THE EFFECT OF SUPPLY CHAIN MANAGEMENT ON COMPANY PERFORMANCE IN THE SMALL-MEDIUM BAKERY INDUSTRY IN PADANG

FINAL PROJECT REPORT

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FINAL PROJECT REPORT

A Report submitted in fulfillment of the requirement for the award of the degree of Bachelor in Department of Industrial Engineering, Faculty of Engineering, Universitas Andalas

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APPROVAL PAGE

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Author

ABSTRACT

The Small and Medium-sized Enterprises (SMEs) sector plays an important role in Indonesia's developing economic sectors. One of the small and medium enterprises types is the food industry. The food industry is an industrial sector that can survive economic shocks because each year, the demand for food rises along with the increase in population growth. The importance of all parties, from suppliers, manufacturers, distributors, retailers, and customers to involve in the process from production to distribution of products to end consumers, that give an idea of Supply Chain Management (SCM). Supply Chain Management (SCM) needs to be considered by the company to increase its company performance since competition is no longer between companies but among supply chains. This research aims to understand and analyze how is the effect of Supply Chain Management (SCM) on company performance in SMEs of bakery industry in Padang.

Supply Chain Management is measured by 3 variables: Strategic Supplier Partnership, Customer Relationship, and Information Sharing. While the company performance is measured by 2 variables: financial performance and operational performance. The population in this research is small and medium-sized bakery industries registered at the Dinas Tenaga Kerja dan Perindustrian Padang with a total of 86 SMEs. Data collection is carried out by distributing questionnaires to respondents by conducting a census of the population and gaining a total 30 of bakery SME questionnaires back. This research used Structural Equation Modeling (SEM) method with the help of Partial Least Square (PLS) software in data processing to test the hypothesis.

The findings of the research provide a striking demonstration of the importance of SCM in enhancing the company performance of the small-medium bakery industry in Padang. The empirical result indicates that in order to increase company performance, the company should emphasize greater attention on the supply chain management implementation because those aspects of SCM have been proven to affect toward degree of company performance, both financial and operational performance.

Keywords: Small and Medium-sized Enterprises (SMEs), Supply Chain Management (SCM), Company Performance, Structural Equation Modeling (SEM), Partial Least Square (PLS).

ABSTRAK

Sektor Industri Kecil dan Menengah (IKM) memiliki peranan penting, dan merupakan salah satu sektor ekonomi yang sedang berkembang di Indonesia. salah satunya industri kecil menengah yang berkembang adalah bidang industri pangan. Industri pangan merupakan sektor industri yang cukup mampu bertahan dari guncangan ekonomi karena, setiap tahunnya kebutuhan pangan meningkat seiring dengan meningkatnya pertumbuhan penduduk. Pentingnya semua pihak mulai dari supplier, manufacturer, distributor, retailer, dan customer bekerjasama dalam proses penciptaan produk sampai dengan pendistribusian produk kepada konsumen akhir yang melahirkan konsep Supply Chain Management (SCM). Supply chain management (SCM) perlu diperhatikan oleh perusahaan untuk meningkatkan kinerja perusahaan karena saat ini persaingan bukan lagi antar perusahaan melainkan antar rantai pasoknya. Penelitian ini bertujuan untuk menganalisis bagaimana pengaruh Supply Chain Management (SCM) terhadap kinerja perusahaan pada IKM roti di Padang.

Supply Chain Management diukur dengan 3 variabel: Strategic Supplier Partnership, Customer Relationship, dan Information Sharing. Sedangkan kinerja perusahaan diukur dengani 2 variabel: kinerja keuangan dan kinerja operasional. Populasi dalam penelitian ini ialah industri kecil-menengah roti yang terdaftar di Dinas Tenaga Kerja dan Perindustrian Padang dengan jumlah 86 IKM. Pengumpulan data dilakukan dengan menyebarkan kuesioner kepada responden dengan melakukan sensus populasi dan didapatkan sebanyak 30 kuesioner kembali. Penilitian ini menggunakan metode Structural Equation Modeling (SEM) dengan menggunakan software Partial Least Square (PLS) dalam pengolahan data untuk menguji hipotesis.

Temuan dari penelitian ini memberikan demonstrasi yang mencolok tentang pentingnya SCM dalam meningkatkan kinerja perusahaan industri roti kecil-menengah di Padang. Hasil empiris menunjukkan bahwa untuk meningkatkan kinerja, perusahaan perusahaan harus lebih menekankan pada penerapan manajemen rantai pasok karena aspek-aspek SCM tersebut terbukti berpengaruh terhadap tingkat kinerja perusahaan, baik dalam hal kinerja keuangan mapun kinerja operasional.

***Kata Kunci**: Industri Kecil Menegah (IKM), Supply Chain Management (SCM), Kinerja Perusahaan, Structural Equation Modeling (SEM), Partial Least square (PLS).*

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INTRODUCTION

This chapter contains the background of the research, problem formulation, objective of the research, research scopes, and outline of the final project report.

1.1 Background

Nowadays, the intense competition between one company and another company is increasingly developing. Customers are becoming smart in choosing their products and the customers want products that are cheap but have a good quality. Therefore, the company must prepare to face the current market situation, which requires improving company competitiveness, efficiency, and always continuing to create innovations with their products if the company wants to survive in the current market situation (Fitrianto et al., 2016).

Small and Medium-sized Enterprise (SME) is an economic activity that transforms basic item mechanically, chemically, or traditionally in such a way so that it becomes finished products or semi-finished products or goods that have higher value and are intended for the end-user or the consumer. Small and Medium-sized Enterprise (SME) in the industrial sector has a strategic role in promoting economic growth, such as increasing added value, absorbing labor, and increasing foreign exchange (Supriyadi et al., 2017).

Many types of Small and Medium-sized Enterprises (SMEs) have developed in Padang, and each of SME business sector is different. The business sector by SME in Padang, **Figure 1.1** shows one of the most competitive business sectors in Padang is the food processing industry with a total number of 1118 SMEs.

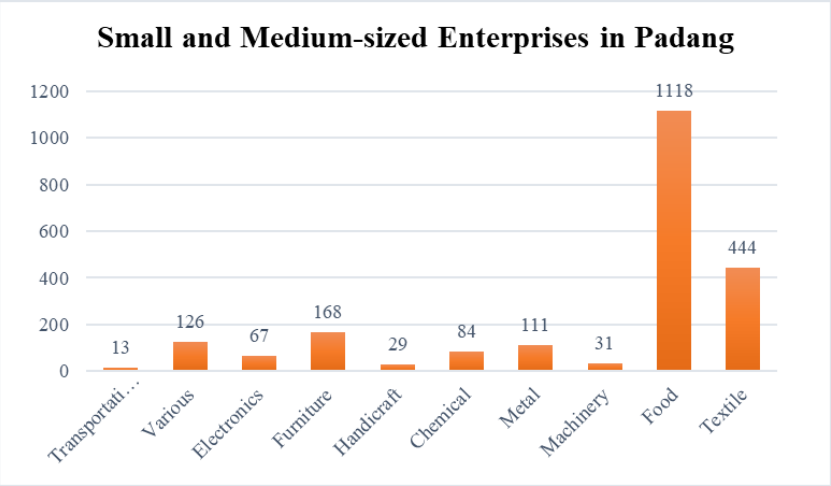

Figure 1.1 Number of Small and Medium-sized Enterprises in Padang (Source: Dinas Tenaga Kerja dan Perindustrian Padang)

As a human, we will not be separated from food, so it's not surprising that the food processing industry is the most competitive and very profitable business sector, since the food processing industry is a sector that can survive economic shocks because the need for food from year to year has increased very rapidly along with population growth. Based on the BPS census in 2018, Padang had a population of 939,112 people with a population growth rate of 1.28% from 2017, which was 927,168 people (BPS of Padang City, 2020). This population growth and the high level of consumer consumption in Padang are huge opportunities for the food processing industry business to develop in Padang.

In Padang, the food processing industry contributed 15.41 percent to the Gross Regional Domestic Product (GRDP) in 2015. This contribution continues to decline from 2015, with 14.90 percent in 2016, 14.37 percent in 2017, 13.15 percent in 2018, and 11.74 percent in 2019. While the growth of the food processing industry in Padang also tends to decline, with the highest growth was 3.47 percent in 2017 then a declining to -0.80 in 2018 and -3.25 percent in 2019 (BPS of Padang, 2020). The contribution and growth rate of the food processing industry of Padang can be seen in **Figure 1.2**

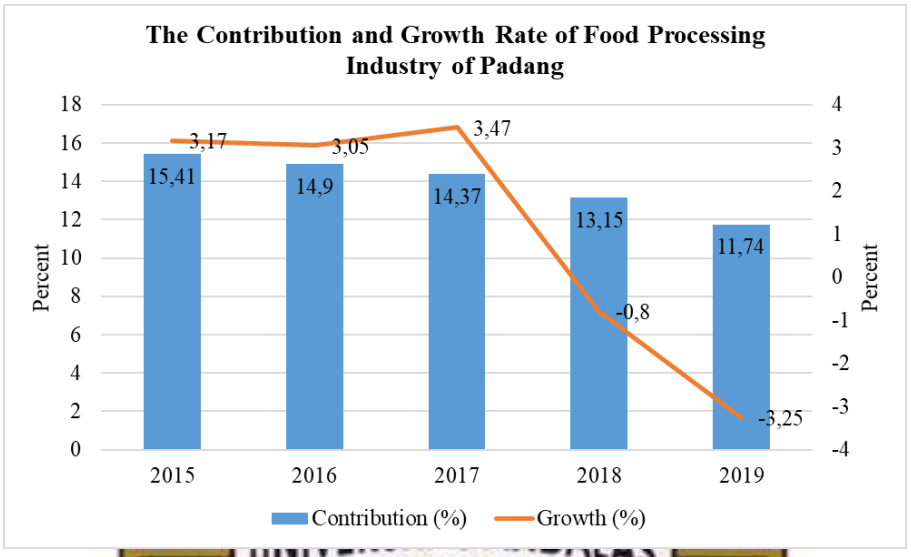

Figure 1.2 Contribution and Growth Rate of Food Processing Industry of Padang (Source: Padangkota.bps.go.id)

One of the food processing industry sectors in Padang is the bakery industry, according to Astawan in Iswanti (2012) the bakery industry processes the production of wheat flour, sugar, eggs, powdered milk, liquid milk, butter, yeast, and salt into added-value products and ready for consumption with good nutritional content quality. The nutritional content of bread is greater than rice and noodles for every 100 grams of nutrients. Asih (2012) stated that along with today's busy lifestyles and people's awareness of the importance of nutritious and healthy food, bread is the right alternative food and has good nutritional content. Currently, bread is one of the most desirable food of Indonesian people other than rice, from children to adults. The rising demand for bread makes the bakery industry also grow rapidly and has promising business potential.

Based on the data from the Dinas Tenaga Kerja dan Perindustrian (Disnakerin) of Padang there are 86 existing small and medium-sized bakery industries in Padang. In line with the increasing growth of the bakery industry, this sector is being run by more and more business players, which results in tighter competition.

Another problem is the existence of similar bakery industry competitors who already have a brand in Padang. Based on a survey conducted by Top Brand, the intense competition can be seen among several business players who already have the brand, such as Sari Roti, Bread Talk, Holland Bakery, and many more (Rahmawaty, 2014).

Therefore, one of the strategies that can be applied to ensure the small and medium-sized bakery industries in Padang are able to compete globally and survive in the market is by implementing Supply Chain Management (SCM). Supply chains are all stages involved in meeting the needs of the customer including factories, suppliers, transportation operators, warehouses, retail, and customers, directly and indirectly (Chopra, 2010).

Pujawan in Ansori (2017) explained the important involvement and cooperation of all parties, from suppliers, manufacturers, distributors, retailers, to customers in creating quality, short time, and inexpensive products that gave the idea to the concept of supply chain management. Mayasari (2008) stated that the company needs an effective strategy and plan a supply chain management to achieve the goals in improving company performance so that the company can survive the competition and threats in the current market situation.

The relationship between suppliers and producers must be stable and sustained because companies rely on suppliers in the long term since both large and small companies are still involved in logistical activities. For this reason, a well-organized supply chain is needed to increase competitive advantage over the products produced and improve company performance. An effective SCM has the potential to become a good strategy to enhance company performance because nowadays competition it's not between the companies but between their supply chain management used by the company or networked supply chain competition (Li, 2006).

Supply chain management will not be successfully implemented if it is not connected to company performance, and it is critical for the effective supply chain management. Effective collaboration with suppliers, retailers and customers is needed to smooth the supply chain process for improving company performance and it is a continuous process (Domier, 1998).

According to Saputra & Fithri (2012) most companies do not have a comprehensive understanding of supply chain management. Lack of accuracy in company performance management is related to the lack of understanding of the supply chain management system itself, making it difficult for the company to make changes and improvements.

Despite there are evidence regarding company performance improvements related to the SCM variables, but relatively few empirical studies exist to measure the SCM program's results in the extent of company performance, especially in Padang. Whereas others researchers have perhaps known or described them only implicitly. There are studies which suggest that SCM improves company performance but, with few exceptions, and rarely support it with statistical evidence. This research is seeking to fill this gap in the literature by examining the effect of supply chain management on company performance in content of Padang SME bakery industry by using Structural Equation Modeling (SEM) method. Therefore, it is necessary to research on the effect of supply chain management on company performance in the small and medium-sized bakery industry in Padangz.

1.2 Problem Formulation

Based on the background description, the problem formulation of this research is how is the effect of supply chain management on company performance in the small and medium-sized bakery industry in Padang

1.3 Research Objective

The objective of this research based on the problem formulation is to determine the effect of supply chain management on company performance in the small and medium-sized bakery industry in Padang.

1.4 Research Scopes

The scopes in this research are as follows:

1. Independent variables for supply chain management used are Strategic Supplier Partnership, Customer Relationship and Information Sharing.
2. Dependent variables for Company Performance used are Financial Performance and Operational Performance variables.
3. The research sample obtained is from the total of SMEs bakery industries in Padang.

1.5 Outline of Final Project Report

This part contains the systematic writing of the final project report which are as follows:

CHAPTER I INTRODUCTION

This chapter contains the background of the research, the problem formulation, the objective of the research, research scopes, and outline of the final project report.

CHAPTER II LITERATURE REVIEW

This chapter contains the theories that related and support the research, consist of supply chain management, company performance, research instrument, and Structural Equation Modeling (SEM).

CHAPTER III RESEARCH METHODOLOGY

This chapter contains the stages of research carried out from the beginning to the end of the research, consist of preliminary study, literature study, problem formulation, research variables, research conceptual framework, research hypothesis, method selection, data collection, questionnaire validation, data processing, discussions and conclusions.

CHAPTER IV DATA COLLECTION AND PROCESSING

This chapter contains the research instrument validation, data collection and processing conducted in the research. The data is processed by outer model, inner model, and hypothesis testing.

CHAPTER V DISCUSSIONS

This chapter contains a discussion of the SEM-PLS model and the effect of Supply Chain Management Variables on Company Performance.

CHAPTER VI CONCLUSIONS

This chapter contains the conclusions and suggestions of the research.

CHAPTER II
LITERATURE REVIEW

This chapter contains the theories that related and support the research, consist of supply chain management, company performance, research instrument, and Structural Equation Modeling (SEM).

2.1 Supply Chain Management

Supply chains are all stages involved in meeting the needs of the customer including factories, suppliers, transportation operators, warehouses, retail, and customers, directly and indirectly. The supply chain system involves not only the transportation of goods from supplier to factory then to the distributor but also the movement of information, money, and products in both directions called the supply network. The supply chain involves all functions involved in meeting the customer needs within the framework of the business, such as product development, marketing, operations, distribution, finance, and customer service (Chopra, 2010).

The term SCM was first used in the 1980s and as such is a comparatively new field with instruments and principles still being developed within management theory. In order to describe the term SCM, several concepts have been used as with most management subject areas. The frequency of the use of the word “Supply Chain Management” (SCM) in today’s modern world would mean that it is a well-understood definition followed by a recognized collection of management practices (Agus, 2011). Meanwhile, Levi in Suhartati & Rossietta (2012) define SCM as a series of methods used for the efficient integration of suppliers, producers, distributors, warehouses and retailers, so that products are manufactured and delivered in the right amount, in the right place and at the right

time to reduce the overall cost of the operation with the adequate satisfactory service level.

Chopra in Suharto & Devie (2013) stated that the purpose of Supply Chain Management is to maximize the overall value produced to meet the needs and demands of the consumer. On the other hand, the goal is to minimize overall costs (ordering costs, storage costs, raw material costs, transportation costs and others). According to Christopher in Suhartati & Rossietta (2012). The role of SCM besides reducing costs stated that excellent supply chain management is directly linked to superior company performance.

Generally, SCM includes alignment, communication and cooperation across the company and the entire supply chain. A Company must reach a comparatively high degree of integration before implementing SCM. SCM has the ability to assist the company in achieving both cost and performance advantages. A Company must follow an SCM strategy to increase efficiency and perceive the supply chain as a whole (Agus, 2011).

Chopra in Suhartati & Rossietta (2012) recommends two supply chain strategies, the lean supply chain (efficient supply chain) and the agile supply chain (responsive supply chain). The lean supply chain focuses on meeting customer demand at the lowest price by reducing overall costs (functional product), while the agile supply chain focuses on responding to consumer demand to support supply in anticipating uncertain demand and anticipating fluctuations in supplier supply (innovative product). According to Anatan (2018) to achieve the successful implementation of the lean supply chain strategy needs good communication between channels in supply chain networks, by minimizing the variability and uncertainty in demand or supply, while to achieve the success of an agile supply chain strategy requires reliable distributors, and selection in suppliers and distributors must be based on speed and flexibility.

There are three key areas where SCM can influence financial performance, that are profitability, liquidity and productivity or asset utilization. The profitability of the company is a surplus from revenue less to costs. SCM can raise service levels, as well as lower operational costs. Liquidity is the ability to fulfill obligations at the due date. SCM contributes positively to reducing working capital. Productivity measures the capacity of a company to achieve sales from fixed assets (equipment) and current assets (raw materials). Efficient asset management, both fixed and current assets in a company that applies SCM would have a significant effect on productivity (Christopher in Suhartati & Rossietta, 2012). Following are the benefits of implementing Supply Chain Management for a company according to Irawan (2008):

1. Reducing Inventory.

   Inventory is the largest portion of the company's assets, ranging from 30-40%. Inventory cost 20 - 40% of the value of the goods stored. The company required effort and ways how to reduce the inventory cost of goods in the warehouse.

2. Ensuring the Smoothness Flow of Products.

   Smoothness flow of products from the manufacturer, supplier, wholesaler, retailer, to the final customer needs to be well managed in a long line (chain) of the flow of raw materials into finished goods and received by customers.

3. Quality Assurance.

   The quality of the finished product is determined not only by the production process but also by the quality of raw materials and the quality of safety in product delivery. Quality assurance is also a long chain that must be managed properly.

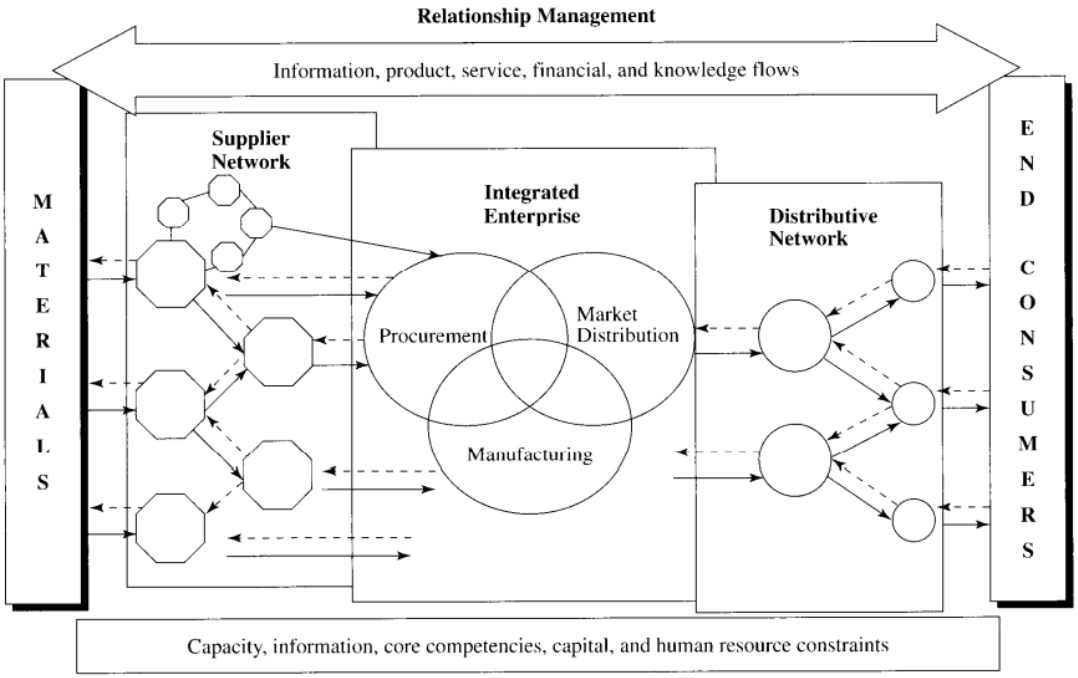

Figure 2.1 Supply Chain Network Model in General

Supply chain network shows the existence of a long chain starting from suppliers to customers, where there is the participation of the party or the stakeholders involved in the supply chain. Irawan (2008) stated that the supply chain management models in general are:

1. Chain 1: Suppliers

   Suppliers are the first network, which is the source of the first material provider including supplier's suppliers or sub-suppliers, which are usually many it can take the form of raw materials, auxiliary materials, products, sub-assemblies, spare parts, etc.

2. Chain 2: Suppliers – Manufacturer

   The first chain is connected by the second chain, that is the manufacturer or plants or assembler or fabricator, this chain is engaged in making, fabricating, assembling, converting and finishing goods.

3. Chain 3: Suppliers – Manufacturer – Distributor

   The finished goods from the manufacturer are delivered to the distributor from the manufacturer's warehouse to the warehouse of a distributor or wholesaler.

4. Chain 4: Suppliers – Manufacturer – Distributor – Retail Outlets

   Big distributor usually has their warehouse or rent warehouses from other parties. The warehouse shall be used to stock goods or items before they are distributed to the retailer. Throughout this case, savings can be made in the form of inventories and warehouse costs, by redesigning the distribution pattern for both the manufacturer and the retailers.

5. Chain 5: Suppliers – Manufacturer – Distributor – Retail Outlets – Customers

   Products are sold by retailers or retail outlets directly to the customer or end-user of the product. Outlets are the place where the final buyer makes purchases, even though this is the last chain but in reality, there is one more chain, which is buyers or agents who come to the retail outlets and then sell the products to the actual customers or end users. The chain ends when the product reaches the end-user or customers (Irawan, 2008).

Based on the observation, Small and Medium-sized Enterprises (SMEs) in Padang have implemented Supply Chain Management, although not all SME can implement Supply Chain Management properly. Supply Chain Management can also be defined as an organizational network that involves the relationship between upstream (suppliers) to downstream (customers), in processes and creates value in the form of goods or services in the hands of the last customer (end-user). The company is faced with a problem where the company does not know for sure what indicators or variables affect the upstream supply chain since the indicators in the upstream supply chain are connected. The company needs to know how much influence the upstream supply chain indicators have on company performance, and will later be used as a guide by the company to take further decisions (Rahmasari, 2011).

2.1.1 Supply Chain Management Variables

In order to describe the supply chain process, the variables must cover the whole of the existing systems in the supply chain itself, starting from suppliers to customers. The variables in the supply chain must be capable of representing any of these components. In Suharto & Devie (2013) states that in an integrated supply chain there are some processes that occur which consist of a strategic supplier partnership, customer relationship, and information sharing.

1. Strategic Supplier Partnership

   The strategic supplier partnership is defined as a long-term partnership between a company and its suppliers and is created to facilitate each party to obtain long-term benefits (Claycomb et al., in Anatan, 2018). This is required to improve the strategy and operational capabilities of the supplier company which is participating in the company to achieve its expected goals. This strategy is more focused on mutual planning (coordination) and managing common problems between the company and suppliers. By implementing a partnership strategy with the suppliers, it helps the company to work effectively with several suppliers who are willing to share responsibility for producing and making a successful product (Gunasekaran in Suharto & Devie, 2013). The role of suppliers is required from the start which is product design decisions to help select the right materials, technology, efficient design selection and design evaluation.

2. Customer Relationship

   Customer relationship is a set of activities that are aimed at handling customer complaints, creating good long-term relationships with customers, and increasing customer satisfaction. (Noble in Anatan, 2018). This is an opportunity for the companies who are willing to commit to building relationships with their customers, with a good relationship with customers, helps a company to differentiate its products from their competitors, improve customer loyalty, and create value for its customers (Claycomb et al., in Suharto & Devie, 2013). The main goal of creating

value for customers is not only just to customer satisfaction, but also to create customer loyalty. The willingness to create a one-to-one relationship between the company and the customer is the key to creating positive relationships in the eyes of customers, besides the company's efforts to constantly create products or services that are cheaper, better, and faster compared to its business competitors. What needs to be considered here is that what determines whether there is value or not of a service or product in the customer or the market, not the internal company. So that information technology, aside from being able to create that value, can also be an important way of identifying things that can be converted into value for customers (Irawan, 2008).

3. Information Sharing

Information sharing refers to what extent important information is communicated to the company's business partners. Information sharing is one of the important factors in the implementation of supply chain management and being the controller throughout the supply chain system (Anatan, 2018). Several studies have found that information sharing is important for decreasing uncertainty, increasing product development, scheduling on demand and costs (Coyle in Anatan, 2018)

Information sharing plays an important role in the implementation of supply chain management. Companies can obtain information about what customers want, improve production operations and minimize delays in the supply chain. Having in time data and being able to be shared throughout the supply chain will help companies improve supply chain efficiency and effectiveness and to respond quickly to changing customer needs and wants. Information sharing will provide benefits to the company based on what information has been shared, and with whom the information is shared. In other words, what information should be shared is very important to make a positive impact on the company's supply chain (Anatan, 2018).

Information sharing in supply chain management can improve coordination between companies along the supply chain in order to allow material movement and reduce inventory costs. Information sharing can support the process of integration in the supply chain by achieving fast distribution and product launching to the market. Lin et al., in Anatan (2018) propose that the higher the level of information sharing in a supply chain, the lower the overall costs needed in the distribution cycle time and product life cycle of the company.

Lalonde in Anatan (2018) states that information sharing is one of the "building blocks" that shows a solid relationship between business partner members in the supply chain. Information sharing has two important aspects, namely quantity and quality information, both are considered as constructs that affect information sharing. The quantity aspect of information sharing refers to the importance and accuracy of information communicated to supply chain stakeholders (Monczka in Anatan, 2018). The information shared can vary from strategic to tactical stages, both are about logistical information and customer information.

The quality of information sharing is important in order to achieve supply chain effectiveness, but the impact of information sharing will be significant depending on the information shared, to whom it is shared, when and how it is shared. The impact of information sharing is determined by the quality of information including aspects such as accuracy, punctuality, adequacy of information and credibility of information shared. Information sharing along the supply chain can create flexibility, but to achieve this flexibility a reliable and timely information is required to remove information distortion to achieving the most accurate information possible and companies must ensure that the flow of information runs smoothly without interruption and that no distortions occur or at least the delay and distortion are kept to a minimum (Anatan, 2018).

2.1.2 Supply Chain Performance Measurement

Supply chain performance is all activities to satisfy customer's demands or a percentage of the company's demand fulfillment activities to its consumers (Saputra & Fithri, 2012). The benefits of an effective supply chain performance measurement are:

1. Provide a framework for understanding the system.
2. Affect the operation of the whole system.
3. Provide information regarding the work performance result of the system in each unit, whether the unit is involved or not directly involved in the supply chain.

Most companies do not have a comprehensive understanding of supply chain performance. The lack of accuracy in managing the company's performance is due to a lack of understanding regarding the performance management system itself, making it difficult for the company to make necessary improvements. Some of the problems that occur in the supply chain performance measurement include (Saputra & Fithri, 2012):

1. There is no balanced approach to integrating non-financial and financial performance.
2. The lack of a systems method, where a supply chain is treated as a whole measurement unit of the entire supply chain system.
3. Lack of supply chain context.

Same as finance, supply chain management need standards to evaluate their performance. Supply chain evaluation is important for supply chain managers because it costs a significant portion of the company's money. Thus, managers make plans and decisions that decide the number of assets that take the form of inventory. With effective metrics, the manager can assess how well a supply chain is performing and how well its assets are being utilized (Haizer et al., 2008).

2.2 Company Performance

Company performance is something that is created by a company at a certain time or period by referring to the specific standards. The company's performance should be a measurable result and describe the empirical conditions of a company from different observable outcomes. Business performance refers to how well a company is directed towards the market and its financial goals. Also, company performance can be said to be the result of physical and non-physical business implementation through indicators of an accomplishment of work outcomes compared to a predetermined target (Rahmasari, 2011).

2.2.1 Company Performance Indicators

Some experts have shown that the company performance measurement indicators commonly used in the academic analysis are financial performance, operational performance, and market-based performance (Jahanshahi et al. in Suharto & Devie, 2013).

1. Financial Performance

   Financial Performance is usually assessed based on accounting data or financial data. The weakness of all accounting data-based measures is their focus on past performance results. Very little information from previous years can indicate the company's future potential. Thus, company performance cannot be measured entirely based on accounting data-based calculations. Some experts use return on sales, profitability, sales growth, work productivity improvement, and production costs improvement to assess financial performance output.

2. Operational Performance

   Besides assessing company performance based on financial performance, it is also important to measure it based on non-financial performance. The rising use of the balanced scorecard concept indicates that non-financial performance is also an important aspect of measuring company performance. This non-financial performance is also known as an

operational performance where its aspects are capable of evaluating performance when the available information related to the opportunities that exist but has not been financially realized. This operational performance can be measured using indicators such as market share, new product releases, quality, marketing effectiveness, and customer satisfaction (Carton in Suharto & Devie, 2013)

3. Market-Based Performance

The overall market-based performance will be affected if the market finds information about the company's operations that are not included in the financial performance results. This market-based performance measure includes returns to shareholders, market value-added and annual profits.

2.2.2 Performance Measurement

Larry D. Strout (1993) in the Performance Measurement Guide as cited by Maskur in Trihastuti (2011) states that performance measurement or evaluation is the process of tracking and measuring the execution of activities in the context of achieving the mission through the outcomes seen in the form of products or service which means that every activity of the organization must be evaluated and its relationship reflected in the company future achievement which is stated in the organization's mission and vision. Another definition is given by Slamet (2007) that performance measurement is the process of evaluating how well a worker or employer performs his job when compared to a set of standards and criteria.

Mulyadi (2001) stated that the main objective of performance measurement is to motivate and encourage employees to achieve organizational goals and to meet company standards in order to make the actions and results of performance expected by the company. Performance measurement is also carried out to suppress undesirable behavior and to encourage desirable behavior through feedback on performance results by intrinsic and extrinsic rewards.

Following are the benefits of performance measurement according to Mulyadi (2001) are as follows:

1. Managing the company's operations effectively and efficiently through employee motivation.
2. Assisting in decision making related to employees, such as promotions, transfers and dismissals.
3. Identify the preparation of employee training and development and to provide selection assessment and evaluation of employee training programs.
4. Provide feedback for employees on how their performance is assessed by their supervisors.
5. Provide a framework for awarding
6. Awards are categorized into two groups, which are intrinsic rewards and extrinsic rewards.

2.3 Research Instrument

Research Instrument is a tool to obtain, measure, and analyze data from subjects specific to the research topic. According to Donna M. Johnson (2010) research instruments that can be used include questionnaires, interviews, observations, and assessments.

2.3.1 Sampling Techniques

Sampling is a technique (procedure or device) to systematically select a relatively smaller number of representative objects or individuals (a subset) from a pre-defined population to serve as subjects (data source) for observation or experimentation. Sampling techniques are divided into two types: probability sampling and nonprobability sampling (Sharma, 2017).

1. Probability Sampling

   Probability sampling is any sampling scheme in which the probability of choosing each individual is the same (or at least known, so it can be readjusted mathematically). These are also called random sampling. They require more work, but are much more accurate.

   a. Simple Random Sampling

   Simple random sampling is a survey taken in such a way that each research unit from a population has an equal probability of being selected as a sample.

   b. Systematic Sampling

   Suppose that the N units in the population are numbered 1 to N in some order. To select a sample on N units, we take a unit at random from the first K units and every kith unit thereafter. For instance, if K is 15 and if the first unit drawn is number 13, the subsequent units are numbers 28, 43, 58 and so on. The selection of the first unit determines the whole sample. This type is called every kith systematic sample.

c. Stratified Sampling

A method of sampling that involves the division of a population into smaller groups known strata. In stratified random sampling, the strata are formed based on members shared attributes or characteristics. A random sample from each stratum is taken in a number proportional to the stratum's size when compared to the population. These subsets of the strata are then pooled to from a random sample.

d. Cluster Sampling or Multi-Stage Sampling

The naturally occurring groups are selected as samples in cluster sampling. All the other probabilistic sampling methods (like simple random sampling, stratified sampling) require sampling frames of all the sampling units, but cluster sampling does not require that. Once the clusters are selected, they are compiled into frames. Now, various probabilistic researches and observations are performed on these frames and require conclusions are drawn.

2. Non-Probability Sampling

Non-probability sampling technique is based on judgment.

a. Quota Sampling

With proportional quota sampling, the aim is to end up with a sample where the strata (groups) being studied (e.g. males vs. females students) are proportional to the population being studied. If we were to examine the differences in male and female students.

b. Purposive Sampling

Purposive sampling, also known as judgmental, selective or objective sampling, reflects a group of sampling techniques that rely on the judgment of the researcher when it comes to selecting the units (e.g. people, case/organizations, events, pieces of data) that are to be studied. These purposive sampling techniques include maximum variation sampling, homogeneous sampling and typical case sampling; extreme (deviant) case sampling, total population sampling and expert sampling.

c. Convenience Sampling

Self-selection sampling is appropriate when we want to allow units or cases, whether individuals or organisations to choose to take part in research on their own accord. The key component is that research subjects volunteer to take part in the research rather than being approached by the researcher directly

d. Snowball Sampling

In sociology and statistics research, snowball sampling or chain sampling, chain-referral sampling is a non-probability sampling technique where existing study subjects recruit future subjects from among their acquaintances. Thus, the sample group appears to grow like a rolling snowball. As the sample builds up, enough data is gathered to be useful for research. This sampling technique is often used in hidden populations which are difficult for researchers to access.

Table 2.1 Strengths and Weaknesses with Sampling Technique.

Technique	Strengths	Weaknesses
Simple random sampling	Easily understood, results projectable	Difficult to construct sampling frame, expensive, lower precision, no assurance of representativeness
Systematic sampling	Can increase representativeness, easier to implement than simple random sampling, sampling frame not always necessary	Can decrease representativeness
Stratified sampling	Includes all important subpopulation, precision	Difficult to select relevant stratification variables, not feasible to stratify on many variables, expensive
Cluster sampling	Easy to implement, cost-effective	Imprecise, difficult to compute an interpret results
Convenience sampling	Least expensive, least time consuming, most convenient	Selection bias, sample not representative, not recommended by descriptive or casual research
Purposive sampling	Low-cost, convenient, not time consuming, ideal for exploratory, Low-cost, convenient, not time consuming, ideal for exploratory research design	Does not allow generalization, subjective
Quota sampling	Sample can be controlled for certain characteristics	Selection bias, no assurance
Snowball sampling	Can estimate rare characteristics	Time-consuming

2.3.2 Measurement Scale

Measurement scale is one important aspect that must be present in the measurement of variables in a research because it can give value to each variable to be measured (Sinulingga, 2011). According to Ridwan in Mayasari's research (2018) in general the measurement scale applied in a research survey is grouped as (Mayasari, 2018).

1. Nominal Scale

   Nominal scale is the simplest measurement scale when compared to other measurement scales. The numbers used are not the values of the variables being measured, but are only used as codes or labels. Nominal scale can enable researchers to group objects into two groups that are not overlapping or mutually exclusive (Sinulingga, 2011).

2. Ordinal Scale

   The ordinal scale is indicated by the objects used by sorting from the lowest level to the highest level, meaning that the numbers on the ordinal scale only indicate the ranking order on the basis of certain objects or actions (Sinulingga, 2011).

3. Interval Scale

   Interval scale shows a distance between one data with another data and has the same weight (Riduwan, 2007).

4. Ratio Scale

   Ratio scale is a measurement scale that is used to find out the measurement results that have the possibility to be differentiated, sorted, and have a delayed distance and can be compared. This measurement scale uses a standard point or absolute zero, so the size seen is the difference between the value of the object and the absolute value. Ratio scales are usually used when the actual magnitude of the measured variable needs to be obtained (Sinulingga, 2011).

5. Likert Scale

   Likert scale has a relationship between the question and a certain situation, such as; agree or disagree, same or not same.

2.3.3 Population

Population is a combination of all elements in the form of events, objects or people that have common characteristics that become the researcher's focus of interest since it is used as a research universe. The population is also the entire individual for whom the information gathered would be generalized. While the

sample is a part of the population whose characteristics are to be observed and considered to be representative of the entire population (Ferdinand, 2006).

2.3.4 Sample

The sample is a portion of the population whose characteristics are to be observed and considered to be representative of the entire population. Sampling is a form of data collection method that is not comprehensive, meaning that it does not include all research objects (population) but only a part of the population, which only includes samples collected from that population (J. Supranto, 1998).

2.4 Structural Equation Modeling (SEM)

SEM is a statistical modeling technique that has been widely used. SEM is a combination of principal component analysis, regression analysis, and path analysis. SEM is divided into two groups, namely Covariance-based SEM represented by LISREL and SEM based on the most dominant variant is Partial Least Square (PLS). PLS was first developed by Wold as a general method for estimating path models using a latent construct with multiple indicators. PLS can be considered as an alternative model of SEM (Ghozali, 2006).

The structural Equation Modeling (SEM) method has two variables, the latent variable, and the manifest variable. A latent variable is the operational of a construct in a structural equation model that cannot be measured directly but can be represented or determined by one or more variables (indicators). The manifest variable is an indicator that becomes part of the question items of each variable in the questionnaire (Hair et al in Yamin & Kurniawan, 2009).

SEM method has better analytical and predictive abilities than path analysis and multiple regression because SEM is able to analyze to the deepest level the variables or research models. The SEM method is more comprehensive in explaining research phenomena. While path analysis and multiple regression are only able to reach the latent variable level so it has difficulty in analyzing empirical phenomena that occur at latent variable indicators. (Haryono.S & Wardoyo, P, 2013).

Hussein (2015) stated that the PLS method is distribution-free (it does not assume that the data has a certain distribution, it can be in the form of nominal, category, ordinal, interval, and ratio). Partial Least Square is a good indeterminacy factor analysis method because it is not based on many assumptions, small sample size, and 25 distribution residuals. Besides being able to be used to validate the hypothesis, PLS can also be used to explain whether or not there is a relationship between latent variables. PLS analysis is considered fit as a data analysis technique for this research for some reasons:

1. All variables used in this research are latent variables that cannot be measured directly. PLS is the general method for estimating the path model using latent variables with multiple indicators.
2. PLS can analyze as well as structures that are formed with reflective and formative indicators. This is not possible to run in Covariance Based SEM since there would be unidentified models, including constructs with a single indicator (Ghozali, 2011). In this research, the structural model analyzed fulfills the recursive model and all indicators of the research variables.
3. PLS has the advantage that the data no need to have a normal multivariate distribution (indicators with a category scale, ordinal, interval, to ratio, can be used in the same model). The recommended sample size is around 30 to 100 (Ghozali, 2011). Although PLS is used to validate the hypothesis, it can also be used to explain whether or not there is a relationship between latent variables.

2.4.1 Structural Equation Modeling (SEM) Stages Procedure

There are two stages in the SEM process. First, validate the measurement model and second, adjust it to the structural model. The first step is completed using confirmatory factor analysis, while the second step is completed by a path analysis with latent variables. Each variable in the model is conceptualized as a latent variable and is measured by several indicators. Several indicators were developed for each model. For each latent variable followed by at least three indicators after the confirmatory factor analysis. The process can be continued if the measurement model has been validated. Two or more models are then compared in terms of model fit, measuring the amount to which the covariance expected by the model is related to the observed covariance from the data (Prastuti in Wijayanti, 2016). The steps for implementing Structural Equation Modeling (SEM) are as follows (Ghozali, 2014):

1. Determination of Research Variables

   Latent variables are variables in structural equation models that cannot be measured directly, but can be interpreted by one or more indicators. The manifest variable is a variable that can be directly measured (Hair et al. In Yamin & Kurniawan, 2009).

2. Construct the Path Diagram

   Path diagrams are graphical representations of how the variables in a model relate to each other, which provides an overall view of the model structure. A structural model is made, then the independent and dependent variables are determined, and then the direction of the arrow is determined according to the direction of causality.

3. Outer Model (Instrument Test)

   The outer model test or instrument validity test based on the value of Convergent Validity and Discriminant Validity. Convergent validity of the model is assessed based on the correlation between the item score and the construct score. An individual reflexive measure is said to be high if the correlation is above 0.70. However, for development early stages research a measurement scales the loading value of 0.5 to 0.6 is considered

sufficient. Discriminant Validity is asses based on cross-loading the measurement model with the construct. If the correlation of construct with the measure object is larger than the measure of the other constructs then this indicates that the latent constructs estimate their block size better than the size of the other blocks. While the reliability test is measure based on the Composite Reliability and Cronbach's Alpha values. The construct is considered reliable if the value of Composite Reliability and Cronbach's Alpha is above 0.70 (Ghozali, 2014).

4. Inner Model (Structural Model Test)

   The inner model or structural model test is performed to determine the correlation and regression between the research variables. The first indicator is by looking at the R-square value which is a test of the goodness-fit model. The second indicator is to see the significance and correlation between variables by looking at the path coefficient value, namely the original sample (o) value and the t-statistical significance value.

5. Hypothesis Testing

   Hypothesis testing on PLS is done by looking at the t-statistic value compared to the t-table value. If the t-statistic value is greater than the t-table value, then the hypothesis (H1) can be accepted and vice versa.

2.5 Previous Research

The implementation of supply chain management has a significant impact on company performance, as shown by several previous research which state that there is a significant influence of supply chain management on company performance. The previous research about the relationship between Supply Chain Management with company performance that may support this research is given in **Table 2.2**

Table 2.2 Previous Research

No	Author	Research Tittle	Research Result
1	Agus (2011)	Supply Chain Management, Product Quality and Business Performance	SCM would ultimately result in positive gains, by strengthening SCM enhances product quality and has a positive effect on business performance.
2	Rachbini (2016)	Supply Chain Management dan Kinerja Perusahaan	Supply chain management, including information sharing, cooperation and process integration, has a positive effect on company performance. But long term relationship does not affect on company performance.
3	Suhartati & Rosietta (2012)	Pengaruh Strategi Bersaing Terhadap Hubungan Antara Supply Chain Management dan Kinerja (Studi pada Perusahaan Manufaktur yang Terdaftar di BEI)	1. Terdapat There is a significant positive relationship between supply chain management and company performance. 2. There is a significant positive relationship between low-cost competitive strategy (cost efficiency) and supply chain management.
4	Rahmasari (2011)	Pengaruh Supply Chain Management Terhadap Kinerja perusahaan dan Keunggulan Bersaing (Studi Kasus pada Industri Kreatif di Provinsi Jawa Tengah)	1. Supply Chain Management practices has a significant positive effect on competitive advantage. 2. Supply Chain Management practices has a significant positive effect on company performance. 3. Competitive advantage has a significant positive effect on company performance.
5	Suharto & Devie (2013)	Analisa Pengaruh Supply Chain Management Terhadap Keunggulan Bersaing dan Kinerja Perusahaan.	1. There is a significant positive effect between supply chain management on competitive advantage and company performance. 2. Good implementation of supply chain management would improve company performance, both in terms of financial and operational performance.

Table 2.2 Previous Research (Continue)

6	Ansori (2017)	Analisis Implementasi Supply Chain Management Terhadap Kinerja Perusahaan Mebel (Studi Pada Pada Himpunan Industri Mebel Dan Kerajinan Indonesia, Komisi Daerah Jepara Raya)	1. Information Sharing has a significant positive effect with supply chain management performance. 2. Information sharing, long-term relationships and integration processes have a significant positive effect on company performance.
7	Ariani (2013)	Analisis Pengaruh Supply Chain Management Terhadap Kinerja Perusahaan (Studi Pada Industri Kecil dan Menengah Makanan Olahan Khas Padang Sumatera Barat)	The variables information sharing, long-term relationship, cooperation, and process integration have a positive and significant effect on supply chain management performance in the company.
8	Fitrianto et al. (2016)	Pengaruh Supply Chian Management Terhadap Kinerja Operasional Outlet (Studi Pada Counter Handphone yang terdaftar di PT. Multikom Indonesia Cabang Semarang)	1. Information Sharing has no significant positive effect on outlet operational performance. 2. Long Term Relationship has a significant positive effect on outlet operational performance. 3. Cooperation has no significant positive effect on outlet operational performance. 4. Integration Process has a significant positive effect on outlet operational performance.

CHAPTER III
RESEARCH METHODOLOGY

This chapter contains the stages of research carried out from the beginning to the end of the research process, consist of preliminary study, literature study, problem formulation, research variables, research conceptual framework, research hypothesis, method selection, data collection, questionnaire validation, data processing, discussions and conclusions.

3.1 Preliminary Study

A preliminary study is the step for doing research that needs to be done in beginning of the research. In this preliminary study, a survey was conducted at the Dinas Tenaga Kerja dan Perindustrian (Disnakerin) Padang to find out how the growth and problems faced by small and medium-sized industries in Padang, especially in the bakery industry by interviewed with the Head of Industrial of Disnakerin. This survey was also completed by collecting the data in the form of a list of SMEs in Padang at the Dinas Tenaga Kerja dan Perindustrian (Disnakerin).

3.2 Literature Study

A literature study was conducted to understand and provide the best solutions to the research problem. The literature study used in this research is theories collected from books, previous research, scientific journals and official websites related to this research, so that it can be used as reference materials and guidelines in solving the problems. The theories used in this final project report is everything related to supply chain management, company performance, the Structural Equation Modeling (SEM) method and previous research.

3.3 Problem Formulation

Problem formulation is the stage at which defining and determining the focus of this research. The problem formulation of this research is how is the effect of supply chain management on company performance in the small and medium-sized bakery industry in Padang.

3.4 Research Variables

Variables are everything that is determined by researchers to be researched in order to obtain information that can then be concluded from that information (Sugiyono, 2010). The research variable is the nature or value of people and attributes, factors, and treatment of objects or activities that have certain variants that have been determined by researchers to be researched, and then conclusions can be drawn (Hermawan, 2019). The following are the research variables in the research.

3.4.1 Supply Chain Management Variables

Indicators of the Supply Chain Management including the strategic supplier partnership, customer relationship, and information sharing or also called the independent variable. Independent variable also referred to as a stimulus, predictor, or control variable. This variable affects or influence the changes or the output of the dependent variable (Sugiyono, 2013).

Supply chain management variables in this research were taken based on availability and suitability of conditions in the field. This research variables also refers to the parameters most used in previous research conducted by some of the previous researchers. The indicators and variables can be seen in **Table 3.1**

Tabel 3.1 Supply Chain Management Variables from Previous Research

Variable	Indicator	Previous Research								This Research
		Agus (2011)	Ansori (2017)	Ariani (2013)	Endang PW (2011)	Fitrianto (2016)	Suharto & Devie (2013)	Li (2006)	Rahmasari (2011)	
Supply Chain Management	Product Design				√					
	Strategig Supplier Partnerhip	√					√	√	√	√
	Delivery System				√					
	Customer Relationship	√					√	√	√	√
	Information Sharing		√	√		√	√	√		√
	Production System				√					
	Supplier System				√					
	Long Term Raltionship		√	√		√				
	Quality of Information							√	√	
	Cooperation			√		√				
	Integration Process			√		√				
Research Location		Fish Processing Company in Bitung	Mebel Industry in Jepara	Food SME in Padang	Tobacco Company in Sidoarjo	Handphone Center in Semarang	Company in Surabaya	Organization at Toledo	Creative industry in Java	Bakery Industry in Padang

The supply chain management variable must cover the whole of the existing systems in the supply chain itself, starting from suppliers to customers. Therefore, the variables or indicators chosen in this research consist of strategic supplier partnership, customer relationship, and information sharing refer to the most used parameters from previous researches.

3.4.1 Company Performance Variables

Then the indicator for company performance includes of financial and operational performance or dependent variables. Dependent variable is a variable that is referred to as output variables, parameters, and consequences. Dependent variable is a variable that is influenced or that becomes the outcome of an independent variable (Sugiyono, 2013). This research variable also refers to the variable used in previous research conducted by several researchers. The indicators can be seen in **Table 3.2**

Table 3.2 Company Performance Indicators from Previous Research

Variable	Indicator	Previous Research				This Research
		Fitrianto (2016)	**Li (2006)**	**Rahmasari (2011)**	**Suhartati (2012)**	
Company performance	Financial Performance	√	√	√	√	√
	Operational Performance			√	√	√
	Market Performance		√	√		
Research Location		Handphone Center in Semarang	Organization at Toledo	Creative industry in Java	Manufac-turing Industry	Bakery Industry in Padang

The variable of company performance indicators in this research will only be represented by financial performance and operational performance. This is because market-based performance measurement can only be conducted at public companies, while the objects in this research are not actually all public companies. Thus, in such conditions, the combination of financial performance measurement and operational performance is sufficient to represent the company's overall performance (Carton, in Suharto & Devie, 2013).

3.5 Research Conceptual Framework

A research conceptual framework is a unified framework of thought in order to find scientific answers to problems in research that explain about variables, the relationship between variables theoretically related to the results of previous studies whose truth can be empirically tested (Iskandar et al., 2012). The conceptual framework is built based on predetermined research variables. Conceptual framework shows the indicators of each variable as well as the relationship between variables. These indicators are in accordance with the indicators identified in the previous step. The research conceptual framework model used to describe the relationships between the variables observed in this research which is the relationship between supply chain management on company performance. The research conceptual framework is in **Figure 3.1.**

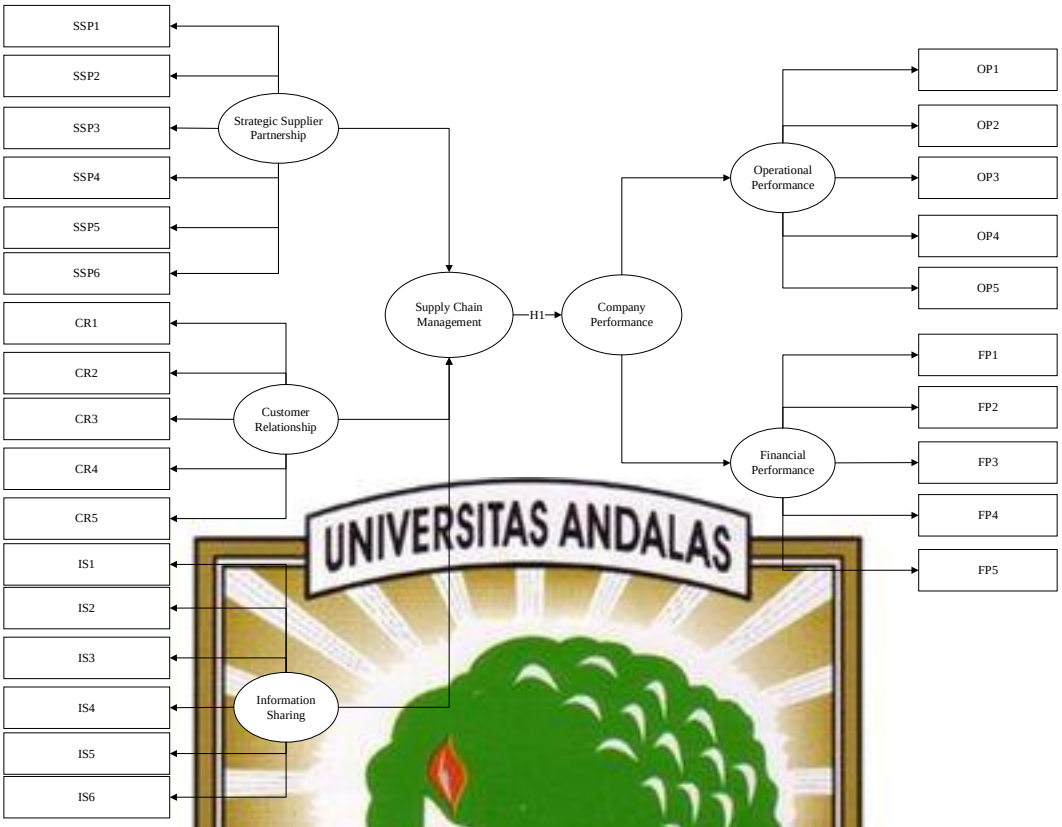

Figure 3.1 Research Conceptual Framework

On **Figure 3.1** it can be seen the independent variable in this research is supply chain management. Whereas the dependent variable in this research is company performance. Each of it has variable called latent variable which are strategic supplier partnership, customer relationship, information sharing, financial performance and operational performance. Each of latent varable has indicators that help to measure the latent variable called the manifest variable. For strategic supplier partnership has 6 indicators, customer relationship has 5 indicators, information sharing has 6 indicators, financial performance has 5 indicators and operational performance has 5 indicators.

3.6 Research Hypothesis

This research aims to test the research hypotheses based on the research objectives regarding the effect of supply chain management to the company performance. The following are the research hypotheses that will be investigated:

H0 : Supply chain management has no significant effect on company performance in the small-medium bakery industry in Padang.

H1 : Supply chain management has significant effect on company performance in the small-medium bakery industry in Padang.

3.7 Method Selection

The quantitative method is used in this research since it is aligned with the objective of the research which is to determine the influence of supply chain management on company performance variables in the small and medium-sized bakery industry in Padang. This research is carried out in such a way so that it is possible to measure quantitatively the amount of changes influence between one indicator and another with the help of statistical tools in order to test the research hypothesis, the statistical technique used to analyze the data is the Structural Equation Modeling (SEM) method using Smart-PLS software tools.

The reason for choosing the SEM-PLS method is because PLS is a general method for estimating path models using latent variables with multiple indicators, SEM method has better analytical and predictive abilities than path analysis and multiple regression because SEM is able to analyze to the deepest level the variables or research models, PLS does not require many assumptions and data does not have to be normally distributed, besides being able to be used to validate the hypothesis PLS can also be used to describe the absence of relationships between latent variables and PLS is an analysis method that can be applied to all data scales, the sample size does not have to be large, for the recommended sample size ranges from 30 to 100 cases (Ghozali, 2014). Because of this SEM-PLS is considered fit as a data analysis technique for this research.

3.8 Data Collection

Data collection is a stage in collecting data in research. Data collection in this research is carried out through three stages. The first stage is data collection technique, the second stage is determination of sample and the final stage is designing the questionnaire.

3.8.1 Data Collection Technique

The data collection used in this research are primary and secondary data.

1. Primary Data

   Primary data is research data that is directly obtained from the source of data collected that related to the problem research (Sugiyono, 2012). The data collection techniques used in this research are:

   a. Questionnaire

      The research instrument used in this research is structured survey questionnaire which is designed to assess the company in term of described variables. The questionnaires are distributed to the respondents of small-medium sized bakery industry actors in Padang. According to Sugiyono (2012) a questionnaire is a data collection tool used to answer a series of questions given to the respondent. The questionnaires distributed were assessed by scoring the research questionnaire, the measurement scale used for scoring the research questionnaire is the interval scale technique. The questionnaire will be given to the owner or representative of the listed bakery industry in Padang.

   b. Interviews

      The interview is used as a data collection technique if the researcher wants to conduct a preliminary study in order to find problems that need to be investigated, and if the researcher wants to know things from the respondents that are more in-depth and the number of respondents is small (Sugiyono, 2012). Interview was conducted with the head of industrial of Dinas Tenaga Kerja dan Perindustrian (Disnakerin) Padang to find out

how the growth and problems faced by small and medium-sized industries in Padang and also completed by collecting the list of SME's data in Padang.

2. Secondary Data

Secondary data is obtained indirectly from other parties and has a relationship or supporting the research (Sugiyono, 2012). Secondary data are collected from journals, books, company publications, data obtained from the Dinas Tenaga Kerja dan Perindustrian (Disnakerin) Padang website and Biro Pusat Statistik (BPS) that have poll data.

3.8.2 Determination of Sample

For the sampling frame was derived from the data Dinas Tenaga Kerja dan Perindustrian (Disnakerin) Padang. The population in this research is the small and medium-sized (SME) bakery industries in Padang. The number of small and medium-sized bakery industries in Padang according to data obtained from the Dinas Tenaga Kerja dan Perindustrian (Disnakerin) of Padang is 86 existing bakery industries.

The unit analysis sample chosen for this research is small and medium-sized bakery industry in Padang. Each SMEs will be represented by either the owner of the company itself or the representative of the company.

This research using the SEM method with the help of PLS software, the recommended number of samples size used can range from 30 to 100 (Husein, 2015). In this research the number of research samples is done by doing census of total SME bakery industries in Padang is 86 existing bakery industries. Therefore, due to limited research time, current condition and location of respondents the sample size is expected to be no less than 30 respondents. This number refers to Mahmud (2011) which states that the minimum sample size for studies using statistical data analysis is 30 (Mahmud, 2011).

The sampling technique used in this research is non-probability sampling method which is purposive sampling, purposive sampling is a strategy in which particular settings persons or events are selected deliberately in order to provide important information that cannot be obtained from other choices (Taherdoost, 2016). Purposive sampling technique applied because this research is requiring intensive interaction with research subjects, so that the research subjects were selected based on researcher's judgment. The subject's criteria are the owner or SCM manager or representative of the company considering the ability of the subjects to participate in this research.

3.8.3 Designing the Questionnaire

The designed questionnaire consist of two major parts. The first part consists of several variables in measuring SCM variables and the second part consist of several company performance variables. The questionnaire was prepared by deciding the indicators or manifest variable of each research variable. The questionnaire and indicators in supply chain management were adopted from the research of Li (2006). The first part of the questionnaire are shown in **Table 3.3**

Table 3.3 Supply Chain Management Questionnaire

Variable	Code	Manifest Variable	Reference
Strategic Supplier Partnership	SSP1	We consider quality as our number one criterion in selecting suppliers.	Li (2006)
	SSP2	We regularly solve problems jointly with our suppliers.	
	SSP3	We have helped our suppliers (giving input) to improve their product quality.	
	SSP4	We have continuous improvement programs that include our key suppliers.	
	SSP5	We include our key supplier in our planning and goal-setting activities.	
	SSP6	We actively involve our key suppliers in new product development processes.	
Customer Relationship	CR1	We frequently interact with customers to set reliability, responsiveness, and other standards for us.	Li (2006)
	CR2	We frequently measure and evaluate customer satisfaction.	
	CR3	We frequently determine future customer expectations	
	CR4	We facilitate customers' ability to seek assistance from us.	
	CR5	We periodically evaluate the importance of our relationship with our customers.	
Information Sharing	IS1	We inform trading partners in advance of changing needs.	Li (2006)
	IS2	Our trading partners share proprietary information with us.	
	IS3	Our trading partners keep us fully informed about issues that affect our business.	
	IS4	Our trading partners share business knowledge of core business processes with us.	
	IS5	We and our trading partners exchange information that helps establishment of business planning.	
	IS6	We and our trading partners keep each other informed about events or changes that may affect the other partners.	

The questionnaire and indicators in company performance were adopted from the research of Indah (2013). The second part of the questionnaire are shown in **Table 3.4**

Table 3.4 Company Performance Questionnaire

Variable	Code	Manifest Varible	Reference
Financial Performance	FP1	Our company is able to reach the level targeted return on sales.	Indah (2013)
	FP2	Our company is able to achieve targeted profit.	
	FP3	Our company is able to reach the level targeted sales growth.	
	FP4	Our company is able to reach the level targeted productivity.	
	FP5	Our company is capable of achieving costs targeted production or even lower.	
Operational Performance	OP1	Our company was able to achieve targeted market share.	Indah (2013)
	OP2	Our company is constantly introducing new product at the right time.	
	OP3	Our company is able to offer products/services that match perceptions customer.	
	OP4	Our company is able to cover the whole scope of targeted market share with using minimum resources.	
	OP5	Our company is able to meet the needs customer.	

3.9 Questionnaire Validation

The validity test is used to evaluate whether or not the questionnaire is valid. The questionnaire is said to be valid if the questions on the questionnaire are able to show something which can be measured by the questionnaire (Ghozali, 2009). The validity is focus on discusses the indicator and content in the questionnaire. The validity of the questionnaire is assessed by an expert who is

aligned with the field of research. After passing the validity test to the experts, then the instrument was revised according on the suggestions/input from the experts.

3.10 Data Processing

After the data has been collected, the data will be processed to obtain the result. Data processing in this research uses the Structural Equation Modeling-Partial Least Square method. The purpose Structural Equation Modeling (SEM) method is to determine the relationship and influence between Supply Chain Management and company performance in small and medium bakery industry in Padang. According to Ghozali (2014), the purpose of PLS is to help the researchers for prediction, by create a component of the latent variable score, weight estimate is obtained based on how the outer model (measurement model, which is the relationship between the indicator and its construct) and the inner model (a structural model that connects latent variables) is specified. Data processing using PLS software, the steps for implementing Structural Equation Modeling (SEM) are as follows (Ghozali, 2014):

1. Determination of Research Variables

   Latent variables are variables in structural equation models that cannot be measured directly, but can be interpreted by one or more indicators. The manifest variable is a variable that can be directly measured (Hair et al. In Yamin & Kurniawan, 2009).

2. Construct the Path Diagram

   Path diagrams are graphical representations of how the variables in a model relate to each other, which provides an overall view of the model structure. The construction of a path diagram is useful for showing the flow of the causal relationship between exogenous and endogenous variables. In order to see the causal relationship, several models were made and then tested using SEM to get the most suitable model, with the

Goodness of Fit criteria. Based on the theory, a structural model is made, then the independent and dependent variables are determined, and then the direction of the arrow is determined according to the direction of causality.

3. Outer Model (Instrument Test)

The instrument test based on the value of Convergent Validity and Discriminant Validity. Convergent validity of the model is assessed based on the correlation between the item score and the construct score. An individual reflexive measure is said to be high if the correlation is above 0.70. However, for development early stages research a measurement scales the loading value of 0.5 to 0.6 is considered sufficient. Discriminant Validity is asses based on cross-loading the measurement model with the construct. If the correlation of construct with the measure object is larger than the measure of the other constructs then this indicates that the latent constructs estimate their block size better than the size of the other blocks. While the reliability construct test is measure based on the Composite Reliability and Cronbachs Alpha values. The construct is considered reliable if the value of Composite Reliability and Cronbachs Alpha is above 0.70 (Ghozali, 2014).

4. Inner Model (Structural Model Test)

The structural model test is performed to determine the correlation and regression between the research variables. The first indicator is by looking at the R-square value which is a test of the goodness-fit model. The second indicator is to see the significance and correlation between variables by looking at the path coefficient value, namely the original sample (o) value and the t-statistical significance value.

5. Goodness of Fit (GoF)

Used to validate the combined performance between models measurement (outer model) and structural model (inner model) whose values ranges from 0-1 with an interpretation of 0-0.25 (Small GoF), 0.25-0.36 (moderate GoF), and above 0.36 (large GoF).

6. Hypothesis Testing

Hypothesis testing on PLS is done by looking at the t-statistic value

compared to the t-table value. If the t-statistic value is greater than the t-table value, then the hypothesis (H1) can be accepted and vice versa (Sugiyono, 2008).

3.11 Discussions

The discussions were carried out on the results of data processing to identify how is the effect of supply chain management on company performance variables in the small and medium-sized bakery industry in Padang. The discussions conducted in this research are discussions of instrument tests, structural tests, hypothesis testing, and supply chain management variables.

3.12 Conclusions

This stage consists of conclusions and suggestions from this research as well as suggestions for further research that are obtained based on the data processing that has been carried out. Conclusions are done based on the objectives and discussions, while the suggestions are recommendations for further research. **Figure 3.2** show the flowcharts of research methodology.

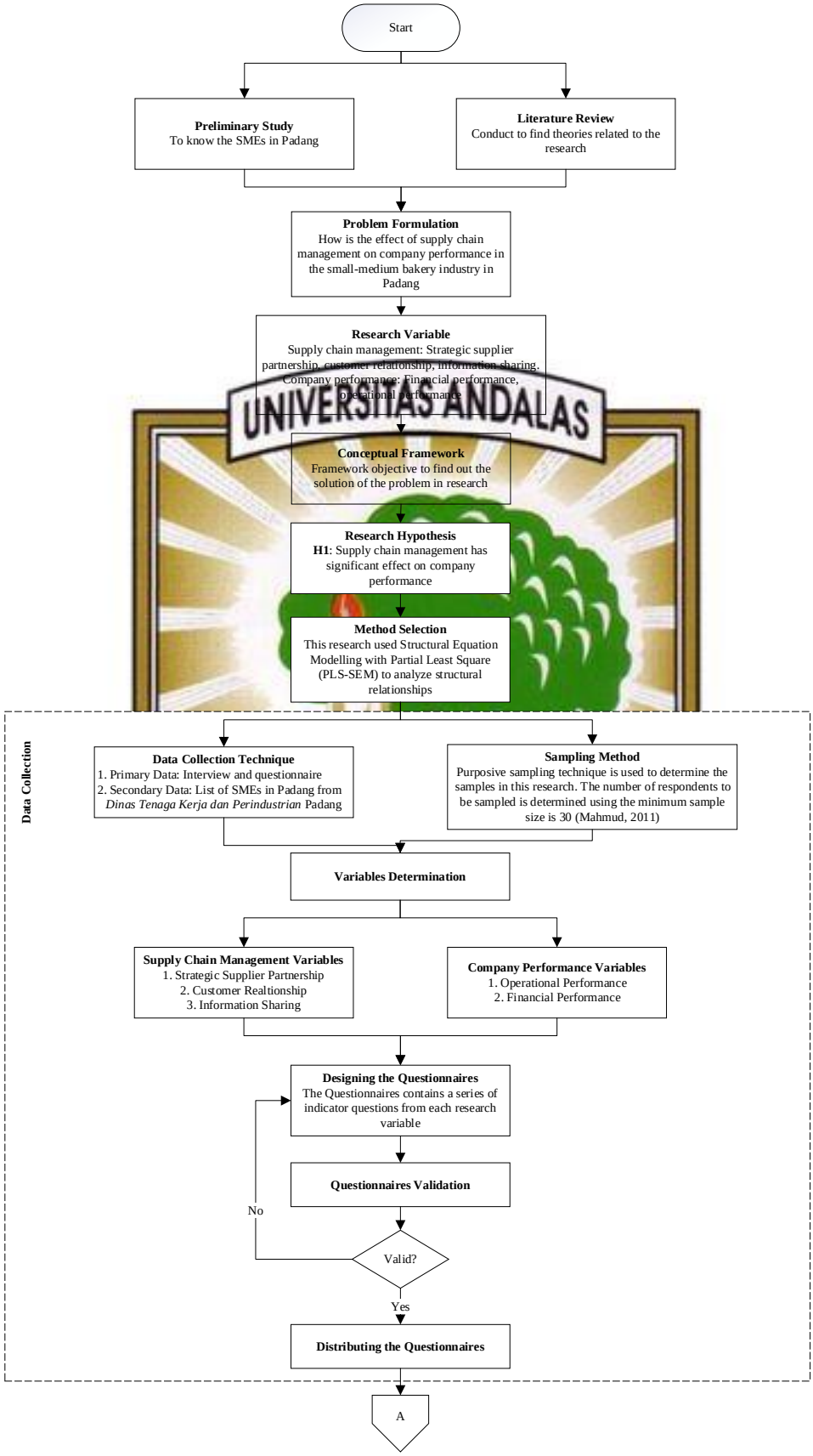

Figure 3.2 Flowchart of Research Methodology

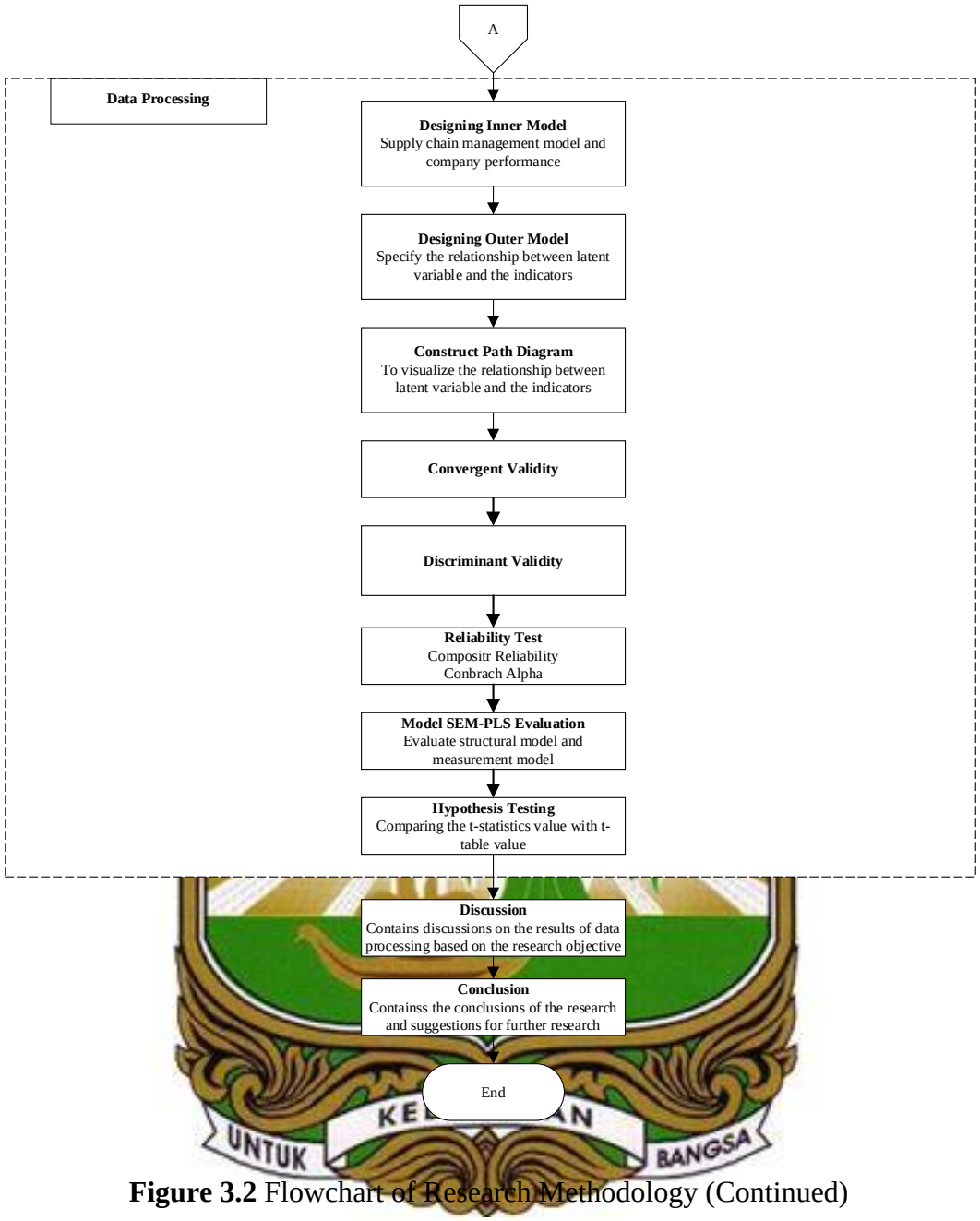

Figure 3.2 Flowchart of Research Methodology (Continued)

CHAPTER IV
DATA COLLECTION AND PROCESSING

This chapter contains the research instrument validation, data collection and processing carried out in the research. The data is processed by outer model, inner model, and hypothesis testing.

4.1 Research Instrument Validation

To minimize the error in the research, the research instrument validation is carried out on the questions in questionnaire for each variable by an expert judgment. The indicators in this research are customer relationship, strategic supplier partnership, information sharing, financial performance, and operational performance. The questionnaire was validated by head of Dinas Tenaga Kerja and Perindustrian Padang. Several improvements in the questionnaire were found in the research instrument, CR3 and CR5 were changed tow new indicators taken from Suharto (2013) research and IS1, IS2 also IS4 were excluded from the information sharing indicators. **Table 4.1** and **Table 4.2** shows the final research instrument after validation.

Table 4.1. Supply Chain Management Final Questionnaire

Variable	Code	Manifest Variable	Reference
Strategic Supplier Partnership	SSP1	We consider quality as our number one criterion in selecting suppliers.	Li (2006)
	SSP2	We regularly solve problems jointly with our suppliers.	
	SSP3	We have helped our suppliers to improve their product quality.	
	SSP4	We have continuous improvement programs that include our key suppliers.	
	SSP5	We include our key supplier in our planning and goal-setting activities.	
	SSP6	We actively involve our key suppliers in new product development processes.	
Customer Relationship	CR1	We frequently interact with customers to set the standards (delivery and responsiveness standards) for us.	Suharto (2013)
	CR2	We frequently measure and evaluate customer satisfaction.	
	CR3	We frequently solving customer problem along with the supplier.	
	CR4	We frequently determine future customer expectations.	
	CR5	We facilitate customers' ability to seek assistance from us or to make complaints.	
Information Sharing	IS1	Our trading partners keep us fully informed about issues that may affect our business	Li (2006)
	IS2	We and our trading partners exchange information that helps establishment of business planning.	
	IS3	We and our trading partners keep each other informed about events or changes that may affect the other partners.	

Table 4.2. Company Performance Final Quistionnaire

Variable	Code	Manifest Variable	Reference
Financial Performance	FP1	Our company is able to reach the level targeted return on sales.	Indah (2013)
	FP2	Our company is able to achieve targeted profit.	
	FP3	Our company is able to reach the level targeted sales growth.	
	FP4	Our company is able to reach the level targeted productivity.	
	FP5	Our company is capable of achieving costs targeted production or even lower.	
Operational Performance	OP1	Our company was able to achieve targeted market share.	Indah (2013)
	OP2	Our company is constantly introducing new product at the right time.	
	OP3	Our company is able to offer products/services that match perceptions customer.	
	OP4	Our company is able to cover the whole scope of targeted market share with using minimum resources.	
	OP5	Our company is able to meet the needs customer.	

4.2 Data Collecting

In this research the sampling is done by doing a census of the population. The questionnaires were distributed from March 15 to December 20, 2021. The sampling used in this research are small medium bakery industries that have been registered in Dinas Tenaga Kerja dan Perindustrian (Disnakerin) Padang. Primary data in this research gathered by distributing questionnaires to the owner or representative of the company.

The questionnaire distributed consists of three parts, they are general respondent data which contains data on the identity of the respondent, the Supply Chain Management section which consists of three variables, and the company performance which consists of two variables and each of which have several questions as an indicator.

The respondents of this research are the owner of bakery SMEs in the city of Padang. The research questionnaire is only filled out by the company's owner or company representative because only they know about the condition of the company, including how the performance of the employees. This will be very helpful in obtaining accurate data and all desired data can be collected as a whole.

From a total of 86 bakery SMEs registered at Dinas Tenaga Kerja dan Perindustrian Padang, only 50 company available to be contacted. Then 50 questionnaires were distributed, and there were 15 SMEs who did not want to fill out the questionnaires because some of these companies were not allowed to share the company data or other any particular reasons. The total number of respondents obtained after distributing the questionnaires were 35 respondents. Of the 35 respondents, re-sorting was done by looking at the classification of SMEs based on the number of labor and the total value of their investment. Using information from Badan Pusat Statistik (BPS) group of industry can be seen in **Table 4.3**

Table 4.3 Group of Industry Based on Investment Value and Number of Labor

Criteria	Micro Industry	Small Industry	Medium Industry	Big Industry
Investment Value (Rp.000)	< 5.000	> 5000 - 200.000	> 200.000 - 1000.000	> 1000.000
Number of Labor	< 4	5 – 19	20 - 99	> 100

Source: Badan Pusat Statistik (2013)

The sorting is done by look at the classification of Small and Medium-sized Enterprise (SME) of the company. After sorting, there are 5 companies categorized as micro industry and 30 companies that meet small medium industry criteria. With the sample of 30 respondents, data processing is done. **Table 4.4** is

a list of selected SMEs.

Table 4.4 List of Selected SMEs.

No	Name of Company	Criteria	
		Number of Labor	Investment Value (Rp.000)
1	Asyifa Cake&Bakery	10	45.000
2	Keripik Balado Santi	5	7.500
3	Rakik Ica	5	8.300
4	Indonesia Bakery	5	50.000
5	Rimbun Padi Berjaya	66	6.104.910
6	Bawang Goreng Allimasni	7	7.500
7	Rumah Markisa	2	1.000
8	Classic Bread	23	1.369.086
9	Raniah Cake&Bakery	5	15.000
10	Zicko bakery	5	50.000
11	Syaifa cake	8	7.500
12	Dallas Bakery	20	500.000
13	Thessa Cake	10	100.000
14	Kripik Onang	6	6.000
15	nova cake	8	50.000
16	Qi Pastry	6	15.000
17	Sakinah Bakery	10	109.100
18	Keripik Balado Cahaya	8	40.000
19	Padasuka Cake	5	25.000
20	Kedai rakik	14	7.000
21	Kedai er	5	20.000
22	Kamil bakery	6	6.000
23	Bilih mario	5	7.000
24	Kelapa gading kitchen	14	25.000
25	Djava Young Bakery		
26	Susu kedelai	5	7.500
27	Amora Kerupuk Jangek		
28	Iqbal cake	7	25.000
29	Erni Donat	5	12.000
30	Roti Selera	8	50.000

4.3 Data Processing

The data was processed by carrying out on the collected questionnaire with the help of statistical tools in order to test the research hypothesis, the statistical tool used to analyze the data in this research is Structural Equation Modeling (SEM) method using Smart-PLS software tools. The structural equation modeling method has two variables, the latent variable and the manifest variable. Latent variables are variables in structural equation models that cannot be measured directly but can be interpreted by one or more indicators. The manifest variable is a variable that can be directly measured. The latent variables in this research are Strategic Supplier Partnership (SSP), Customer Relationship (CR), Information Sharing (IS) or also called the independent variable and Financial Performance (FP), and Operational Performance (OP) or the dependent variable. While the manifest variable is an indicator to be measured by the question items in the questionnaire. The structural Equation Modeling (SEM) method consists of two stages, outer model test and inner model test.

4.3.1 Outer Model (Instrument Test)

An outer model test is carried out to validate that the indicators in the research instrument used are suitable for measurement (valid and reliable). The outer model will explain the relationship between latent variables with their indicators.

4.3.1.1 Convergent Validity

Convergent validity is the correlation between the item score and the construct score. Convergent validity can be seen from the results of the outer loading of the PLS software output. Outer loading above 0,7 is desirable. If outer loadings are less than 0,4 the indicator should be deleted. When an outer loading is between 0,4 and 0,6 is considered sufficient for early-stage research (Hair et all. 2011). However in this research, an outer loading limit of 0.7 is used. The value

of outer loading can be seen in **Table 4.5.**

Table 4.5 Outer Loading

Indicators	Strategic Supplier Partnership	Customer Relationship	Information Sharing	Financial Performance	Operational Performance
SSP1	0,850				
SSP2	0,784				
SSP3	0,875				
SSP4	0,855				
SSP5	0,699				
SSP6	0,736				
CR1		0,933			
CR2		0,927			
CR3		0,698			
CR4		0,923			
CR5		0,952			
IS1			0,954		
IS2			0,975		
IS3			0,987		
FP1				0,867	
FP2				0,953	
FP3				0,935	
FP4				0,923	
FP5				0,765	
OP1					0,801
OP2					0,873
OP3					0,937
OP4					0,729
OP5					0,829

Based on the outer loading value, there are 2 indicators with construct score values below 0,7. This shows that indicators SSP5 and CR3 are invalid and must be re-estimated for validity. Before running the validity test, the invalid variables must be removed. The outer loading being re-estimated and obtained the outer loading after the re-estimation can be seen in **Table 4.6.**

Tabel 4.6 Outer Loading Re-estimation

Indicators	Strategic Supplier Partnership	Customer Relationship	Information Sharing	Financial Performance	Operational Performance
SSP1	0,921				
SSP2	0,811				
SSP3	0,920				
SSP4	0,870				
SSP6	0,647				
CR1		0,948			
CR2		0,936			
CR4		0,945			
CR5		0,961			
IS1			0,954		
IS2			0,975		
IS3			0,987		
FP1				0,867	
FP2				0,954	
FP3				0,937	
FP4				0,925	
FP5				0,761	
OP1					0,810
OP2					0,868
OP3					0,939
OP4					0,716
OP5					0,831

The outer loading re-estimation above shows that there is still one indicator with a construct score value below 0.7. This indicates that indicator SSP6 is invalid, and must be re-estimated for validity. **Table 4.7** shows the second re-estimation.

Tabel 4.7 Outer Loading Second Re-estimation

Indicators	Strategic Supplier Partnership	Customer Relationship	Information Sharing	Financial Performance	Operational Performance
SSP1	0,959				
SSP2	0,832				
SSP3	0,948				
SSP4	0,851				
CR1		0,949			
CR2		0,936			
CR4		0,946			
CR5		0,960			
IS1			0,954		
IS2			0,975		
IS3			0,987		
FP1				0,867	
FP2				0,954	
FP3				0,937	
FP4				0,925	
FP5				0,761	
OP1					0,810
OP2					0,868
OP3					0,939
OP4					0,716
OP5					0,831

The second re-estimation indicate that the indicators above are valid since all the construct score value of the outer loading in each indicator are above 0,7 so it meets convergent the validity test.

Average Variance Extracted (AVE) is a measure of convergent validity which aims to assess the variance of measurement items by comparing them with the variance of measurement errors. The recommended AVE value is above 0.50. The following is a comparison of the Average Variances Extracted (AVE) value before being re-estimated and the Average Variances Extracted (AVE) value after being re-estimated which is shown in **Table 4.8.**

Table 4.8 Average Variances Extracted (AVE)

Variables	Average Variances Extracted (AVE)	Average Variance Extracted (AVE) Re-estimate
Strategic Supplier Partnership	0,648	0,809
Customer Relationship	0,795	0,898
Information Sharing	0,945	0,945
Financial Performance	0,795	0,795
Operational Performance	0,700	0,699
Supply Chain Management	0,584	0,643
Company Performance	0,681	0,725

Table 4.8 shows the AVE values after reestimation fulfill the requirements. it can be interpreted that each variable has fulfilled the convergent validity test because no construct has an AVE value below 0.5. The next stage is to do a discriminant validity test.

4.3.1.2 Discriminant Validity

The discriminant validity test is to indicate whether the construct (latent variable) is able to predict the manifest variable in their dimensions better than manifest variables in other dimensions. The cross-loading value is used in discriminant validity where the desired construct must be greater than the cross-loading value from other constructs. Cross-loading factor value can be seen in **Table 4.9**

Table 4.9 Cross Loading Factor Value

Indicators	Strategic Supplier Partnership	Customer Relationship	Information Sharing	Financial Performance	Operational Performance
SSP1	0,958	0,558	0,467	0,339	0,493
SSP2	0,832	0,365	0,491	0,257	0,304
SSP3	0,948	0,517	0,648	0,337	0,465
SSP4	0,851	0,690	0,389	0,654	0,742
CR1	0,626	0,949	0,583	0,379	0,651
CR2	0,441	0,936	0,500	0,403	0,664
CR4	0,637	0,946	0,462	0,466	0,697
CR5	0,567	0,960	0,428	0,467	0,728
IS1	0,508	0,461	0,954	0,104	0,393
IS2	0,535	0,511	0,975	0,126	0,375
IS3	0,564	0,544	0,987	0,173	0,423
FP1	0,626	0,526	0,259	0,867	0,846
FP2	0,518	0,388	0,168	0,954	0,771
FP3	0,374	0,293	0,045	0,937	0,705
FP4	0,255	0,234	-0,058	0,925	0,712
FP5	0,192	0,598	0,212	0,761	0,705
OP1	0,386	0,377	0,103	0,926	0,810
OP2	0,595	0,847	0,538	0,645	0,868
OP3	0,584	0,701	0,421	0,766	0,939
OP4	0,334	0,744	0,531	0,393	0,716
OP5	0,455	0,444	0,220	0,652	0,831

Table 4.9 Shows 2 items that have a smaller cross loading factor value than the other constructs which are OP1 and OP4. These items need to be removed from the model and the model being re-estimated in the discriminant validity test can be seen in **Table 4.10**.

Table 4.10 Cross Loading Factor Value Re-estimation

Indicators	Strategic Supplier Partnership	Customer Relationship	Information Sharing	Financial Performance	Operational Performance
SSP1	0,958	0,558	0,467	0,339	0,493
SSP2	0,832	0,365	0,491	0,257	0,304
SSP3	0,948	0,517	0,648	0,337	0,465
SSP4	0,851	0,69	0,389	0,654	0,742
CR1	0,626	0,949	0,583	0,379	0,651
CR2	0,441	0,936	0,5	0,403	0,664
CR4	0,637	0,946	0,462	0,466	0,697
CR5	0,567	0,96	0,428	0,467	0,728
IS1	0,508	0,461	0,954	0,104	0,393
IS2	0,535	0,511	0,975	0,126	0,375
IS3	0,564	0,544	0,987	0,173	0,423
FP1	0,626	0,526	0,259	0,867	0,846
FP2	0,518	0,388	0,168	0,954	0,771
FP3	0,374	0,293	0,045	0,937	0,705
FP4	0,255	0,234	-0,058	0,925	0,712
FP5	0,192	0,598	0,212	0,761	0,705
OP2	0,595	0,847	0,538	0,645	0,868
OP3	0,584	0,701	0,421	0,766	0,939
OP5	0,455	0,444	0,22	0,652	0,831

Cross-loading factor value re-estimated in **Table 4.10** it is clear that all constructs or latent variables already have strong discriminant validity, where the indicators in the construct indicator block are all better than the indicators in the other construct indicator block. **Figure 4.4** shows the model after several indicators have been removed.

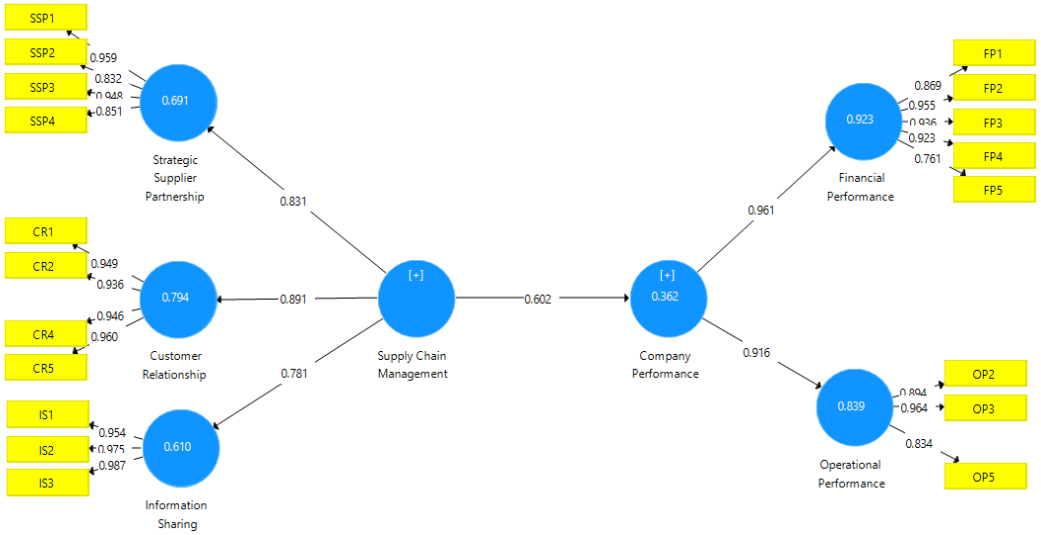

Figure 4.4 SEM-PLS Model after the Convergent and Discriminant Validity Test

Figure 4.4 shows that the manifest variable in this research can explain the latent variable and the remains indicators are valid. The next stage is to do a construct reliability test.

4.3.1.3 Reliability Test

Construct reliability test measured using two criteria: composite reliability and Cronbach's alpha. Composite reliability is to assess the internal consistency of indicators in a latent variable. Cronbach's alpha is a metric of reliability that has a value ranging from 0 to 1. The construct is considered reliable if the composite reliability and Cronbach's alpha values are above 0.70 and considered fairly good if the value is between 0.40 - 0.60 (Ghozali, in Wijayanti, 2016). **Table 4.11** shows the composite reliability and Cronbach's alpha value.

Tabel 4.11 Composite Reliability and Cronbach's Alpha Value

Variables	Composite Reliability	Cronbach's Alpha	Standard	Decision
Strategic Supplier Partnership	0,944	0,920	> 0,7	Reliable
Customer Relationship	0,972	0,962		Reliable
Information Sharing	0,981	0,971		Reliable
Financial Performance	0,951	0,934		Reliable
Operational Performance	0,926	0,879		Reliable
Supply Chain Management	0,947	0,938		Reliable
Company Performance	0,952	0,941		Reliable

The composite reliability and Cronbach's alpha value in **Table 4.11** shows that all variables have a value greater than 0.7 indicating that the constructs are reliable.

4.3.2 Inner Model (Structural Test)

The inner model analysis in this research is to find the correlation between supply chain management and company performance. The inner model analysis is carried out by looking at the R-square value, path coefficients and the significance value (bootstrapping).

4.3.2.1 R-Square

The structural model was evaluated by looking at the R-square results from latent variables. Following is the result of the R-square which can be seen in

Table 4.12 R-Square Results

Variables	**R Square**	**R Square Adjusted**
Company Performance	0,362	0,339

Table 4.12 shows that the value of R-Square Company Performance is 0,362 which indicates that the Supply Chain Management variable affects the Company Performance variable by 36,2%, and the rest 63,8% is affected by variables outside the variables used in this research.

4.3.2.2 Path Coefficient

In addition to knowing the value of the inner model by looking at the value of the path coefficient value range from -1 to 1 obtained from bootstrapping **Table 4.13** shows the value of the Path Coefficient.

Table 4.13 Path Coefficient

Variables	Original Sample (O)	Decision
Supply Chain Management -> Strategic Supplier Partnership	0,831	Positive
Supply Chain Management -> Customer Relationship	0,891	Positive
Supply Chain Management -> Information Sharing	0,781	Positive
Supply Chain Management -> Company Performance	0,602	Positive
Company Performance -> Financial Performance	0,961	Positive
Company Performance -> Operational Performance	0,916	Positive

Table 4.13 shows that the original sample (O) value of supply chain management to company performance is 0,602. This value indicates that supply chain management has a positive relationship with company performance.

4.3.2.3 Significant Test (Bootstraping)

To analyze how is the effect of supply chain management on company performance in the small-medium of bakery industry in Padang it is necessary to perform a significance test (bootstrapping) to find out the significance values between constructs contained P values and T statistics to see where a hypothesis is accepted or rejected.

Tabel 4.14 Bootstraping Result

Variables	T Statistic	T Table	P Value	Significant Test
Supply Chain Management -> Strategic Supplier Partnership	9,092	1,96	0,000	Significant
Supply Chain Management -> Customer Relationship	30,970		0,000	Significant
Supply Chain Management -> Information Sharing	8,429		0,000	Significant
Company Performance -> Financial Performance	36,264		0,000	Significant
Company Performance -> Operational Performance	31,072		0,000	Significant
Supply Chain Management -> Company Performance	3,618		0,000	Significant

4.3.3 Hypothesis Testing

From **Table 4.14** shows that the T statistics value between the Supply Chain Management influences the company performance is worth 3,618 and the p-value is below 0,05. The following are the results of data processing from bootstrapping result to hypothesis testing between Supply Chain Management and company performance, which are given in **Table 4.15**.

Table 4.15 Hypothesis Testing

Variable	T Statistics	T Tabel	P Value	H0/ H1
Supply Chain Management -> Company Performance	3,618	1,96	0,000	H1 Accepted

4.3.4 Goodness of Fit (GoF)

From The GoF test results are obtained from the multiplication of the AVE average root values with the average root value of r-square, which the values can be seen from **Table 4.8** and **Table 4.12**. From the results of the GoF calculation, a value of 0.516 is obtained. This value indicates that from scale 0-1 the model has a big GoF value and the greater the GoF value the more appropriate in describing the research sample.

CHAPTER V

DISCUSSION

This chapter contains of the discussion in the SEM-PLS model and the effect of supply chain management variables on company performance.

5.1 SEM–PLS Model (Structural Equation Modeling – Partial Least Square)

The first step is to create a path diagram with the help of PLS software. The data processed in SEM-PLS Model consists of outer model analysis (instrument test) and inner model analysis (structural test). The outer mode analysis is designed to identify and specify the nature of the relationship between a latent variables with their indicators while the inner model analysis is designed by describing the relationship model between constructs or latent variables with the other constructs.

5.1.1 Outer Model Analysis (Instrument Test)

The outer model analysis was used to see whether the model designed was valid and reliable. The first test is to determine the validity of the model by the convergent validity test. The model is said to be good if it has an outer loading value above 0.7 (Ghozali, 2014). Based on the value of outer loading that can be seen in **Table 4.5** it is known that 2 indicators SSP5 with 0.699 and CR3 with 0.698 are invalid because they have an outer loading value below 0.7. The invalid indicators are deleted and the model is re-estimated.

After re-estimating was done there is still 1 invalid indicator SSP6 with 0.647, it is necessary to do a second re-estimation by eliminating the invalid indicator. After the second re-estimation is carried out, the outer loading value for all indicators are already above desirable outer loading above 0.7 and can proceed to the next stage. The value of outer loading after re-estimation can be seen in **Table 4.7**. The deleted indicators are SSP5, CR3, and SSP6 meaning these indicators have low degrees of accuracy in this research. Average Variance Extracted AVE values are re-estimated after the indicators were deleted from **Table 4.8**. It can be interpreted that each variable has fulfilled convergent validity because there is no construct that has an AVE below the desired value which is 0,5. The next stage is to do discriminant validity test.

The second test discriminant validity is to indicate whether that the indicator or manifest variable is able to predict the latent variable. The cross-loading factor value is used in discriminant validity where the desired construct must be greater than the cross-loading value from other constructs. For example, SSP1 is an indicator of the latent variable Strategic Supplier Partnership. The SSP1 value must be greater than the crossloading value of the other indicators in the same row. The cross-loading value can be seen in **Table 4.9** which shows that there are some constructs with lower indicators than other constructs with indicators, which are indicators OP1 and OP4. Therefore, indicators OP1 and OP4 are deleted from the model because they do not have sufficient discriminant.

The discriminant validity was then re-estimated. After re-estimating done, from **Table 4.10** it is known that all manifest variables have been able to predict the value of the latent variable compared to indicators or manifest variables in the same row. After it was known that all the data from the research were valid, **Figure 4.4** shows the SEM-PLS Model after the convergent and discriminant validity test and several indicators have been removed. **Figure 4.4** shows that the manifest variable in this research can explain the latent variable and the remains indicators are valid. The next stage is to do a reliability test was carried out.

The purpose of this reliability test is to see whether all of these values are reliable or not. Composite reliability is to assess internal consistency of indicator in latent variable. Cronbach's alpha is a metric of reliability that has a value ranging from 0 to 1. A model is said to be reliable if the value of reliability and cronbach's alpha is above 0.7 (Ghozali, 2014). Based on the results of composite reliability and Cronbach's alpha in **Table 4.11** is known that all variables are valued above 0.7 indicating that the constructs are reliable. The instrument test has proven the model to be valid and reliable then the next step is to do the inner model test (structural model).

5.1.2 Inner Model Analysis (Structural Model)

The correlation between supply chain management and company performance was tested using the inner model test. The test is carried out by looking at the R-square value, path coefficients and the T statistical significance value from bootstraping.

R-square form **Tabel 4.12** shows that the value of R-Square Company Performance is 0,362 which indicate that Supply Chain Management variables in this research which are strategic supplier partnership, customer relationship and information sharing are affecting the Company Performance by 36,2%, and the rest 63,8% is effected by variables ourside the variable in this research. Next is to look at the value of path coefficient.

Path coefficient is measuring how effectively the observed value as well as parameter estimation is generated by the model. The value of path coefficient value range from -1 to 1 and is obtained from bootstrapping. If the path coefficient value > 0 indicates that the model has a positive relationship, while the path coefficient value < 0 indicates that the model has a negative relationship. **Table 4.13** shows the path coefficient value with the original sample (O) from the supply chain management to company performance is 0,602. This value proves that supply chain management has a positive relationship with company performance.

5.1.3 Hypothesis Testing Analysis

Hypothesis testing can be formulated from the significant test by looking at the T statistic value and P value in bootstraping, if the statistical T value is greater than the T table, it can be concluded that there is an influence of significant effects between variables. T table is seen based on the degrees of freedom (v = n-1, where n is the number of samples) in this research is 1,96.and the alpha is 5%. And if the P value is below 0.05, it can be concluded that there is an influence significant effects between variables and so vice versa.

Table 4.15 shows that the supply chain management to the company performance has a T statistics value of 3,618 which is bigger than the T table, 1,96. and the P value is below 0,05. So that H1 is accepted that Supply Chain Management has significant effect on company performance in the small and medium-sized bakery Industry in Padang.

5.2 The Effect of Supply Chain Management Variables on Company Performance

The supply chain management has three variables measured in this research, Strategic Supplier Partnership (SSP), Customer Relationship (CR), and Information Sharing (IS). Based on the data processing using Structural Equation Modeling (SEM) method with the help of smart-PLS software, the effect of each Supply Chain Management variables on company performance are.

5.2.1 Strategic Supplier Partnership

This strategic supplier partnership includes more in the procurement and ordering of raw materials as well as the company's relationship with its suppliers. Strategically supplier partnership aligned with SME can work closely together

and eliminate wasteful time and effort. The strategic supplier partnership is considered important in the formation of supply chain management. The results of data processing by PLS analysis can be seen in **Table 4.13** of the path coefficient that describes the strength of the relationship between variables with the path coefficients values. This strategic supplier partnership variable gives the second lowest effect in the formation of the supply chain management latent variable with a 0.831 and having an effect of 83,1% indicates that SSP has a positive relationship with SCM. Strategic Supplier Partnership is an important element in implementing good Supply Chain Management because it is included in the distribution (shipping) part. If the company can maintain supplier confidence in the delivery of supply and can implement the delivery system well, then the implementation of Supply Chain Management will be even more optimal in achieving company goals. **Table 5.1** shows the loading factor of the Strategic Supplier Partnership indicator.

Table 5.1 Cross Loading Factor of Strategic Supplier Partnership

Indicators	Loading Factor
We consider quality as our number one criterion in selecting suppliers (SSP1).	0,958
We regularly solve problems jointly with our suppliers (SSP2).	0,832
We have helped our suppliers to improve their product quality (SSP3).	0,948
We have continuous improvement programs that include our key suppliers (SSP4).	0,851

Based on data processing that has been done using PLS software, it is known that the SSP1 indicator has the highest loading factor value which is 0,958. This provides information that small and medium bakery industries in Padang are prioritizing the quality of the material in choosing their supplier. The indicator with the lowest loading factor value is SSP2 with 0.832, which is the company is able to solve problems along with the supplier. It can be seen that the SSP2 indicator on the formation of strategic supplier partnerships in its application to bakery SMEs in Padang has not been able to implement optimally. It is important to have a few suppliers who are willing to share responsibility for the success of the product and offer more cost-effective cost choices. An effective supplier partnership is critical component of leading the supply chain.

5.2.2 Customer Relationship

From the results of data processing by PLS analysis can be seen in **Table 4.13** of path the coefficient that describes the strength of the relationship between customer relationship variables. This customer relationship variable gives the highest effect in the formation of the supply chain management with the highest path coefficient values compared to other variables, with 0.891 and having an effect of 89,1%. This explains that the implementation of Supply Chain Management in food SMEs in Padang is strongly affected by the customer relationship. The customer Relationship variable includes several indicators. **Table 5.2** shows the Loading Factor of the Customer Relationship indicators

Table 5.2 Loading Factor of Customer Relationship

Indicators	Loading Factor
We frequently interact with customers to set the standards (delivery and responsiveness standards) for us (CR1).	0,949
We frequently measure and evaluate customer satisfaction (CR2).	0,936
We frequently determine future customer expectations (CR4).	0,946
We facilitate customers' ability to seek assistance from us or to make complaints (CR5).	0,960

Based on the processing of data obtained using PLS software, the indicator that most influences with the highest factor loading value is CR5 which is 0,960, This shows that most the small medium bakery companies in Padang facilitate their customer's services and handle their customer complaints to maintain the customer relationship. Meanwhile, the indicator with the lowest loading factor value is CR2 with 0,936 which means the company is measuring and evaluating customer satisfaction. Based on the phenomenon that occurs in bakery SMEs in Padang, this is very difficult to do, not all companies can maintain customer satisfaction with relatively SMEs have limited costs in launching new products, difficulty in obtaining raw materials and limited human resources from the company itself.

5.2.3 Information Sharing

The next variable that influences the formation of the supply chain management latent variable is Information Sharing (IS). From the results of data processing by PLS analysis can be seen in the **Table 4.13** of the path coefficient that describes the strength of the relationship between variables information sharing. This variable gives the lowest effect in the formation of the supply chain managementt compared to other variables, with 0.781 and having an effect of 78,1%. Information sharing variable includes several indicators. **Table 5.3** shows the loading factor of information sharing indicators.

Table 5.3 Loading Factor of Information Sharing

Indicators	Loading Factor
Our trading partners keep us fully informed about issues that may affect our business (IS1).	0,954
We and our trading partners exchange information that helps establishment of business planning (IS2).	0,975
We and our trading partners keep each other informed about events or changes that may affect the other partners (IS3).	0,987

Based on the table above, the highest factor load value obtained in data processing for information sharing is the IS3 indicator with 0.987. From this value, it can be said that the relationship between IKM companies in the city of Padang and their suppliers is quite good in fulfilling each other information. For companies, the information to find a partner suppliers with a good quality raw materials at low prices is very important to gain profits and improve company performance, therefore the role of information plays very important in purchasing and procuring raw materials. Furthermore, the lowest loading factor value is the IS3 indicator with 0,954. This means trading partners are not yet fully able to inform about issues that may affect the company. Supply chains partner who exchange information effectively and able to work together as a single entity can understand the needs of the end customers better and hence can respond to market demand change quicker.

CHAPTER IV
CONCLUSIONS

This chapter contains the conclusions and suggestions of the research.

6.1 Conclusions

This research aims to determine the effect of Supply Chain Management on company performance in the Small and Medium bakery Industry in Padang. Based on data processing and discussion, the following conclusions can be drawn:

1. Supply chain management has a positive (+) and significant effect on company performance. This condition implies that by implementing supply chain management in the Small and Medium bakery Industry in Padang, this would affect a better company performance both financial and operational performance, so that SMEs in Padang can achieve their goals in improving company performance so that the company can sustain in the competition.
2. The variable that has the most influence on supply chain management is the customer relationship variable. Where customer relationship is how the company establishes a communication relationship with its customers and how the company at handling customer complaints, creates good long-term relationships with customers, maintains customer satisfaction and can fulfill customer demands. Good relationships with supply chain members, including customers are needed for the successful implementation of SCM practice. The bakery SMEs in Padang, the majority of companies can fulfill this aspect.
3. The variable that has the least influence on the formation of Supply Chain Management is the information sharing variable. Most companies are not able to fulfill demand if the customer suddenly changes the information to the demand. Supply chains partner who exchanges information effectively

and able to work together as a single entity can understand the needs of the end customers better and hence can respond to market demand change quicker.

6.2 Suggestion

1. Small-Medium Bakery Industry in Padang

   This research is expected to provide input for alternative solutions and considerations in making decisions related to improving bakery SME supply chain management and it has been proven that improving the supply chain management will have a positive effect on company performance, both in financial performance and operational performance. In addition, to increase SME knowledge regarding supply chain management and what variables influence in it.

2. Government

   This research is expected to be a reference for related parties such as the Dinas Tenaga Kerja dan Perindustri Kota Padang to commit to maintaining a supply chain management system. Dinas Tenaga Kerja dan Perindustri Kota Padang can provide a consultation program related to the implementation of SCM standards for bakery SMEs in Padang and also partner with other agencies, such as universities through community service programs. And also more active in socializing the importance of supply chain management, because there are still many bakery SMEs who do not know the entire supply chain management in Padang.

3. Future Researcher

   As for some suggestions that need to be considered for future researchers can add some additional SCM variables that may affect company performance in SME bakery Padang else than strategic supplier partnership variables, customer relationships and information sharing variables. And use scoring table for the questionairre validation from expert judment to gather more valid questionairre.

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APPENDICES

APPENDIX A

Research Questionnaire

APPENDIX A

RESEARCH QUESTIONNAIRE

Research Questionnaire Link:

https://docs.google.com/forms/d/e/1FAIpQLSeMuYrtTxSp3I-IwW7QQQO0DdUjx1IdgkBQeE2NkageglbKqw/viewform?usp=sf_link

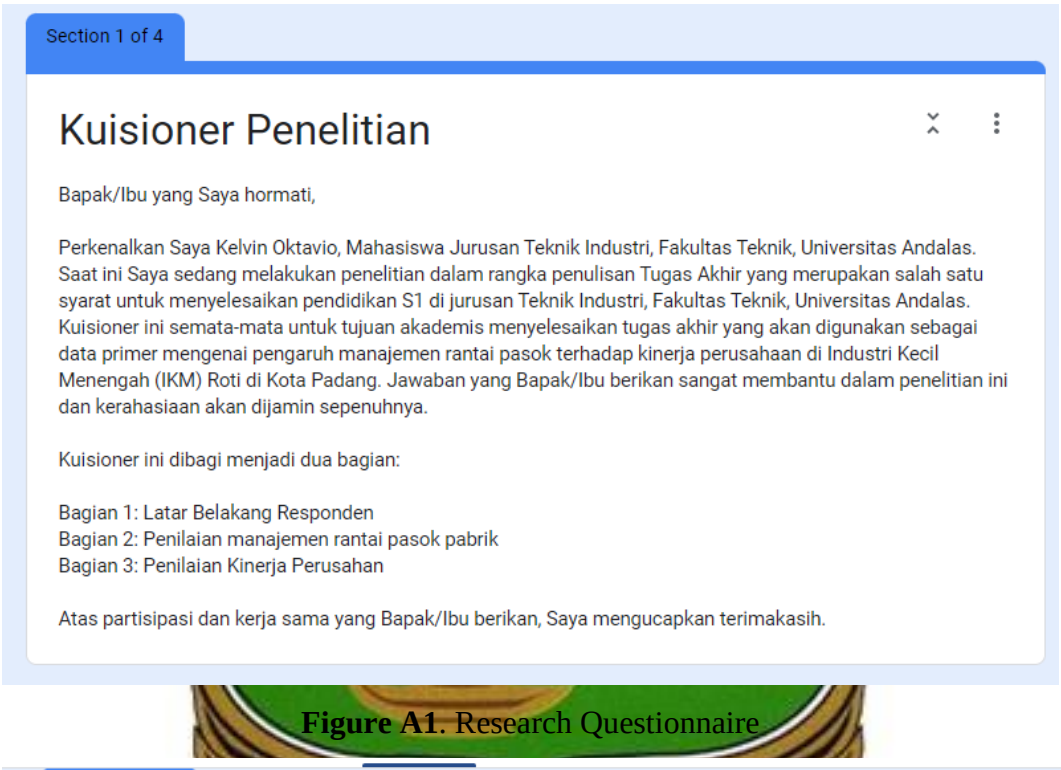
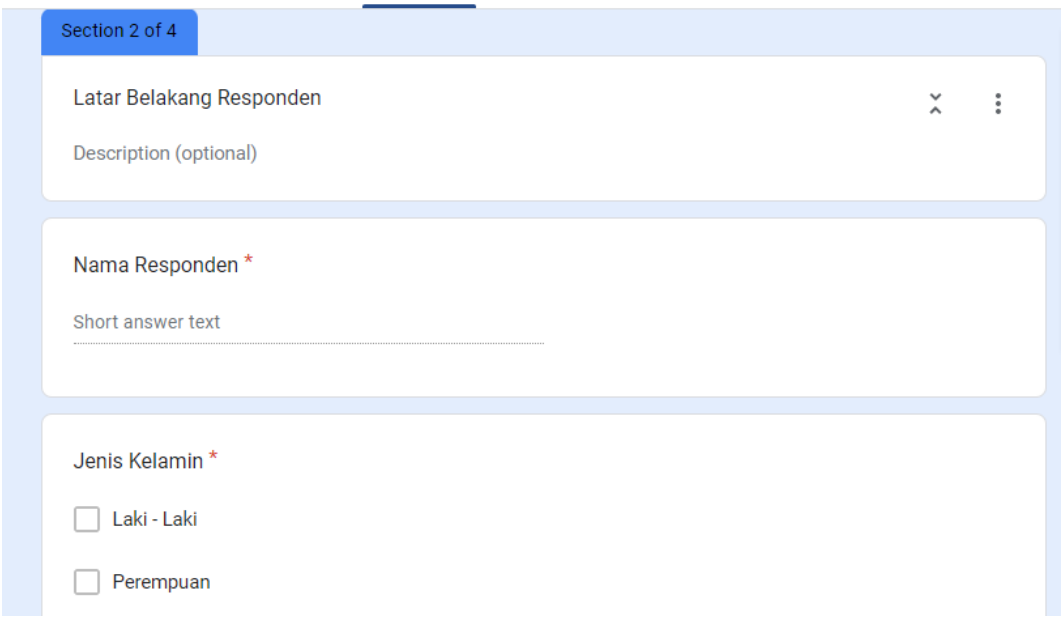


Figure A1. Research Questionnaire



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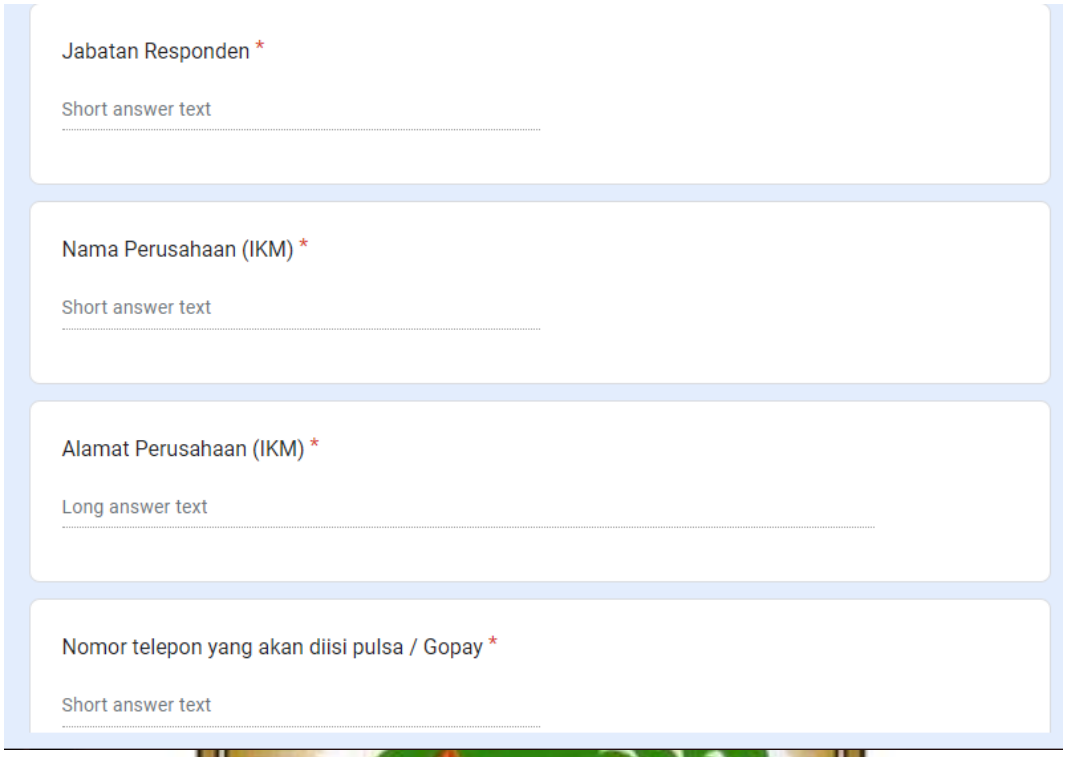

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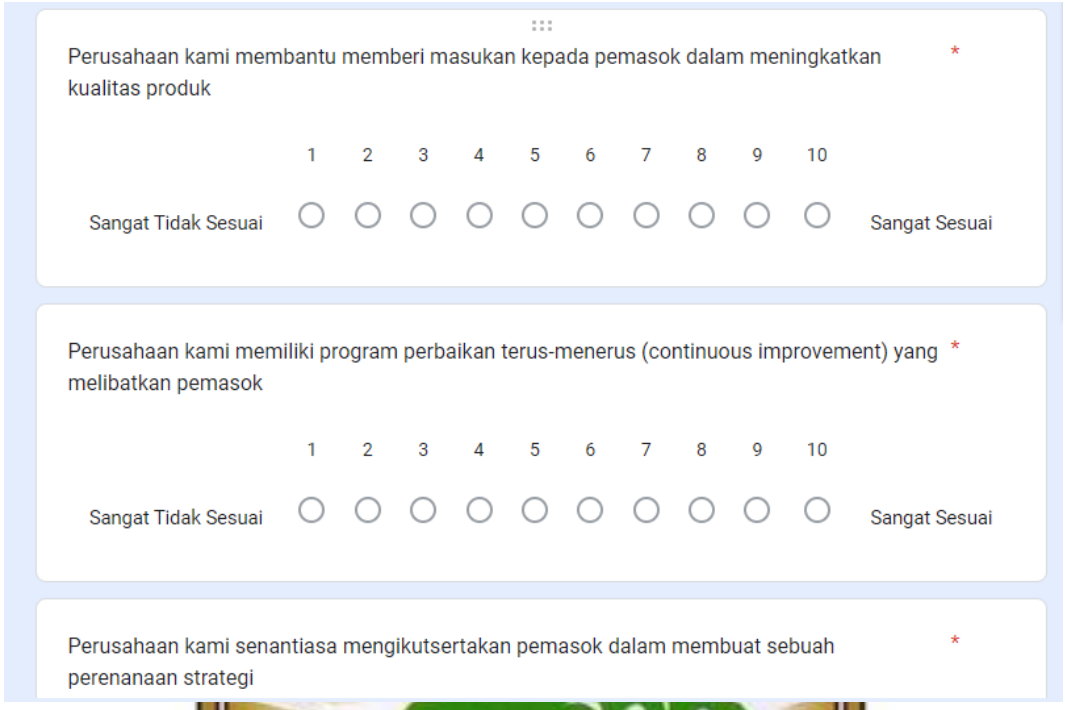
Figure A1. Research Questionnaire (Continue)



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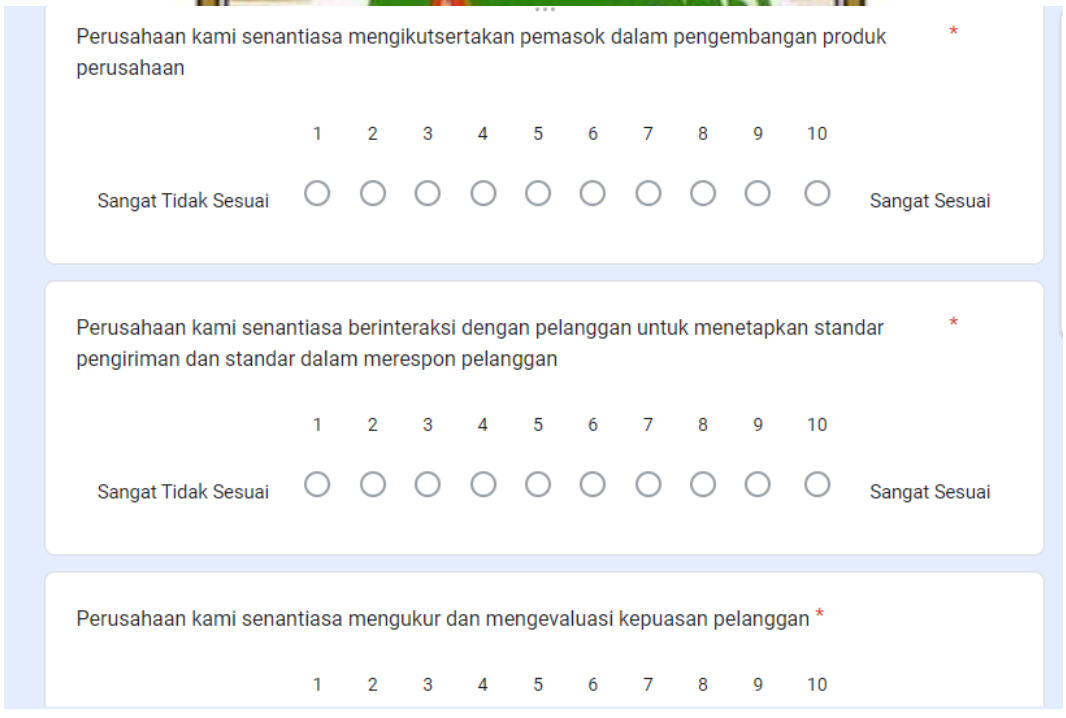

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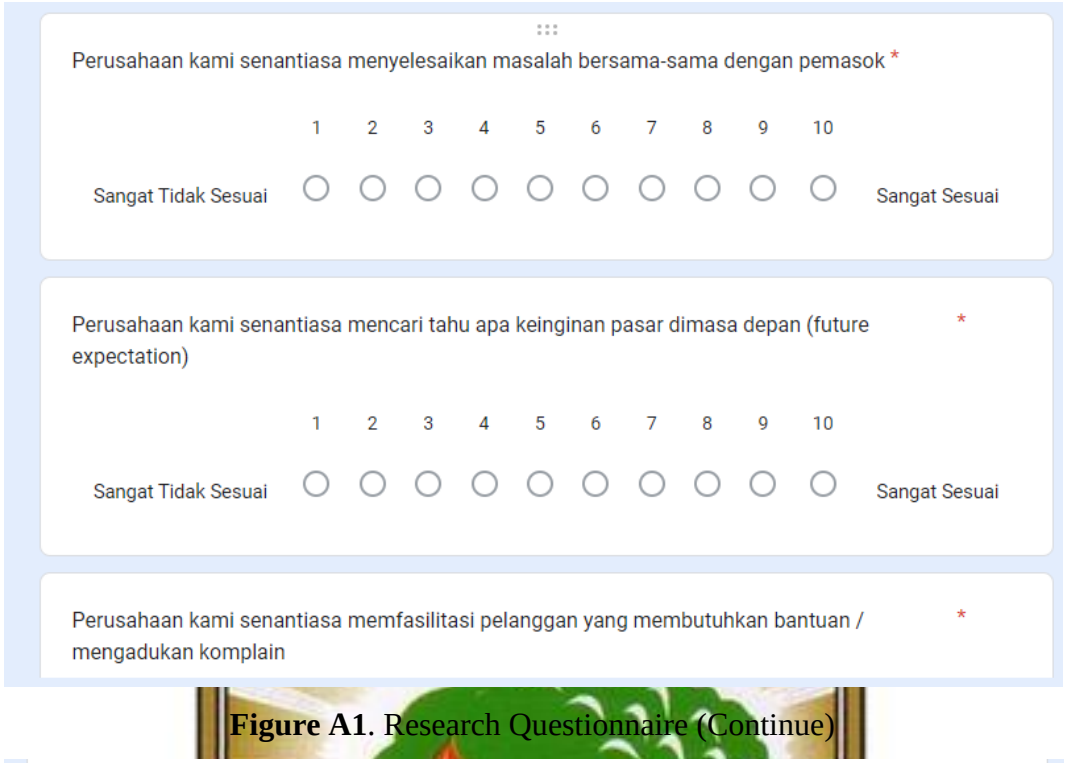

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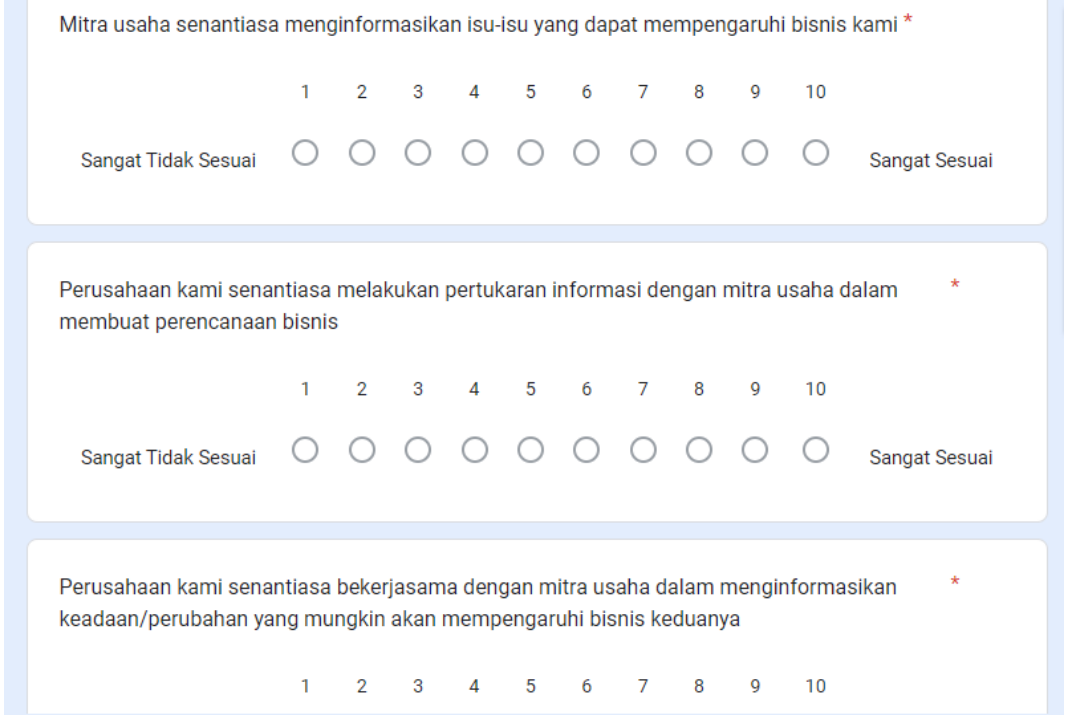
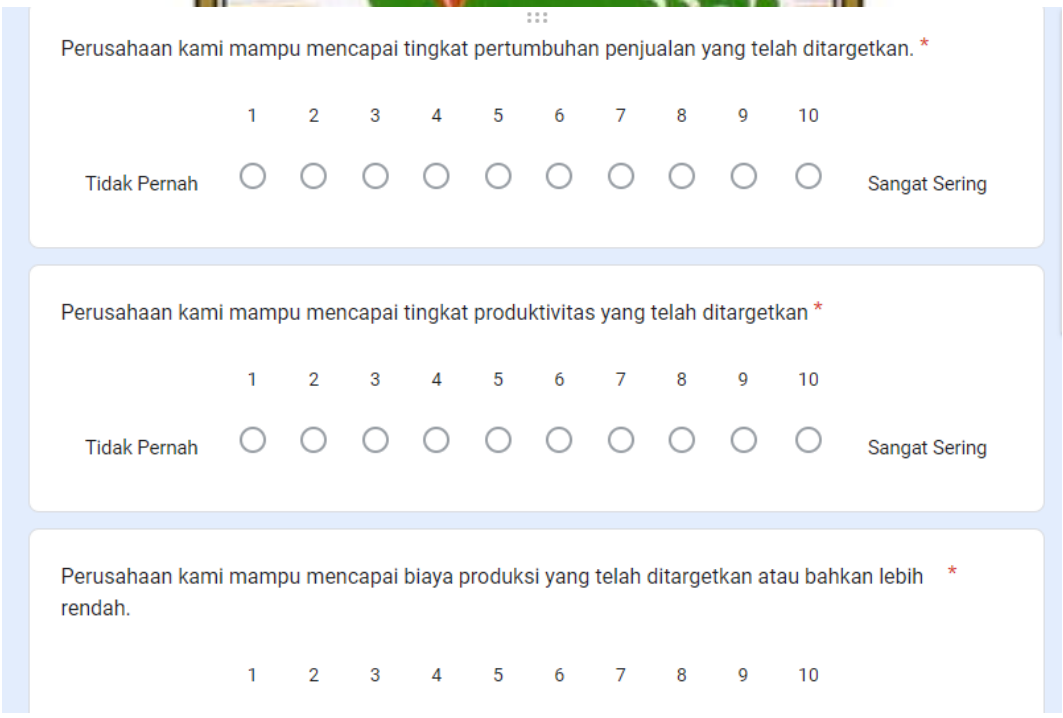


Figure A1. Research Questionnaire (Continue)

Figure A1. Research Questionnaire (Continue)



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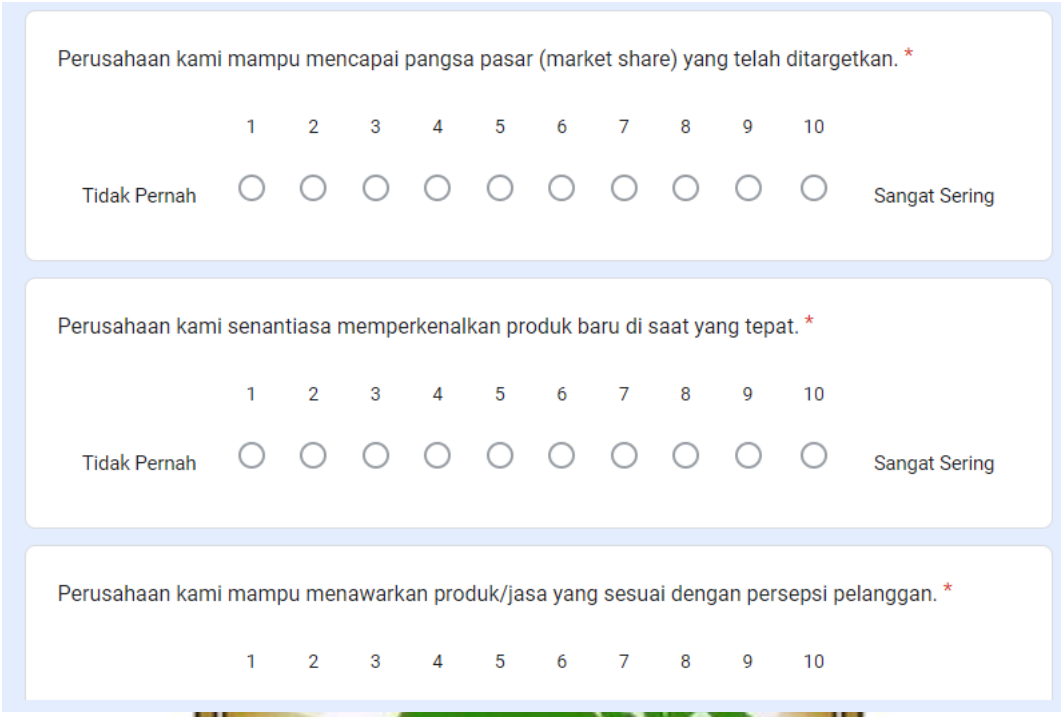

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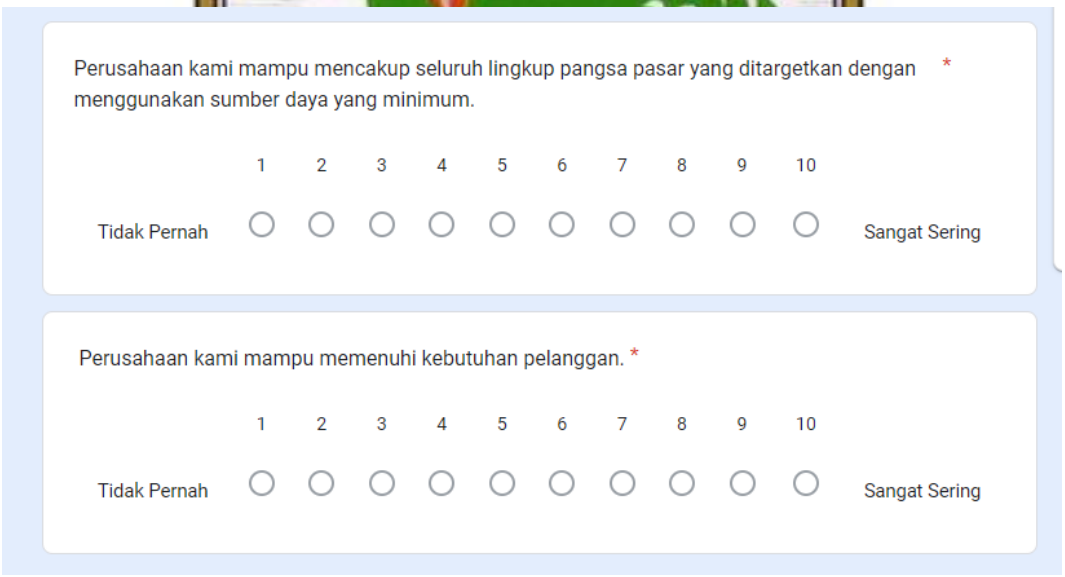

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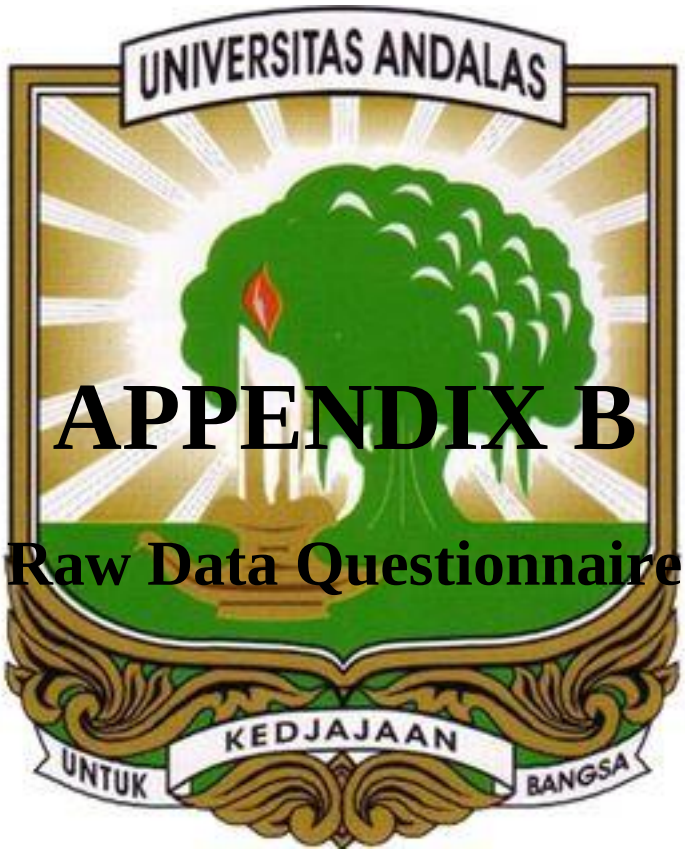

APPENDIX B

Raw Data Questionnaire