Table 1.1** as follows.

Table 1.1 Late Delivery Data of Raw Material

Month	Raw Material Delivery (times)	Total Late Delivery of Raw Materials (times)
May-22	4	2
Jun-22	5	3
Jul-22	4	2
Aug-22	5	2
Sep-22	4	1
Oct-22	4	1

Cabe Onang Chips SME does not do forecasting for the number of product demands, so the SME orders chip raw materials from supplier only based on the average amount of production each day. This causes a difference between the actual raw material requirements based on the number of demands with the number of raw materials ordered. Another problem that often occurs in Cabe Onang Chips SME is that workers often ask permission does not attend to work. The problems of delays in the delivery of raw materials, demand forecasting was not carried out, and the absence of workers caused customer demand for cabe onang chips not to be fulfilled optimally. Data on customer demand for cabe onang chips that were fulfilled and not fulfilled from May 2022 to October 2022 can be seen in **Table 1.2** below.

Table 1.2 Demand Data for Cabe Onang Chips

Month	Number of Demands (pack)	Number of Fulfilled Demands (pack)	Number of Unfulfilled Demands (pack)
May	6682	6599	83
June	7702	7600	102
July	8060	7875	185
August	7088	6888	200
September	7205	7054	151
October	7477	7412	65
Total	**44214**	**43428**	**786**

Based on **Table 1.2**, it can be seen that the total unfulfilled demand for cabe onang chips products is 786 packs. The delay in the delivery of raw material for chips by this supplier hampered the production process at Cabe Onang Chips SME. This causes Cabe Onang Chips SME to buy raw materials for chips from other suppliers at higher prices. The purchase of raw materials for chips at a higher price causes an increase in production costs. In addition, purchases of raw materials for chips are also made in small quantities, resulting in many unfulfilled consumer demands. Unfulfilled demand for cabe onang chips provides an opportunity for competitors to meet consumer demand. This causes the competitiveness of companies in the industrial sector to decline.

The problems that occur in Cabe Onang Chips SME are problems related to the supply chain. The identified problems occur from upstream to downstream in the supply chain flow at Cabe Onang Chips SME. Problems in the upstream flow occur because suppliers are often late in delivering raw materials and workers are not present during the production process. Problem in the downstream flow occurs because customer demands are not fulfilled. Therefore, it is necessary to measure and evaluate the supply chain performance of Cabe Onang Chips SME to identify performance indicators that require corrective action to resolve these problems.

The measurement of supply chain performance at Cabe Onang Chips SME has never been done, so it is necessary to design a supply chain performance measurement system that is by the company's circumstances to know the total value of supply chain performance and the performance value of each indicator. In addition, with this performance measurement, companies can identify indicators with low scores, thus it is hoped that there will be improvements that are much more effective and more focused on the company. Therefore, it is important to measure the performance of supply chain in Cabe Onang Chips SME to create a competitive advantage in the market.

The results of supply performance measurements can be used to determine the direction of improvement to meet consumer demand optimally and create a competitive advantage in the supply chain. One of the directions for improving supply chain performance is to formulate a supply chain management strategy to achieve competitive advantage and better performance. The position of the SME supply chain needs to be known in advance in formulating a strategy. This can be known by analyzing internal factors and external factors in the supply chain. These factors will then be used as the basis for formulating strategies to improve supply chain performance.

The process-based reference model that is often used in measuring supply chain performance is the Supply Chain Operations Reference (SCOR) model (Liputra *et al.,* 2018). Sriwana *et al.* (2021) in their research conducted a measurement of supply chain performance at UD Ananda and succeeded in determining performance indicators that were far from the company's target so that it became a priority for improvement. Syahputra *et al.* (2020) also used the SCOR model in their research to analyze and measure supply chain performance at PT Sinar Mayang Lestari. In addition, to the SCOR model, other performance measurement methods that can be used to measure supply chain performance are the balanced scorecard and performance prism. Hasan *et al.* (2016) used the balanced scorecard method in their research to measure supply chain performance at PT P&P Lembah Karet. Legaretsa and Purnamawaty (2021) used the performance prism method in measuring the performance of suppliers and employees at PT XYZ.

The Supply Chain Operations Reference (SCOR) model is used to analyze and measure supply chain performance in Cabe Onang Chips SME. SCOR is a reference model of supply chain operations based on the process and overall. According to APICS (2018) in Liputra *et al.* (2018), the SCOR model was chosen because it can link business processes, performance metrics, standard practices, and people skills into an integrated structure. In addition, the SCOR model also covers the functions of supply chain management as a whole including operational processes, such as market interactions, interactions with customers, and physical transactions (Sriwana *et al.*, 2021).

Measurement of supply chain performance requires determining the priority level of Key Performance Indicators (KPIs) used in the measurement that shows the effect of these KPIs. Sriwana *et al.* (2021) used the Analytical Hierarchy Process (AHP) method in weighting each level and a validated Key Performance Indicator (KPI), resulting in an overall performance score and detailed performance scores for each indicator. In addition, Rosdiani *et al.* (2022) measured supply chain

performance with the SCOR method assisted by the FAHP (Fuzzy Analytical Hierarchy Process) method in the process of determining the weight of each metric.

The method used to determine the priority of KPIs in this research is the Analytical Hierarchy Process (AHP) method. The AHP method gives the weight of the calculation of each indicator in measuring supply chain performance. The AHP method is used because it can provide a comprehensive and rational framework for structuring decision-making problems (Damanik, 2017). If the KPI priority level is high, it means that the KPI has a big influence in measuring supply chain performance and vice versa level (Hasan *et al.*, 2016). The priority level results show the ranking of KPIs sorted from the highest priority level to the lowest priority.

**1.2   Research Questions**

The research questions of this final project are as follows:
1.   What is the performance of supply chain in Cabe Onang Chips SME?
2.   What is the supply chain performance improvement strategy that can be proposed for the Cabe Onang Chips SME?

1.3   Research Objectives

The objectives of the research conducted are as follows:
1.   Measuring and analyzing supply chain performance in Cabe Onang Chips SME.
2.   Provide a proposed strategy for improving supply chain performance in Cabe Onang Chips SME based on the results of the supply chain performance evaluation.
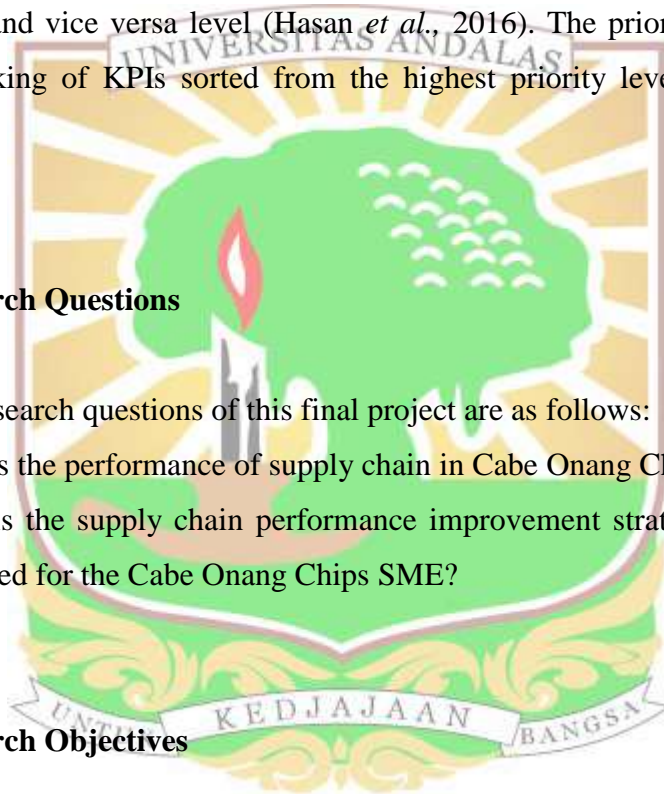
1.4   Research Scopes

The research scopes in this final project are as follows:

1.   This study only focuses on the supply chain of cabe onang chips products.

2.   The historical data used in this study is data from May 2022 – October 2022.

1.5   Outline of Proposal

The outline of this research report is as follows:

CHAPTER I   INTRODUCTION

This chapter contains the background, problem formulation, research objectives, problem scopes, and outline of the research report.

CHAPTER II   LITERATURE REVIEW

This chapter contains a theoretical study that is the basis for making research report, including supply chain, Supply Chain Management (SCM), SCM coverage area, performance measurement, performance measurement methods, supply chain performance measurement, KPI, AHP, Snorm De Boer normalization, traffic light system, and previous research.

CHAPTER III RESEARCH METHODOLOGY

This chapter contains research methods consisting of steps that must be taken to discuss problems, including preliminary studies, literature studies, problem formulation, method selection, data collection, data processing, analysis and conclusions.

CHAPTER IV DATA COLLECTING AND PROCESSING

This chapter contains the formulation of Key Performance Indicators (KPI), measurement of supply chain performance, and formulation of supply chain performance improvement strategies.

CHAPTER V DISCUSSIONS

This chapter contains an analysis of the results of data processing that has been done. The analysis includes an analysis of supply chain performance measurement and strategy formulation.

CHAPTER VI CONCLUSIONS

This chapter contains conclusions from the research that has been done and suggestions for further research.