THE IMPLEMENTATION OF SCOR 12.0 RACETRACK MODEL IN IMPROVING SUPPLY CHAIN PERFORMANCE AT PT.XYZ

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DEDICATION PAGE

This undergraduate thesis which spent a lot of effort, is dedicated to my family, Ayah, Ibu, Uni Nana, and Rara. Without my family, I am nothing. Also, to all of my friends in Industrial Engineering 2016 who accompanied me since I didn't have any idea about university life. And also, to my great brothers in Kontrakan, and the last to Albensa.

MOTTO

"Allah does not burden a soul beyond that it can bear" – Surah Al-Baqarah ayah:286

PREFACE

بِسْمِ اللَّهِ الرَّحْمَٰنِ الرَّحِيمِ

Assalamualaikum Warrahmatullahi Wabarakatuh,

Asyhadu Alla Ilahailallah Wa Asyhadu Anna Muhammadarrasulullah Allahuma Shalli'ala Muhammad Wa'ala Alaihi Washobihi Wasalam,

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Yogyakarta, August 16th, 2021

Tsani Budiman Ahmad

ABSTRACT

PT. XYZ is a manufacturing company engaged in producing industry laundry machines which was established in 2008. The problems that occur in PT. XYZ is the amount of company revenue that has decreased during this COVID-19 pandemic, especially in 2019-2021. Therefore, this study aims to analyze performance using the Supply chain Operation Reference (SCOR) Racetrack with stages consisting of Set the Scope, Configure the Supply chain, Optimize the Project, and Ready for Implementation. The performance attribute used in this research is the Asset Management Efficiency attribute. In this research, PT. XYZ is more focused on Level-1, namely AM.1.2 Return on Supply Chain Fixed Asset because of PT. XYZ wants to improve supply chain revenue. Followed by Metric level 2 AM.2.4 Supply Chain Revenue and AM.2.5 Supply Chain Fixed Assets. It is known that the performance metric is the size of the gap that occurs from 48% in the Return of Supply Chain Fixed Assets. Based on the fishbone diagram, it is known the problem that causes the gap is used as the basis for determining the improvement project that will be carried out. The proposed improvements that are proposed to be carried out are Marketing Strategy Planning, Cost of Goods Sold Analysis, and planning Standard Operational Procedures (SOP) related to asset maintenance database management which is expected to increase the number of supply chain revenues that affect the company's revenue.

Keywords: Asset Management, Supply Chain Revenue, Supply Chain Management, SCOR Racetrack, Performance

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CHAPTER I

INTRODUCTION

1.1. Background

In the world of the manufacturing industry, a company will face five forces, which are competitive with other companies, the threat of new entrants, the threat of substitute products, and the bargaining power of suppliers and buyers at the same time. Therefore, the step that can be taken to strengthen the competitiveness is by conducting the company management effectively and efficiently to the customer. Ruslim (2013) said that in today's era, in the competitiveness of the business world, every company must be able to look far ahead of the various factors that arise to deal with changing conditions. The company must analyze whether the condition faced are opportunities or threats to the company.

One of the problem conditions that need to be faced by all companies in the world is the COVID-19 pandemic. The resilience of supply chain management (SCM) is badly affected by the current COVID-19 pandemic, which causes emergencies due to the varying demand and supply shortages (Alkahtani et al., 2021). According to (Karunia Putri et al., 2021) COVID-19 pandemic has caused great losses to the industry and resulted in many workers having to be cut off and many companies closing their businesses.

Based on the issue of the many negative impacts of COVID-19 on the Indonesian industry, strategic performance management is required as a preventive measure so that the Indonesian industry does not suffer losses and can improve its resilience. Strategic performance management is defined as a method of evaluating performance measurement, control, and continuous improvement to achieve overall organizational goals (Marr & Gray, 2012). According to (Nwachukwu & Chladkova, 2019), Strategic Performance can be maintained by

creating strategic analysis capabilities that enable a company to evaluate developments in its business environment, seize opportunities, or cope with possible threats. In their study, strategic performance can influence companies to make plans that can adopt flexible organizational structure and supply chain model that supports efficient resources and performance allocation and strategy.

PT. XYZ is a company that produces and markets products in the form of laundry machines and engineering machines. PT. XYZ was established in 2008 and located in Wonosari Street, Piyungan, Bantul Regency, Special Region of Yogyakarta, Indonesia. Currently, PT. XYZ continued to innovate and began to produce laundry equipment such as extractors, rollers, and carpet washing machines of the same brand.

However, currently PT. XYZ suffers from the affect of the COVID-19 pandemic, PT. XYZ experienced a decrease in supply chain revenue, seen from 2019 PT. XYZ has a supply chain revenue of Rp3.862.810.294 and has a big difference with the cost of goods sold by Rp1.510.853.862, but in 2020 PT. XYZ experienced a decrease with the supply chain revenue being Rp2.817.542.041 and has a small difference with the cost of goods sold. 2.213.081.000, even in 2021 has a smaller difference between supply chain revenue is Rp1.424.499.726 and the cost of goods sold is Rp. 1.327.033.000. And the following is a recapitulation of data from 2019-to 2021 in the figure below.

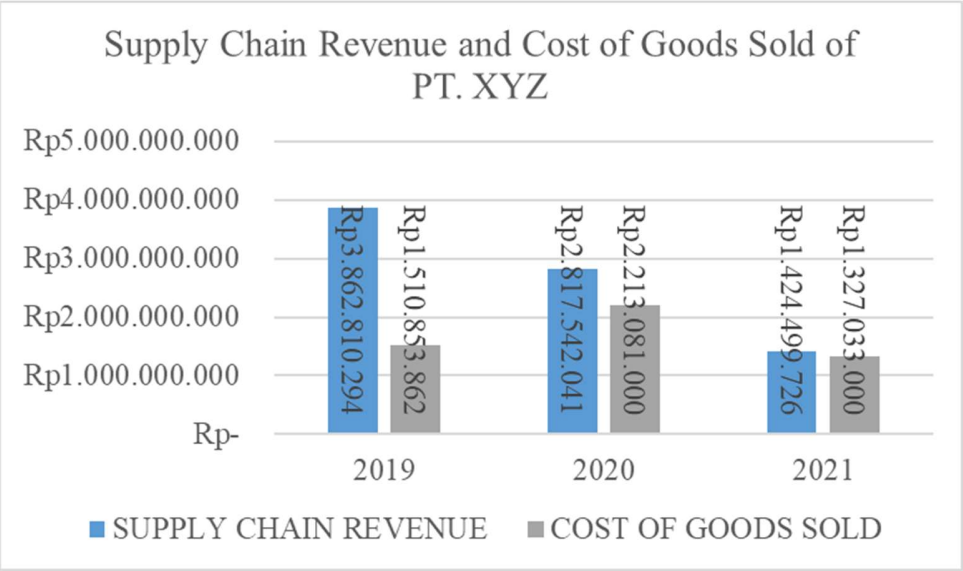

Figure 1 1 Supply Chain Revenue and Cost of Goods Sold at PT. XYZ from 2019 – 2021

Based on this problem, it is necessary to find a solution with the method that can be analyzed from the beginning until the finish of the supply chain activity. Supply chain management (SCM) includes the planning and management of all activities involved in sourcing and procurement, conversion, and all logistics management activities (M. Madhani, 2018). The Supply Chain Management method can be used in this problem to find the core problem from the whole supply chain activity. It can find the solution by finding the produced and distributed in the right quantity, at the right location, and at the right time to minimize costs and meet market demand.

The ideal supply chain management performance is assessed between suppliers, companies, and customers, and it can be measured by one of the SCM performance measurement models, definitely the Supply Chain Operations Reference (SCOR) model, a model designed by the Supply-Chain Council (SCC). According to Pujawan (2010), SCOR divides supply chain processes into five processes, Plan, Source, Make, Deliver, and Return. In this measurement, there are several versions of SCOR. Currently, SCC has released the SCOR Racetrack based on version model 12.0. SCOR Racetrack 12.0 is described in 5 steps, namely Pre-SCOR, Set the

Scope, Configure the Supply Chain, Optimize Project, and Ready for Implementation (APICS, 2017).

The use of SCOR Racetrack based on version model 12.0 is a method of measuring supply chain performance as a refinement of the SCOR method, which has the purpose of the company's long-term performance in the future, as mentioned above. Dalam penulisan ini akan menggunakan SCOR Racetrack karena metode ini dapat mengimprove ressilience of the company from the base with the organization untill the realization improvement projects. This SCOR Racetrack 12.0 can be important to a company that has internal sector conditions because The SCOR Racetrack 12.0 method has several advantages compared to other methods such as the Balanced Scorecard, where the Integrated Performance Measurement System research scope is only on the internal activities of the company while the SCOR method focuses on measuring activities from upstream to downstream of the company. The attributes of this SCOR method are reliability, responsiveness, cost, agility, and asset management (APICS, 2017).

This method is employed at PT.XYZ's case since it is suitable with their problems that has the supply chain revenue and supply chain goods sold problem. And their problem can be analyzed only on internal activities based on the use of SCOR Racetrack 12.0 method. The SCOR Racetrack 12.0 method is used as the company's Supply Chain designer to improve supply chain activities that have been used by PT. XYZ to analyze and find the suggestions for improvement of the existing problem internal factors so that it is expected to increase sales of products and meet customer needs.

Therefore, the measurement and analysis of the company's performance is a basic need that must be carried out in the context of company development efforts in terms of improving the performance's company. Besides that, it is also an evaluation or improvement related to the company's performance, which was considered less than optimal before. Because by measuring, it can find out which parts need to be developed and which parts need to be maintained by company needs.

1.2. Problem Formulation

The Problem Formulation that will be given in this research based on the backgrounds are:

1. What are the ideal performance attributes that need to be improved on SCOR Racetrack based on version model 12.0 in PT. XYZ?
2. How to find the gap analysis in PT. XYZ based on the SCOR Racetrack, model version 12.0?
3. How is the design of improvement to improve the performance of PT. XYZ?

1.3. Research Objective

This Research on this topic is being achieved through the following objectives:

1. Knowing the ideal performance attributes that need to be improved at the PT. XYZ is based on the SCOR Racetrack.
2. The analyzed and minimized gaps in PT. XYZ based on the SCOR Racetrack.
3. Knowing the improvement design to improve performance comes from the results of the previous performance analysis.

1.4. Scope of Research

For this research to be more appropriate, it is necessary to limit the scope of the research. The problem limitation taken in this study are as follows:

1. The research was conducted only with stakeholders that have a relationship with the leaders, employees, suppliers, consumers, and the community at PT. XYZ.
2. The method used is SCOR Racetrack based on version model 12.0.
3. Data was obtained through observation and interviews at PT. XYZ
4. Data is taken from February to April 2022.

1.5. Benefit of Research

With this research, it is hoped that it can be useful for all readers. The expected benefits include:

1. For the researchers, Researchers can apply and broaden their knowledge regarding the analysis of company performance attributes using the SCOR Racetrack based on version model 12.0.
2. For the related company, PT. XYZ can measure and analyze the company's performance as seen from the gap analysis that has been designed for each side of the attributes in the SCOR Racetrack method based on version model 12.0. and can determine the steps that will be taken to improve the performance of the company so that it continues to grow.
3. For universities, Universities can evaluate and improve the quality of education in the future to create graduates who have the competencies required by the company.

1.6. Systematical of Research

For this thesis to be more organized, systematic research is divided into six chapters, as follows:

CHAPTER I	INTRODUCTION Research background, problem formulation, research objectives, the scope of research, the benefit of research, and the systematical of research are discussed in this chapter.
CHAPTER II	LITERATURE REVIEW This chapter contains deductive and inductive study literature related to the problem so that it can be used as a basis that can support research and problem solving and discuss the results of previous studies that are related to the research topic.
CHAPTER III	RESEARCH METHODOLOGY The research methodology will be described the research framework that explains all the states carried out during the study. It will be included with the object to be studied, the data collection method used, the type of data obtained, and the tools and materials needed.

CHAPTER IV DATA COLLECTION AND PROCESSING

In this chapter, the data processing process will be carried out to solve the problems as well as the results obtained for further analysis in the next chapter.

CHAPTER V RESULT AND DISCUSSION

This chapter contains a discussion of the results obtained in the previous chapter. The discussion must be carried out in as much detail as possible so that it can meet the objectives of the research.

CHAPTER VI CONCLUSION AND RECOMMENDATION

The last chapter will be carried out in the form of concluding the research that has been carried out and providing suggestions for the parties involved and for further research.

REFERENCE

ATTACHMENT

CHAPTER II

LITERATURE REVIEW

2.1 Deductive

2.1.1 Supply Chain Management

Based on Russell dan Taylor (2000), Supply Chain Management (SCM) is the coordination of every activity that consumer needs can be fulfilled quickly, with satisfactory service, high-quality products with low prices, where the scope starts from the initial supplier to the final consumer. Meanwhile, according to Chopra & Meindl (2007), the supply chain is a unit that is directly or indirectly involved in meeting the needs of customers such as suppliers, producers, distributors, transporters, inventory, retailers, and even the end customers themselves. Available supply chains need to be appropriately managed using a supply chain management approach.

From these several definitions, it can be concluded that supply chain management is defined as an interconnected chain system between suppliers, companies, and consumers who work together to control the flow of information, products, and an asset to gain competitive profit or company competitiveness. The supply chain includes three parts (Rainer dan Cegielski, 2011):

1. Upstream Supply Chain:
   This part covers the organization's first-tier and the suppliers with have the relationship has been established.
2. Internal Supply Chain:

This part covers all processes used by organizations in converting the inputs sent by suppliers into outputs, starting from the time of material enters the company until the product is distributed to the outside company.

3. Downstream Supply Chain:

   This part covers all of the processes involved in delivering the product to the final customer.

2.1.2 Model Supply Chain Management

Several explanations regarding the definition of supply chain management can be developed into a supply chain model, which is a variable picture about the relation of these actors which can be shaped like links that are connected to one of another as depicted in the chain model was well-developed in 1994 by A.T. Kearney (Indrajit and Djokopranoto, 2016) as shown and seen in Figure 2.1 below.

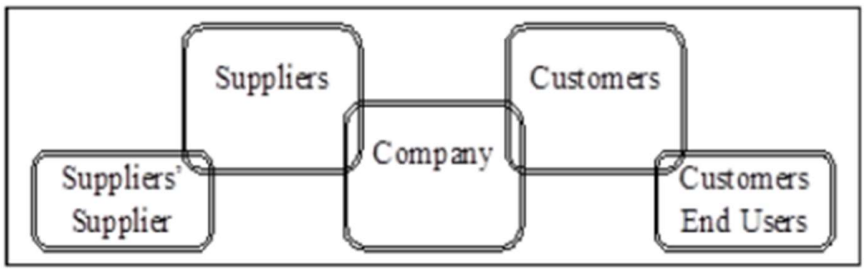

Figure 2 1 Model Supply Chain Management

In the illustration above, “suppliers' suppliers” have been included to show a complete relationship of several organizations which together collect, transform, and distribute products and services to consumers or final customers. One of the key factors for optimizing the supply chain is by creating a flow of information that moves easily and accurately between the network or links and the effective and efficient movement of goods which results in maximum satisfaction for customers.

According to (Hugos, 2006), the five main roles things are used in decision-making by companies in the application of supply chain management. The five main roles are as follows:

1. Production

It relates to the products the market wants and how many products to produce, their types, and their scheduling.

2. Inventory

   It relates to the products that must be stored in a certain amount along with the criteria, such as the number of raw goods, semi-finished goods, and finished goods.

3. Transportation

   It relates to how an item or material moves from one chain to the next, in terms of supply chains.

4. Location

   It relates to where a production facility and warehouse should be located and accurate. This is closely related to the layout of the company in the supply chain.

5. Information

   It relates to how quick and accurate information is between coordination and decision-makers to obtain the dais collected and shared with the other chains.

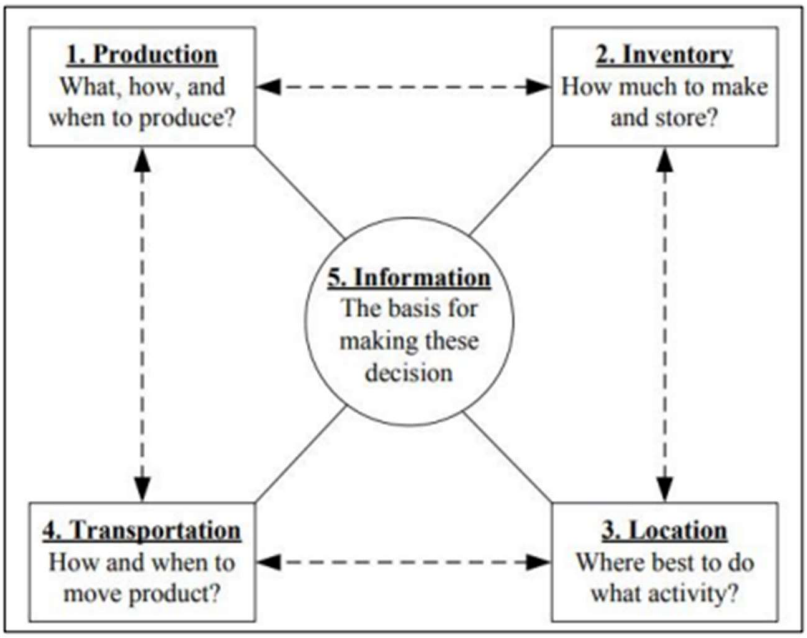

Figure 2 2 Supply Chain Management Core Movement

2.1.3 Supply Chain Operations Reference (SCOR) 12.0

(Hanugrani, 2017) explained that the Supply Chain Operation Reference (SCOR) model is a model used to map the parts of the entire supply chain developed by several groups together with the Supply Chain Council (SCC). This model integrates business process frameworks, performance indicators, best practices, and technology to support communication and collaboration between supply chain partners, thereby, it can be increased the supply chain to more effectiveness.

Since the SCC was established, the Council's the Council aim in a way that is aligned with the business functions and objectives, how processes are related, configured, and required with the staff operating the process. According to (APICS, 2017), The SCOR model consists of 4 main parts, which are explained as follows:

1. Performance, a standard metric to describe process performance and define strategic objectives.
2. Process, a standard description of management processes and relationships process.
3. Practices, management practices that result in significantly better process performance.
4. People, standard definition for skills required in supply chain processes.

Supply Chain Operation Reference (SCOR) version 12.0 has been updated since 2017. The SCOR model consists of several main management process components, namely plan, source, make, deliver, return and enable. The SCOR model is an integrated system between beginning suppliers and end customers. The process is connected to forming operational strategies, raw materials, and information flow that is very useful for the company. Below is a picture of the SCOR (Supply Chain Operation Reference) process model. SCOR Process version 12.0 can be seen through the image in Figure 2.3 below:

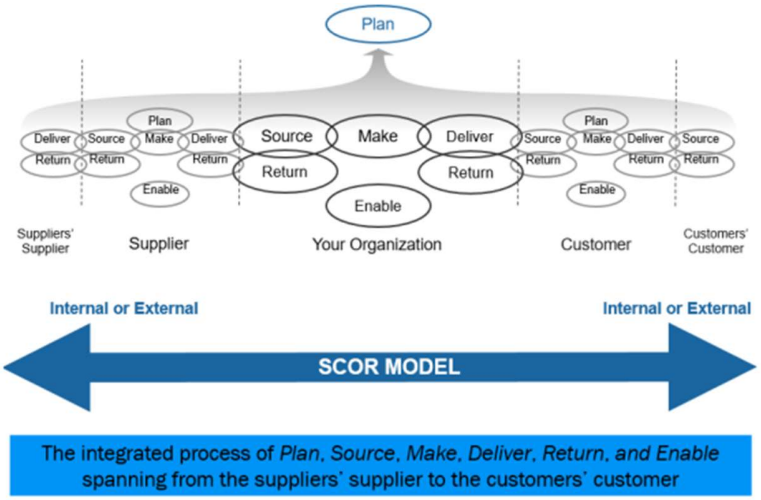

Figure 2 3 SCOR Process

According to (APICS, 2017), there are 6 main processes in this SCOR model, namely:

1. Plan, The Plan processes describe the activities associated with developing plans to operate the supply chain. The Plan processes include the gathering of requirements, gathering of information on available resources, balancing requirements and resources to determine planned capabilities and gaps in demand or resources, and identifying actions to correct these gaps.
2. Source, The Source processes describe the ordering (or scheduling of deliveries) and receipt of goods and services. The Source process embodies the issuance of purchase orders or scheduling deliveries, receiving, validation, and storage of goods, and accepting the invoice from the supplier.
3. Make, The Make processes describe the activities associated with the conversion of materials or creation of the content for services. Conversion of materials is used rather than 'production' or 'manufacturing' as 'Make' represents all types of material conversions: Assembly, Chemical processing, Maintenance, Repair, Overhaul, Recycling, Refurbishment, Remanufacturing, and other common names for material conversion processes.
4. Deliver, The Deliver processes describe the activities associated with the creation, maintenance, and fulfillment of customer orders. The Deliver process embodies the

receipt, validation, and creation of customer orders, scheduling order delivery, pick, pack and shipment, and invoicing the customer.

5. Return, The Return processes describe the activities associated with the reverse flow of goods. The Return process embodies the identification of the need to return, the disposition decision-making, the scheduling of the return, and the shipment and receipt of the returned goods.
6. Enable, Enable processes describe the activities associated with the management of the supply chain. Enable processes to include management of business rules, performance management, data management, resource management, facilities management, contract management, supply chain network management, managing regulatory compliance, risk management, and supply chain procurement.

2.1.4 SCOR Performance

According to (APICS, 2017), The performance section of SCOR focuses on the measurement and assessment of the outcomes of supply chain process execution. SCOR performance's approach to understanding, evaluating, and identifying supply chain performance consists of three elements: Performance attributes, metrics, and processes.

A performance attribute is a grouping or categorization of metrics used to express a specific strategy. An attribute itself cannot be measured; it is used to set strategic direction. SCOR recognizes 5 performance attributes:

1. Reliability

   Ability to perform tasks as expected. Focuses on the predictability of the outcome of a process. Common metrics for the focus attribute include time, the right amount, and the right quality.
2. Responsiveness

   The responsiveness at which tasks are performed and the speed at which the supply chain provides the product to the customer. Examples include the cycle time matrix.
3. Agility

   The ability to respond to external influences and the ability to respond to market changes to gain or maintain a competitive advantage. The SCOR agility matrix includes adaptability and overall value at risk.

4. Cost

   Supply chain process operating costs. This includes labor costs, material costs, as well as management and transportation costs. Cost metrics such as cost of goods sold.

5. Asset Management Efficiency

   Ability to utilize assets efficiently. Asset management strategies in the supply chain include inventory reduction and in-sourcing vs outsourcing. The metrics include days of inventory usage and capacity utilization.

Attribute	Level-1 Metric	
Reliability	RL.1.1	Perfect Order Fulfillment
Responsiveness	RS.1.1	Order Fulfillment Cycle Time
Agility	AG.1.1	Upside Supply Chain Adaptability
	AG.1.2	Downside Supply Chain Adaptability
	AG.1.3	Overall Value-at-Risk (VaR)
Cost	CO.1.1	Total SC Management Cost
	CO.1.2	Cost of Goods Sold (COGS)
Asset Management Efficiency	AM.1.1	Cash to Cash Cycle Time
	AM.1.2	Return on Fixed Assets
	AM.1.3	Return on Working Capital

Figure 2 4 Level 1 Attribute Performance

Figure 2.4 describes level 1 of each attribute, where each performance attribute can have one or more level 1 strategy matrices. The level 1 matrix is a calculation that can be used by organizations in measuring the success of the targeted organization's position in the competitive market space.

2.1.5 SCOR Racetrack

SCOR Improvement Program Racetrack is an improvement program that originates from SCOR 12.0 as the basis for developing an improvement program. The word Racetrack is taken from the word race or runway. In addition to the abbreviation for Supply Chain Operational Reference, the “SCOR” word in Racetrack stands for Set the Scope, Configure the Supply Chain, Optimize Project, and Ready for Implementation.

The Racetrack SCOR model describes how to set up a SCOR improvement program using the SCOR process and supporting methodologies. This methodology is described in 5 different steps in figure 2.5:

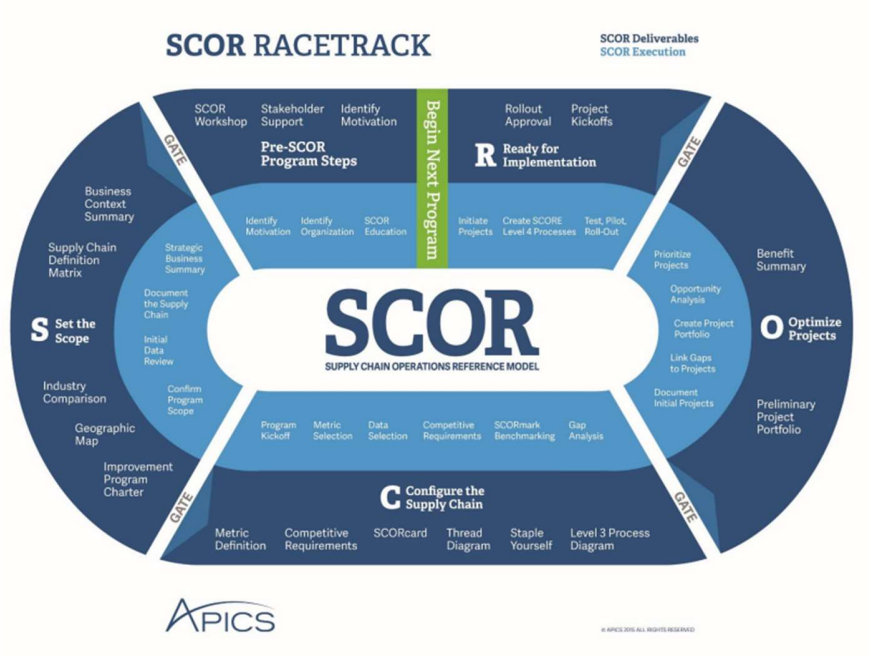

Figure 2 5 SCOR Improvement Program Racetrack

1. Pre-SCOR Program Steps

   The initial stage where this stage is doing identification of the background problem, general description, and organizational structure of the company is carried out.

2. Set the Scope

   At this stage, an understanding of the company's business environment is carried out and determining the scope of the supply chain for the SCOR improvement program.

3. Configure the Supply Chain

   The third phase is dealings with mapping the current supply chain by analyzing performance metrics and processes. This phase provides the basis for the development of the project portfolio and the calculation of the benefits that occur in the next phase.

4. Optimize Projects

At this stage, a list of all improvement projects that have been carried out in the previous stage is identified to assess the benefit of these projects, and the next goal is to prioritize projects that must be improved.

5. Ready for Implementation

   Based on the previous stage, this stage estimates the things that must be prepared as well as proposals for the implementation of the improvement project that will be carried out.

2.2 Inductive

The inductive study is a study or conclusions arrangement from related previous studies and will be used as a reference for research to be carried out in terms of using methods that are in the case study to be studied. The table below describes several previous research journals relatedto the results in the form of conclusions from research in these journals.

Table 2 1 Inductive Literature Study

No	Author	Year	Title	Research Method	Result
1	Andreas Wieland, Christian F. Durach	2021	Two perspectives on supply chain resilience	Supply Chain Resilience	This research is suggested that resilience does not just relate to the ability of a system to “bounce back” after an impeding event but also to the capacity to adapt and transform. It sets out to further our theoretical knowledge of what resilience

No	Author	Year	Title	Research Method	Result
					means by differentiating two perspectives of resilience engineering resilience and social-ecological. Supply chain resilience is then no longer understood in terms of stability but in terms of adaptation and transformation.
2	Suthep Butdee, Puntiva Phuangsalee.	2019	Uncertain risk assessment modeling for bus body manufacturing supply chain using AHP and fuzzy AHP	SCOR, AHP, Fuzzy AHP, ANOVA	The object of this research is a body manufacturing company. Buses in the supply chain in Thailand. The final score of the main criteria in the AHP model found that company 6 had the most plan risk (59%) because it had the highest priority weight, while company 1 had the next highest priority weight for plan risk (57%) and company 3 had a

No	Author	Year	Title	Research Method	Result
					smaller plan risk (56%). The main criteria in the FAHP model are that company 6 has the greatest plan risk (57%) because it has the highest risk of priority weighting, while company 3 has the next largest plan risk (54%), and company 1 has the smaller plan risk (54%).
3	Siti Annisa Fitrianti, Muhardi, Rabiatul Adwiyah	2020	Performance Analysis of the Supply Chain Management of Men's Leather Shoes Products by Using the Supply Chain Operations Reference (SCOR) Method at CV. Britanindo Bandung	SCOR	This research aims to find out how the current supply chain performance in the company and how the performance using the SCOR matrix. In order to find out how effective a supply chain is in the company, an evaluation and evaluation must be carried out measurement of the company's supply chain. The data analysis

No	Author	Year	Title	Research Method	Result
					technique used is SCOR. The results of the SCOR matrix calculation show that the perfect order fulfillment (POF) value is 94%, the order fulfillment cycle time (OFCT) is 24 days, the cost of goods sold (COGS) is 51%, and the cash-to-cash cycle time (CTCCT) for 58.3 days. Based on the calculation of POF, the company has not been able to fulfill consumer orders perfectly. OFCT companies still lack the manpower to complete orders even faster. According to the COGS indicator, the company admits that the company has not been able to manage its finances properly.

No	Author	Year	Title	Research Method	Result
4	R Purwaningsih, F A Hermawan	2019	Risk analysis of milkfish supply chains in Semarang using the house of risk approach to increase the supply chain resilience.	SCOR, Supply Chain Resilience	This research aims to identify, measure and analyze the operational risk in the supply chain of milkfish at Semarang. The supply chain activities emphasize cooperation between parties to reduce risks at all stages of the supply chain. The house of risk method is used to zanalyze the supply chain risk, and the Supply Chain Operation Reference (SCOR) approach is used to divide the business process into 5 main processes, i.e., plan, source, make, deliver and return. The risk identification result shows that 7 risk events occur in the production process and 8 risk events in the delivery

No	Author	Year	Title	Research Method	Result
					process. These two processes have the highest risk event number. The highest risk severity is found on Chlorine contaminated products. Based on severity value, some recommendations were formulated to reduce the impact ofoccurring risks to increase the supply chain resilience.
5	E Kusrini , V I Caneca,V N Helia1,S Miranda	2019	Supply Chain Performance Measurement Using Supply Chain Operation Reference (SCOR) 12.0 Model: A Case Study in A A Leather SME in Indonesia	SCOR 12.0	The study was conducted on XYZ SME and limited to bag products, one of the largest leather industries in the Bantul area, Special Region of Yogyakarta. The value of supply chain performance is 54.29, which is based on performance indicators. This value is included in the average category. It

No	Author	Year	Title	Research Method	Result
					can be inferred as the benchmark for the leather industry around areas to improve supply chain performance.
6	Lorenzo Bruno Prataviera, Alessandro Creazza, Marco Melacini, Fabrizio Dallari.	2021	Heading for Tomorrow: Resilience Strategies for Post-COVID-19 Grocery Supply Chains	Supply Chain Resilience, SCOR	This research is aimed that understanding which supply chain impacts influence the policies and actions undertaken when resilience is concerned is important. This study investigated the relationships between the impacts experienced at the different supply chain tiers during the pandemic and explored which impacts could drive perceptions towards developing resilience strategies in the future. Supply chain resilience is a critical capability needed to compete in the current

No	Author	Year	Title	Research Method	Result
					turbulent and unpredictable business environment, but many companies still tend to underestimate its relevance. The result in this research is it highlights promising research avenues related to deepening understanding of how perceptions could predict future intentions to engage in protective actions to adequately cope with potential future disruption.
7	Jagan Mohan Reddy. K, Neelakanteswara Rao. A, & Krishananad. L.	2018	A review of supply chain performance measurement systems	Supply chain operations reference model (SCOR), Balanced scorecard models (BSC) & Hierarchical	According to the research, a significant amount of work has been done in the domain of SCPMS during the previous few decades. The report concluded that the SCPMS should be developed following the company's Supply

No	Author	Year	Title	Research Method	Result
				based approaches	Chain strategy. It has been discovered that performance measurement in the context of the supply chain is still a promising field for future research. Additional study in the domain of Supply Chain performance modelling utilizing simulation approaches such as system dynamics and discrete event simulation is needed, according to the authors, for Supply Chains that operate in a volatile environment.
8	Wafiah Murniati ,Wahyu Ismail Kurnia, Sela Handayani , Suar Ishak	2019	*Pengukuran Kinerja Supply Chain pada Industri UKM Kerajinan (Studi Kasus: Industri Kerajinan Ketak Lombok Tengah,*	SCOR, AHP	In the research conducted by the researcher, it is explained that the supply chain performance measurement carried out using the Supply

No	Author	Year	Title	Research Method	Result
			Nusa Tenggara Barat,Indonesia)		Chain Operations Reference (SCOR) method of Reliability attributes, namely Perfect Order Fulfillment (POF) and Analytic Hierarchy Process (AHP) is used to calculate the weight or level of importance of each SCOR metric can get research results that the Perfect Order Fulfillment indicator value is 83.40% with a large percentage of the gap of 17.60% of the target value of 100%.
9	B W Permadi; A Y Ridwan; W Juliani	2019	SCOR-BSC Integrated Model for A Small Medium Enterprise Clothing Industry Using MTS based Production	SCOR, BSC	As a result, further assessment is needed in the Plan and Enable process. In the Plan process, each manager is asked to list a weekly, monthly, or yearly planning cycle. The Plan process is

No	Author	Year	Title	Research Method	Result
			Strategy in Indonesia		described in Level 4. At the same time, the Enable process is described based on the existing processes at Level 5. The researcher concludes that in making a business process model, a very strong scientific discipline is needed to be able to change the standard framework into an applicable corporate business process framework.
10	Qurtubi, Bagas Swardhana Putra, Vembri Noor Helia, Nasruddin Faisol	2021	Measuring Performance of Halal Supply Chain Using Analytical Hierarchy Process (AHP) and Supply Chain Operations Reference	SCOR, AHP	The methods employed are Analytical Hierarchy Process (AHP) and Supply Chain Operations Reference (SCOR)" 12.0. Based on the research, it is found that the five main business processes are Plan, Source, Deliver, Return,

No	Author	Year	Title	Research Method	Result
			(SCOR) 12.0 Approach: A Case Study		and Enable. Besides, 27 metrics are available, and four of them align with Islamic values. After the entire metrics are analyzed by using Traffic Light System, there are 24 metrics identified with a green indicator, two metrics with a yellow indicator, and one metric with a red indicator. Overall, the performance value of the supply chain of XYZ Supermarket in the period of January-March 2021 is recorded as 97,91%, which demonstrates great performance.

CHAPTER III

RESEARCH METHODOLOGY

3.1. Research Object

The object of this research is Asset tools that are used to produce in PT. XYZ used the SCOR Racetrack approach with Supply Chain Operations Reference (SCOR) Racetrack version 12.0 to conduct this research. This research aimed to help PT. XYZ improves its performance in the supply chain process. The data is used in this research obtained from interviews and observations with employees at PT.XYZ. PT. XYZ is located in Wonosari Street, Bantul Regency, Special Region of Yogyakarta, Indonesia

3.2. Method of Data Collection

According to (Hamstra, 2021), primary data is information that the author finds out by themselves when researching in a specific field. Primary data is data collected for a specific research problem to gather data that will answer research questions. Meanwhile, secondary data is used to strengthen the arguments that come from the primary data found through research. Primary and secondary data will be used in this research (Hox & Boeije, 2005).

a. Primary Data

There are two types of data used in this study, namely:

1. Interview

   In this study, direct observations were made of the research location. Observations are made by looking at the condition of the company directly to get a clear picture of the existing problems.

2. Observation

   Interviews were conducted by asking questions to trusted sources who understood the company's conditions to obtain the required data. The questions given are related to the

problems experienced and the countermeasures that have been carried out, the production process, and the company's assessment.

b. Secondary Data

Secondary data is data obtained through existing literature studies, including journals, articles, and books related to research. Secondary data is obtained indirectly, which is useful as a support in conducting research.

3.3. Method of Data Processing and Analysis

Data processing is the process of analyzing data into a useful and more meaningful form of information that can be used by people who need it. In this research, the data processing is used with SCOR Racetrack 12.0 method that is described in 5 steps, namely Pre-SCOR, Set the Scope, Configure the Supply Chain, Optimize Project, and Ready for Implementation (APICS, 2017). The following is the data processing process in this study:

1. Identification of background problems in the company, expectations, efforts that have been made, general description, and organizational structure based on observations and interviews conducted at PT. XYZ.
2. Define the scope of business processes by creating the SWOT Analysis and followed with a Business Context Summary to analyze the targeted market that has been established in PT.XYZ.
3. Collect the Supply Chain Definition Matrix as the other parties that support reaching the target market based on qualitative data such as the supplier, channel, sales data, and other things.
4. Visualized with creating the geographical mapping including their markets, products or services, and partners.
5. The next stage is the preparation and selection of the performance metrics and processes from the SCOR improvement program, collecting detailed data, and calculating the value of each performance metric on the obtained performance components based on PT.XYZ's case, the performance attribute was selected with SCOR level 1 performance metrics and continued with the level 2 metrics of the selected performance.
6. Processing the detailing data from SCOR level 1 performance and level 2 performance through interviews and observation with employees at PT. XYZ.

7. Analyzing the calculated whole detail data using SCOR level 3 performance and benchmarking against existing industry data, internal targets, or certain data for detailed gap analysis followed by thread diagram.
8. Analyzed the result of benchmarking by ingcreating a fishbone diagram to find the cause of the gap that has resulted from the benchmarking.
9. Analyzed the solution byassembling the project list to optimize the project that will be carried out, supporting by creating grouping issues and project tion description.
10. Discover the performance implementation by creating the implementation of the project that has been created on the project list from forecasting the PT.XYZ's performance at internal factors such as the supply chain assets and marketing strategy to increase the supply chain revenue.
11. Make estimates in the form of recommendations for needs, infrastructure, and things that support the implementation of the planned improvement programs. The best project alternative will be executed in PT.XYZ to close the gap that has previously been recognized in benchmarking process.

3.4. Flowchart of Research

Based on the picture above, it can be explained that the stages carried out in the research are as follows:

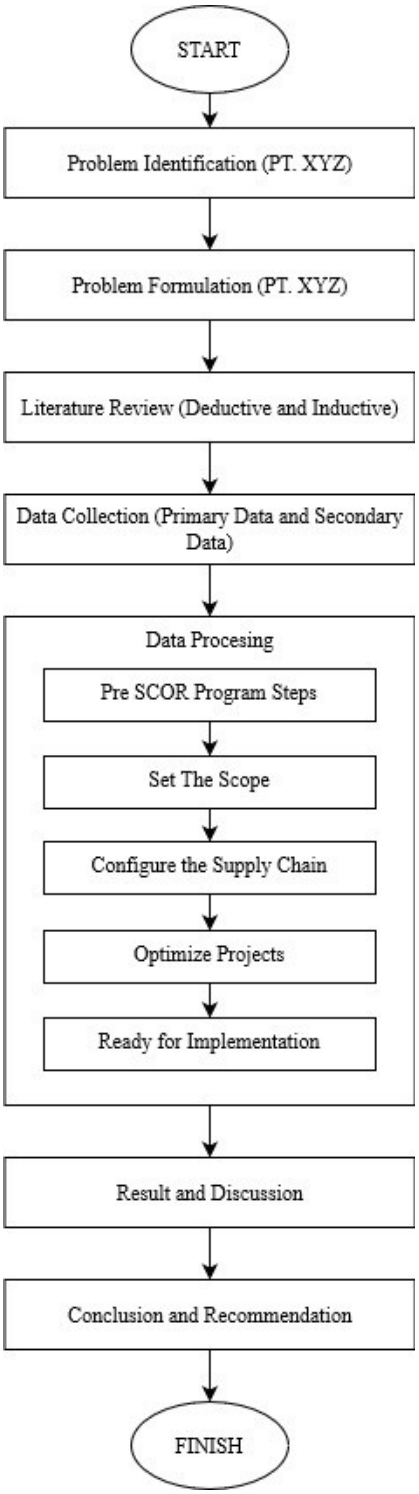

Figure 3 1 Research Flowchart

1. Problem Identification

   The first step in this work is to evaluate the field conditions. It is assumed that the research determines what issues exist in it, with the recognition for this research focusing on the supply chain's output at the PT. XYZ.

2. Determining Research Objectives

   The next step is to formulate the problems identified in the business process of PT. XYZ to determine the objectives and benefits of the research conducted.

3. Literature Study

   Deductive and inductive studies are used to do literature studies. Literature studies are conducted with related and similar sources from the previous study to collect hypotheses that support the research's direction. Furthermore, previous research can be used as a reference and consideration for current research.

4. Data Collection

   The data collection process is carried out by direct observations, interviews, and designing questionnaires to obtain primary data.

5. Data Processing

   a. Pre-SCOR Program Steps

      Doing preparations for the object of research, in this case, PT. XYZ, for the implementation of the improvement program by applying the SCOR 12.0 Racetrack method. The use of the SCOR 12.0 Racetrack method at this stage is to provide an overview of the project to PT. XYZ with 3 phases, namely:

      1) Identify Improvement Motivation

         Involving both parties, researchers, and PT. XYZ, in deciding what to develop and the project method. In this process, the current condition of the company is analyzed and classified to make it easier to decide which output to increase.

      2) Identify SCOR Program Organization

         After the employees fully understand SCOR 12.0 and how to work on projects using SCOR Racetrack, the next stage is the formation of an organization to run the project. The organization consists of all components of PT. XYZ by their respective fields and competencies. The output of the formation of the organization is to achieve the

success of the project as expected and also as a supervisory function during the design, implementation, and evaluation of the project.

3) Plan for the Next Phase

After the principles and supporting organizations have been developed, the next step is to decide whether or not the project will be continued. The following are some of the elements that must be considered when making a decision:

- Cost Estimation
- Scheduling
- Resource and Requirements

Decision-making in calculating the components above must be carefully premeditated to help determine it, using the approach of Project Management. It is hoped that after careful analysis and calculations, a decision will be made regarding the sustainability of the project in the PT. XYZ.

b. Set the Scope

At this stage, an understanding of the business environment is carried out and determines the scope of the supply chain for the SCOR improvement program at PT. XYZ. In determining the scope of the supply chain, the main task that must be done is to describe the business context in it by using SWOT analysis to understand the position of the supply chain. In determining the scope of the supply chain, there are main tasks that must be carried out, namely:

1) Using SWOT analysis to understand market position; business strength, company dominance, source origin, and so on. The data collected can come from interested individuals, financial reports, strategic strategies, competitive analysis, and others.
2) Doing documentation and visualization of business processes, such as who the client and the target market are; what services are produced; who are the partners; what is the organizational structure of marketing and procurement; and the types of services that consumers demand. In this case, the information collected is obtained from the following sources:

- Customer and markets: from marketing, business development, and other customer segmented organizations.
- Product and services: from ERP and product management systems.
- Suppliers and Channel partners: strategic sourcing and business development organization, who are the suppliers, where are they located. This data is obtained from master suppliers such as ERP, SRM, and logistics systems.

3) Prioritizing the Supply Chain, the goal is for the SCOR team to recognize that not all supply chains will provide value or profit for a company. For example, several supply chain networks generate very high revenue, but some are not so high that it is necessary to prioritize the order according to relevance. So, you can use quantitative supply chain criteria to determine rankings.
4) Geographical map depiction with the aim of:

- Visualization of the total coverage of business operations.
- Enable inventory visualization and information flow among various supply chain entities.
- Enable the identification of what products or service packs are sold to which channel entities.
- Adding financial data can identify where sales revenue and profitability are greatest in the supply chain.
- Connection of the SCOR process with supply chain entities is possible.

5) Defining the scope of the improvement program and getting an agreement as intended is an agreement that arises from the current supply chain condition. The current supply chain condition is obtained from the current performance matrix and then from there, it will get a gap.

c. Configure the Supply Chain

At this stage, the determination of performance metrics and processes from the SCOR improvement program is carried out in the following stages:

1) Select the SCOR performance attribute that is used to measure supply chain performance.

2) Collecting detailed data.
3) Benchmarking.
4) Gap Analysis.
5) Plan for the next phase.

d. Optimize Projects

At this stage, the identification of a list of all improvement projects that have been carried out in the previous stage to assess the benefit costs of these projects, then identify the SCOR level 3 processes, then link the performance gaps to projects, then document the expected benefits or opportunities of each project, the next goal is to prioritize projects that need improvement. The outputs or deliverables from this stage are as follows:

1) Initial project portfolio.
2) Project portfolio.
3) Ready for implementation.

The implementation steps are as follows:

1) Make a matrix of process issues or defects that have been compiled in the previous stage. Then group the performance issues into implementation projects using a combination of SCOR processes.
2) Connecting the benefits of each project.
3) Sort projects from those with the highest benefits to be selected and improved first using the impact, improvement, return to complexity, effort, and risk matrix.
4) Authorization and planning for the next stage, namely, ready for implementation.

e. Ready for Implementation

At this stage, the basic metrics are developed as best practices from supply chain revenue. After the project has been agreed upon by the project team, the team can then enter the implementation readiness stage.

6. Analysis and Discussion

After processing the data, further analysis and discussion were carried out to find out the proposed improvement in the overall performance of PT. XYZ's supply chain is by the SCOR Racetrack Version 12.0 method.

7. Conclusion and Recommendation

The conclusion contains the results of data collection, processing, and analysis to answer the research objectives that have been set. While suggestions are considerations and recommendations that can be given to improve further research.

CHAPTER IV

DATA COLLECTING AND PROCESSING

4.1 Pre-SCOR Program Steps

4.1.1 Company Profile

PT. XYZ is a company was established in 2008. This company started as a workshop in the field of engineering. Time by time, the workshop continued to innovate and began to produce laundry equipment such as extractors, rollers, and even carpet washing machines of the same brand. PT. XYZ. This company now has implemented a make-to-order production system where consumers can provide a list and the desired number of orders, after which only orders that have been entered are made or processed to the next stage.

Customers with this company's products have spread to various corners of Indonesia, such as Yogyakarta, Jakarta, West Java, Surabaya, Semarang, Solo, Bali, Medan, Padang, Kalimantan, Sulawesi, and even Timor Leste, from hotels to hospitals. In addition to producing various laundry equipment, currently PT. XYZ began to penetrate the Basic Laundry industry by presenting Universal Laundry. With this rapid growth, it is necessary to analyze the performance related to PT. XYZ can be used as a basis for evaluating to increase productivity, especially in performance.

4.1.2 Company Location

The head office of PT. XYZ's addressed at Wonosari Street, Piyungan, Bantul, Yogyakarta Special Region, 55792. In this area, this company has several buildings to run this business, one manufacturing place for producing the product, one warehouse building as the inventory and packaging process, and one office building for the administration process of the company.

4.1.3 Company Vision and Mission

The vision of PT. XYZ is “Manufacturers of safe, quality, reliable and environmentally friendly Production Machinery, and Equipment”, meanwhile the mission arranged by PT. XYZ to reach their goals are:

1. Conduct research and development of production machines and tools.
2. Conducting interaction with customers and continuous improvement to fulfill the customer expectations in terms of quality and delivery.
3. Increase product creativity through innovation and technology.
4. Improving the competence of local workers.
5. Prioritize the commitment and product quality in running the company to prevent bribery behavior.
6. Controlling environmental impacts and continuous improvement to produce environmentally friendly products.

4.1.4 Organization Structure

The organizational structure of PT. XYZ is as shown in the figure below:

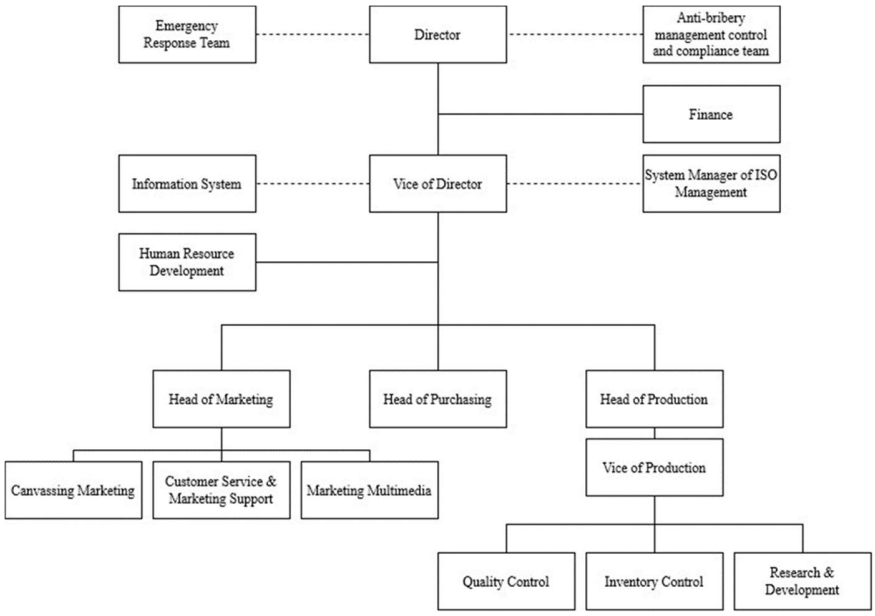

Figure 4 1 Organizational Structure of PT. XYZ

4.1.5 Products

PT. XYZ produces several products, which are Ionizer Machine, Pyrolysis Machine, Washtafel, Roll Ironer, Extractor Machine, Dryer Machine, and Washer Machine. There are several picture products from PT. XYZ is shown below: picture products from PT. XYZ is shown below:

Figure 4 2 Ionizer Machine from PT.XYZ

Figure 4 3 Pyrolisis Machine from PT.XYZ

Figure 4 4 Wastafel from PT. XYZ

Figure 4 5 Roll Ironer from PT. XYZ

Figure 4 6 Extractor Machine from PT. XYZ

Figure 4 7 Washing Machine from PT. XYZ

4.1.6 Business Process

There are the Business processes and supply chain from PT.XYZ is as shown below.

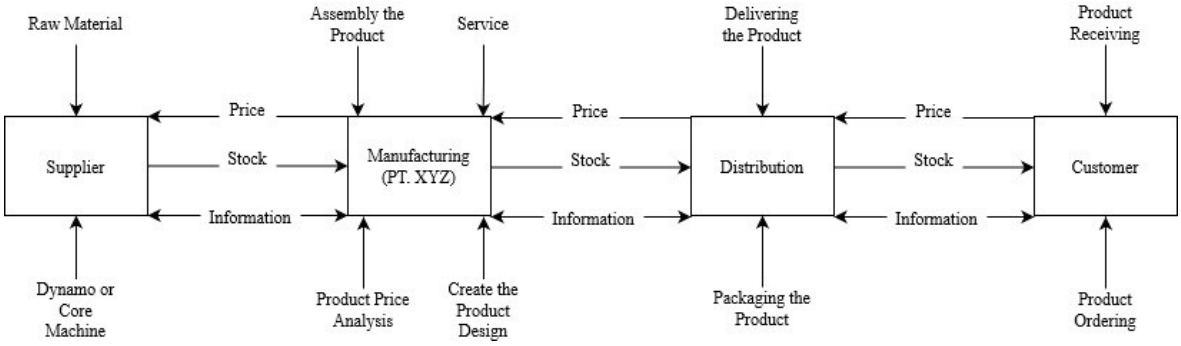

Figure 4 8 Business Process of PT. XYZ

Business processes at PT. XYZ starts with ordering raw materials and dynamo to suppliers, where the number of orders is adjusted to production needs. The administration department carries out ordering of raw materials and dynamo. After the raw materials and dynamo come from the supplier, the raw materials are directly sent to the manufacturers at PT. XYZ. The stages carried out in manufacturing are product price analysis and creating the product design plans according to the prepared design, making product parts according to

size, and assembly of product parts of a product. Furthermore, the product that has been produced will be checked for quality on the product that has become the final product. If the product has passed, the product will be transferred to the distribution section. If the product is not, then the product will be returned to the service department so that the error can be corrected. After it is finished in the manufacturing section, the products that have passed are transferred to the distribution section. Products that have passed will be packaged for the product, and after packaging, the product will be sent to the customer and ready to be marketed.

4.2 Set the Scope

4.2.1 SWOT Analysis

According to Rahayu, SWOT analysis is a systematic plan to compare the company's internal strengths and weaknesses with external opportunities and threats to become a success factor in the company. SWOT analysis is one of the widely known instruments for analyzing the company's internal and external environment. This analysis is based on the assumption that an effective strategy will minimize weaknesses and threats. When applied accurately, these simple assumptions have a huge impact on the design of a successful strategy (Rahayu & Retnani, 2016).

a. IFAS (Internal Strategic Factor Analysis Summary)

The matrix in which there are internal factors is called IFAS (Internal Strategic Factor Analysis Summary/internal strategy factor matrix). The following is a table of IFAS at PT. XYZ:

Table 4 1 Internal Strategic Factor Analysis Summary PT. XYZ

No	Strengths	Code
1	Good quality product	A
2	Serving the “make-to-order”	B
3	High work ethic and commitment from the employee	C
4	Ability to produce according to customer demand	D
5	Receive repair services	E
No	**Weakness**	**Code**

1	Lack of adapting to a pandemic situation	F
2	Location is not strategic	G
3	Limited production capacity	H
4	The raw material is still in demand with other parties	I
5	Lack of production administration system	J

The first stage of the SWOT analysis is to determine the factors that are the strengths and weaknesses of PT XYZ. These factors belong to the IFAS category, which is a matrix consisting of the company's internal factors.

Table 4 2 Internal Factor Weighting of PT. XYZ

	A	**B**	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**Total**	**Weight**
A	X	1	1	0	1	0	0	1	1	1	6	0,133
B	0	X	1	0	1	1	0	1	1	0	5	0,111
C	0	0	X	0	1	0	1	1	0	1	4	0,089
D	1	1	1	X	0	1	1	0	0	0	5	0,111
E	0	0	0	1	X	0	1	1	0	1	4	0,089
F	1	0	1	0	1	X	0	0	1	1	5	0,111
G	1	1	0	0	0	1	X	1	0	0	4	0,089
H	0	0	0	1	0	1	0	X	1	0	3	0,067
I	0	0	1	1	1	0	1	0	X	0	4	0,089
J	0	1	0	1	0	0	1	1	1	X	5	0,111
Total											45	1

The weights of 1 and 0 in Table 4.2 mean that the weight of 1 is a very important factor, while the weight of 0 is not important. These values implicitly indicate the percentage of the importance of that factor relative to other factors. A larger number means that it is relatively more important than the other factors. For example, in Table 4.2, it can be seen that factor “A” is given a weight of 1 and factor “B” is given a weight of 0, meaning that in the analysis of the company's internal environment, factor “A” (Good quality product) is considered more important than factor “B” (Serving the "make-to-order"). Then the total weight of 1 can be calculated in one row. After that, the total weight calculation is carried out where the weight of A has a value of 0.133, which is obtained from 6 divided by 45. The value of 6 is the total weight of 1 in one

line of factor “A”. While the value of 45 is the total accumulated weight as a whole on the internal factor weighting PT. XYZ.

Table 4 3 Internal Weight Factor, Rating, and Score of PT.XYZ

Code	Weight	Rating	Score
A	0,133	4	0,532
B	0,111	3	0,333
C	0,089	2	0,178
D	0,111	3	0,333
E	0,089	3	0,267
	Total		1,643
F	0,111	1	0,111
G	0,089	2	0,178
H	0,067	2	0,134
I	0,089	3	0,267
J	0,111	2	0,222
	Total		0,912
	Strength – Weakness		0,731

The weight “A” of 0.133 contained in Table 4.3 is the weight “A” value obtained from the previous internal factor weighting table. Giving a rating for factors belonging to the Strengths category is positive, meaning that large Strengths are given a rating of 4, while if the Strengths are small, they are given a rating of 1. So, it can be seen in Table 4.3 that the greatest Strengths in PT. XYZ is a type of product that is diverse and appropriatetrend. Giving a rating on the weaknesses factor is the opposite of giving a rating on the strengths factor.

If the weaknesses are very large, then they are given a rating of 1, while if the weaknesses are small, they are given a rating of 4. So, it can be seen in Table 4.3 that the biggest weakness is in PT. XYZ is Lacking in adapting to a pandemic situation. Then, the score value is obtained from the multiplication between the weight and the rating. For example, in the table above, factor “A” weights 0.133 with a rating of 4, then the score value of 0.532 is obtained by multiplying the weight “A” by the rating “A”. Then the value of 0.731 is obtained from the reduction of strengths with

weaknesses, where the value of strengths is 1,643, and the value of weaknesses is 0.912.

b. EFAS (External Strategic Factor Analysis Summary)

The matrix in which there are external factors is called EFAS (External Strategic Factor Analysis Summary/external strategy factor matrix). The following is a table of EFAS at PT. XYZ:

Table 4 4 External Strategic Factor Analysis Summary PT. XYZ

No	Opportunities	Code
1	Adding other types of products to fulfill consumer needs	A
2	Local government support for local industry	B
3	Huge market potential in the use of industrial laundry machines	C
4	The only industrial laundry machine company that has SNI products.	D
5	Many consumers from Indonesia PT. XYZ	E
No	**Threats**	**Code**
1	Some competitors sell at competitive prices	F
2	Technology that is constantly changing	G
3	Many competitors sell the same product	H
4	Consumers are sensitive to the price	I
5	The uncertain situation of the covid pandemic on consumer order	J

After determining the IFAS factor and calculating the weighting and the score, then determine the factors that become opportunities and threats from PT. XYZ. These factors belong to in EFAS category, which is a matrix consisting of company external factors.

Table 4 5 External Factor Weighting of PT. XYZ

	A	B	C	D	E	F	G	H	I	J	Total	Weight
A	X	1	0	1	0	1	1	1	1	0	6	0,133
B	0	X	1	1	1	0	0	0	1	0	4	0,089
C	1	0	X	1	0	0	0	0	1	1	4	0,089

D	0	0	0	X	1	0	0	0	0	0	1	0,022
E	1	0	1	0	X	1	0	1	0	0	4	0,089
F	0	1	1	1	0	X	0	0	1	1	5	0,111
G	0	1	1	1	1	1	X	0	1	0	6	0,133
H	0	1	1	1	0	1	1	X	0	0	5	0,111
I	0	0	0	1	1	0	0	1	X	1	4	0,089
J	1	1	0	1	1	0	1	1	0	X	6	0,133
Total											45	1

The weights of 1 and 0 in Table 4.5 mean that the weight of 1 is a very important factor, while the weight of 0 is not important. These values implicitly indicate the percentage of the importance of that factor relative to other factors. A larger number means that it is relatively more important than the other factors.

For example, in Table 4.5, it can be seen that factor “A” is given a weight of 1 and factor “B” is given a weight of 0, meaning that in the analysis of the company's external environment, factor “A” (Adding other types of products to more fulfilling consumer needs) is considered more important than factor “B” (Local government support for the local industry). Then the total weight of 1 can be calculated in one row. After that, the total weight calculation is carried out where the weight of A has a value of 0.133, which is obtained from 6 divided by 45. The value of 6 is the total weight of 1 in one line of factor “A”. While the value of 45 is the total accumulated weight as a whole on the external factor weighting PT. XYZ.

Table 4 6 External Weight Factor, Rating, and Score of PT. XYZ

Code	Weight	Rating	Score
A	0,133	5	0,665
B	0,089	3	0,267
C	0,089	4	0,356
D	0,022	4	0,088
E	0,089	3	0,267
Total			1,643
F	0,111	5	0,555
G	0,133	4	0,532
H	0,111	5	0,555

I	0,089	4	0,356
J	0,133	4	0,532
	Total		2,53
	Opportunities - Threats		-0,887

The weight “A” of 0,665 contained in Table 4.6 is the weight “A” value obtained from the previous external factor weighting table. Giving a rating for factors belonging to the Opportunities category is positive, meaning that large Strengths are given a rating of 4, while if the Strengths are small, they are given a rating of 1. So, it can be seen in Table 4.3 that the greatest Opportunities are in PT. XYZ is the type of product that is Adding other types of products to fulfill consumer needs. Giving a rating on the threats factor is the opposite of giving a rating on the strengths factor. If the threats are very large, then they are given a rating of 1, while if the threats are small, they are given a rating of 4. So, it can be seen in Table 4.6 that the biggest threats in PT. XYZ is the uncertain situation of the covid pandemic consumer order. Then, the score value is obtained from the multiplication between the weight and the rating. For example, in the table above, factor “A” weight 0.133 with a rating of 5, then the score value of 0.665 is obtained by multiplying the weight “A” with the rating “A”. Then the value of -0.887 is obtained from the reduction of opportunities with threats, where the value of opportunities is 1,643 and the value of threats is 2,53.

c. SWOT Diagram

The following is a SWOT diagram based on the previous weighting results:

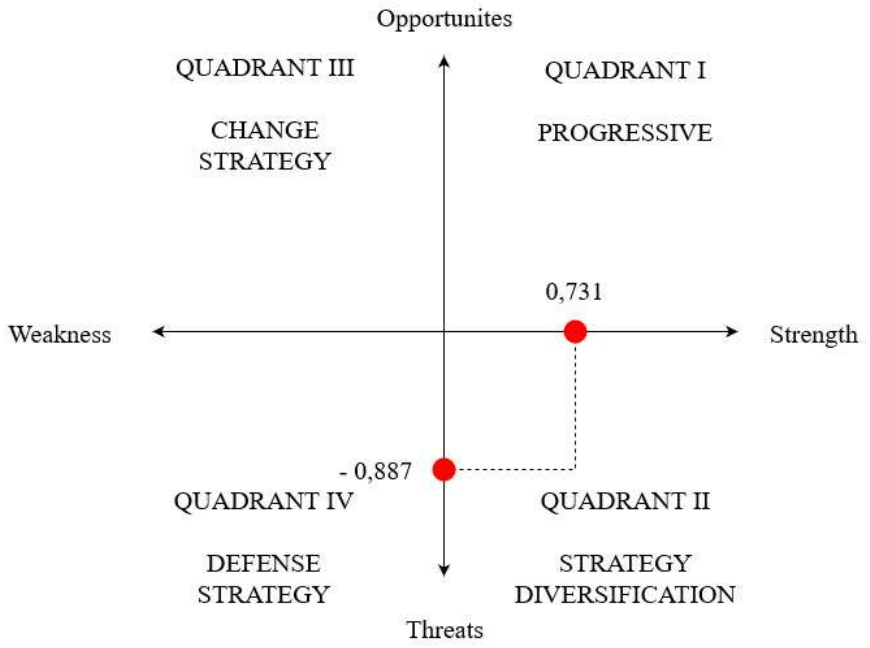

Figure 4 9 SWOT Diagram of PT. XYZ

Based on Figure 4.10, the value obtained from PT. XYZ is in quadrant II of strategy diversification with a strength value of 0,731 and a threat value of -0,887. This shows that PT. XYZ is in quadrant II which means it is in a strong internal condition, but on the other hand, it is experiencing some obstacles from external threats. Based on the position of PT. XYZ on the SWOT diagram, then a SWOT matrix can be made. The SWOT matrix is a tool used to develop the company's strategic factors. This matrix can clearly describe how the external opportunities and threats faced by the company are adjusted to the strengths and weaknesses it has. This matrix can produce four sets of possible alternative strategies.

Table 4 7 SWOT Matrix of PT. XYZ

	STRENGHT (S)	**WEAKNESS (W)**
IFAS	• Good quality product	• Lack of adapting to a pandemic situation

EFAS	• Serving the "make-to-order" • High work ethic and commitment from the employee • Ability to produce according to customer demand • Receive repair services	• Location is not strategic • Limited production capacity • The raw material is still in demand with other parties • Lack of production administration system
OPPORTUNITIES (O) • Adding other types of products to fulfill consumer needs • Local government support for local industry • Huge market potential in the use of industrial laundry machines • The only industrial laundry machine company that achieves SNI standards • Many consumers from foreign countries know PT. XYZ	S – O Strategic • Maintain and improve product quality to make consumers continue to trust and enhance the company's positive image. • Maintaining organizational management and always prioritizing customer satisfaction.	W – O Strategic • Improve and enhance the promotion strategy by Expanding the use of technology for marketing. • Ensuring the quality of raw material suppliers and ensuring the company's inventory system meets consumer needs.
THREATS (T)	S – T Strategic	W – T Strategic

• Some competitors sell at competitive prices • Technology that is constantly changing • Many competitors sell the same product • Consumers are sensitive to the price • The uncertain situation of the covid pandemic on consumer order	• Promoting products that have real quality products compared to competing products • Observing the world of the market related to technology that suits PT. XYZ needs • Conduct research on price analysis according to consumer needs	• Ensure the product quality, as well as provide appropriate prices and improve customer service so as not to switch to other competitors.

The way to fill in the SWOT matrix above is to write down internal factors (IFAS) and external factors (EFAS) with direct observations and interviews with PT. XYZ employee. S-O strategy is to be able to take advantage of the strengths that exist in the company to seize and take advantage of opportunities as much as possible. PT. XYZ has strengths, one of which is good product quality. With the existing strengths and opportunities, and S-O strategy can be created, namely with good product quality, PT. XYZ can maintain and improve product quality to make consumers continue to trust and enhance the company's positive image.

The S-T strategy is how the company can use its strengths to deal with existing threats. PT. XYZ has the threat with the uncertain situation of the covid pandemic on consumer orders. With the existing threats, the company can take advantage of the strengths it has. Thus, the strategy that can be created than PT. XYZ must conduct research on price analysis according to consumer needs.

W-O strategy is how to take advantage of existing opportunities by minimizing the company's weaknesses. PT. XYZ has weaknesses related to a lack of adapting to a pandemic situation. With the existing weaknesses and opportunities, a W-O strategy

can be created, namely, to improve and enhance the promotion strategy by expanding the use of technology for marketing.

W-T strategy is how to minimize the company's weaknesses and avoid existing threats. One of the weaknesses of PT. XYZ is related to the lack of a production administration system. Meanwhile, PT. XYZ also has external threats; namely, the competitors sell at competitive prices. With the existing weaknesses and threats, W-T strategy can be created, namely to ensure the product quality, as well as provide appropriate prices and improve customer service so as not to switch to other competitors, PT. XYZ can overcome external threats such as brand competition and price because workers who have special job descriptions related to marketing will be more able to understand how to overcome external threats with the weaknesses that exist in PT. XYZ.

4.2.2 Business Context Summary

Table 4 8 Business Context Summary of PT. XYZ

Component	Description
Business Description	PT. XYZ is a company engaged in producers of the laundry machine industry such as at Hospital and Hotel. The product that PT. XYZ produced has a quality that can be relied upon because it has been SNI standard. PT. XYZ was established in 2008, recently PT. XYZ has spread to various corners of Indonesia such as Yogyakarta, Jakarta, West Java, Surabaya, Semarang, Solo, Bali, Medan, Padang, Kalimantan, Sulawesi, even Timor Leste, from hotels to hospitals.
Threats and Opportunities	Based on the SWOT analysis that has been carried out, the following are the challenges and opportunities that are considered to have a significant effect. **Strength**: Has a good quality product.

Component	Description
	Weakness: Has a lack of administration of inventory or production system. **Opportunity**: Huge market potential in the use of industrial laundry machines. **Threats**: The uncertain situation of the covid pandemic on consumer orders.
Value Proportion	PT. XYZ, the best quality product produced, has a quality that can be relied upon because it has been standard SNI.
Critical Issues	Not being able to maximize capacity with production, internal supply chain arrangements are still not well structured, including administration management that is not mature enough.
Risk	There will be a lot of products that have not been effective and difficult to develop if it still survives with the management that is currently used.
Financial Performance	During a pandemic situation (2020-2021), PT. XYZ has decreased in revenue, and this made PT. XYZ finally developed its type of production, which is the manufacture of new products in the form of several types of sinks. This has succeeded in making the company survive even though it has not yet reached its target.
Internal Profile	PT. XYZ consists of the Director and Production Manager with 5 departments in it, namely Production, Quality Control, Research & Development, Marketing, and Management Administration System.
External Profile	PT. XYZ cooperates with several suppliers in local countries and abroad to produce raw materials and dynamo machines for their products.

4.2.3 Document Current Supply Chain

a. Data Sourcing

1. Customers and Markets

   Customers, as well as markets target of PT. XYZ are various hospitals and hotels in Indonesia. Besides, several large laundry businesses in Indonesia are also marketing target of PT. XYZ.

2. Services

   PT. XYZ has several types of services, including make-to-order services for all products and services for their sold products.

3. Suppliers and Channel Partners

   PT. XYZ collaborates with several suppliers in local countries and abroad to produce raw materials and dynamo machines for their products. Besides that, PT. XYZ has several channel partners to cooperate with several hotels and hospitals in Indonesia.

4. Geography

   PT. XYZ is located at Wonosari Street KM 8.5, Padangan, Sitimulyo, Piyungan, Bantul, Yogyakarta Special Region, 55792.

5. Supply Chain Definition Matrix

Table 4 9 Supply Chain Definition Matrix

Suppliers	PT. XYZ	Customers
• PT. XYZ Supplier for raw materials and engine dynamos in PT. XYZ is located in several areas in Indonesia and abroad, such as China. This	• PT. XYZ PT. XYZ is located at Jl Wonosari km 8, 5 Padangan, Sitimulyo, Piyungan, Bantul, Yogyakarta Special Region 55792. This	• Offline For offline customers, the customers usually come from the City in the DIY area and go directly to the company

supplier is a permanent supplier because it has been determined to design product quality according to PT. XYZ is expected.	place is used as a production place, warehouse, and as office head company.	to make transactions with PT. XYZ. • Online Online customers, customers usually come from outside the city. They do communicate with social media that has been created with PT. XYZ.
	Channel Partner • Channel Partner PT. XYZ has several channel partners to cooperate with several hotels and hospitals in Indonesia.	

Based on Table 4.9, the supplier of PT. XYZ is currently located in several regions in Indonesia and abroad, and the supplier is a permanent supplier. PT. XYZ is currently in one location Wonosari Street KM 8.5, Padangan, Sitimulyo, Piyungan, Bantul, Yogyakarta Special Region, 55792.

PT. XYZ has several channel partners in the form of several hotels and hospitals in Java and outside Java. PT. XYZ collaborates with several of these channel partners as a form of offline marketing and sales. However, the channel partner was temporarily suspended during the pandemic due to several reasons. The type of customer PT. XYZ is divided into two, namely offline customers and online customers. Offline customers are customers of PT. XYZ purchases products directly through the company's premises and several channel partners. Most of these customers come from Yogyakarta and surrounding areas. While online customers are customers of PT. XYZ, purchases products online through social media that have

been created. These customers come from various regions in Indonesia (Kalimantan, Java, Bali, Sumatra, Sulawesi) and abroad (Timor Leste).

Table 4 10 Data Sales of PT. XYZ

Products	**2020**	**2021**	**Total**
DONG SO Automatic Wastafel Stainless Steel	152	17	169
KANABA Boiler Steam	4	1	5
KANABA Dryer	17	12	29
KANABA Extractor	9	10	19
KANABA Roll Ironer	8	6	14
KANABA Table Vacuum	14	2	16
KANABA Washer Capsule	8	3	11
KANABA Washer Extractor	4	4	8
Pirolis Machine 120	1	6	7
SIYUBA Dryer	2	0	2
Anion Fresh Air	0	15	15
Total	219	76	295

Based on Table 4.10, PT. XYZ sold 11 types of products with total revenue of 305 units. This income is obtained from offline and online sales. Revenue of PT. XYZ in 2020 until the end of 2021 experienced a decline of around 70% due to the

impact of the continuation of the COVID-19 pandemic. The decline in income caused by the Covid-19 pandemic is a problem experienced by PT. XYZ. From the table above, it can also be seen that the best seller product and the biggest source of income for PT. XYZ during 2020-201 is DONG SO Automatic Stainless Steel Washtafel, KANABA Dryer, and Anion Fresh Air.

However, Automatic Stainless Steel Sink products are seasonal products. In a pandemic condition, the owner of PT. XYZ creates innovations to meet the turnover target every month every year so that it becomes one of its innovative products. In 2021, the largest revenue will come from DONG SO Automatic Stainless Steel Washtafel and Anion Fresh Air; where this year is a continuation of the Covid-19 pandemic, so the product is still needed by customers even though the DONG SO Automatic Stainless Steel Washatfel product has experienced a decline in sales because many people are already using it during the pandemic. Based on the data above, we got the top three of the product in PT. XYZ.

Table 4 11 Customers of PT. XYZ

Product	**Java**					**Sumatera**	**Borneo**	**Sulawesi**	**Maluku**
	DIY	**Banten**	**East Java**	**West Java**	**Central Java**				
KANABA Dryer	4	2	2	7	9	3	2	2	-
KANABA Extractor	1	-	6	2	6	2	2	1	1
KANABA Table Vacuum	5	2	2	4	1	2	-	-	-

4.2.4 Prioritizing the Supply Chain

Prioritizing the supply chain aims so that the SCOR team recognizes that not all supply chains will provide value or benefits for a company, such as some supply chain networks that generate very high revenue. Still,some are not too high, so there needs to be a priority to sort according to relevance. Therefore, they can use quantitative supply chain criteria to determine supply chain priorities based on their importance. The following is a table prioritizing the supply chain at PT. XYZ:

Table 4 12 Prioritizing the Supply Chain

	Revenue	Gross Margin %	#of SKU's	Unit Volume	Strategic Value	Rank
Java	3	3	3	3	2	1
Sumatera	2	2	1	2	3	2
Kalimantan	1	1	2	1	1	3

4.2.5 Geographical Mapping

Figure 4 10 Geographical Mapping of PT. XYZ

Based on Figure 4.11, it can be seen that the customer segmentation of PT. XYZ came from several cities in Indonesia and abroad. In offline sales, most of the customers come from Yogyakarta and surrounding areas. In online sales, customers come from various regions in Indonesia, such as Java, Kalimantan, Sulawesi, Sumatra, Bali, and Nusa Tenggara. Then for sales abroad, PT. XYZ has also sent its products to Timor Leste.

4.2.6 Scope Statement

Based on the observations, interviews, and analysis that have been carried out, it can be concluded that the scope for improvement at PT. XYZ is the three prioritized products namely KANABA Dryer, KANABA Extractor, and Anion Fresh Air.

4.3 Configure the Supply Chain

4.3.1 SCOR Performance Attribute Selection

At the attribute selection stage, improvement is carried out by selecting metrics with several general dimensions from the SCOR as performance attributes that can be considered, such as reliability, responsiveness, agility, costs, and asset management efficiency. The declining number of product sales during the COVID-19 situation is the main problem that occurs at PT. XYZ, so this is the focus for further action as an effort to improve performance. Based on the SCOR 12.0 Racetrack method, the performance attribute that corresponds to the discussion of the problem in this case study is “Assets Management”. And based on the interview, it will be selected with the Level-1 Metrics is Return on Fixed Assets because of the PT. XYZ needs to improve its supply chain revenue, as shown in Table 4.12 below.

Table 4 13 SCOR level 1 Performance Metrics Selection

Attribute	Level-1 Metric	
Reliability	RL. 1.1	Perfect Order Fulfillment
Responsiveness	RS. 1.1	Order Fulfillment Cycle Time
Agility	AG. 1.1	Upside Supply Chain Adaptability
	AG. 1.2	Downside Supply Chain Adaptability
	AG. 1.3	Overall Value-at-Risk (VaR)

Cost	CO. 1.1	Total SC Management Cost
	CO. 1.2	Cost of Goods Sold (COGS)
Assets Management Efficiency	AM. 1.1	Cash to Cash Cycle Time
	AM. 1.2	Return on Fixed Assets
	AM. 1.3	Return on Working Capital

AM 1.2 Return on Fixed Assets has 2 metrics level-2, namely Supply Chain Revenue and Supply Chain Fixed Assets, where Supply Chain Revenue is income derived from the supply chain. While Supply Chain Fixed Assets are fixed assets contained in the supply chain. There is the calculation on Level-2 metrics of Return on Fixed Assets below.

Table 4 14 Assembling Level-2 Metrics

Metric	Calculation	Level-2 Metric	Calculation
AM.1.2 Return on Supply Chain Fixed Assets	([Supply Chain Revenue]-[Total Cost to Serve])/[Supply Chain Fixed Assets]	AM.2.4 Supply Chain Revenue	Operating revenue generated from a supply chain
		AM.2.5 Supply Chain Fixed Assets	The sum of the costs associated with Plan, Source, Make, Deliver, and Return Fixed Assets

4.3.2 Collection Detail Data

As an advanced stage of attribute selection, gap analysis is calculated by collecting data. The goal is to find out the size of the gap in each attribute. The data collected is data on supply chain revenue and data on supply chain fixed assets.

4.3.2.1 Supply Chain Revenue

Supply chain revenue is income derived from the supply chain of a company. In the case study of PT. XYZ, the income earned by PT. XYZ only comes from a few supply chain processes; namely, the delive, make, and planning processes, while other processes such as returns and sources do not generate income. The following is a table of revenues for PT. XYZ on 2020-2021.

Table 4 15 Revenue of PT. XYZ

Years	Revenue
2020	Rp2.817.542.041
2021	Rp1.424.499.726
Total	Rp4.242.041.767

Based on Table 4.15, it can be seen that the total revenue for PT. XYZ in 2020-2021 with the total is Rp9.781.827.000 Those revenues got from offline and online sales, which Make to Order sales is almost 90% of the entire revenue, and the rest is with the service of the product as the guarantee of the product.

4.3.2.2 Supply Chain Fixed Assets

Supply Chain Fixed Assets is the calculation to find the fixed assets on a company's supply chain, and it will determine the sum of the costs associated with Plan, Source, Make, Deliver, and Return Fixed Assets. The level-2 Supply Chain Fixed Assets consists of several level-3, which can be shown below.

a. Deliver Fixed Asset Value (A.M. 3.11)

In the deliver process at PT. XYZ, several fixed assets are used to support the delivery of products to the expedition location. Some of these fixed assets are as follows.

Table 4 16 Deliver Fixed Asset Value (A.M. 3.11)

No	Fixed Asset	Total (Unit)	Year of Purchase	Acquisition Cost	Depreciation	Net Fixed Asset
1	Pick-Up car 1	1	2016	Rp 187.800.000	Rp 28.800.000	Rp 159.000.000
2	Pick-Up car 2	1	2017	Rp 124.900.000	Rp 24.650.000	Rp 100.250.000
3	Pick-Up car 3	2	2018	Rp 271.800.000	Rp 54.320.000	Rp 217.480.000
				Total		Rp 476.730.000

Based on the calculations from the data in Table 4.16, the results obtained are the value of fixed assets owned by PT. XYZ to support the deliver process in the supply chain of PT. XYZ is 3 units with a net fixed asset of Rp 476.730.000.

b. Make Fixed Asset Value (A.M. 3.18)

In the make process at PT. XYZ has several fixed assets that are used to support the production process, where the production process is the main factor for the continuity of the supply chain. Some of these fixed assets are as follows.

Table 4 17 Make Fixed Asset on PT. XYZ (A.M. 3.18)

No	Fixed Asset	Total (Unit)	Year of Purchase	Acquisition Cost		Depreciation Accumulation		Depreciation	
1	Air Compressor 1	1	2018	Rp	3.500.000	Rp	1.822.917	Rp	1.677.083
2	Air Compressor 2	1	2018	Rp	3.250.000	Rp	1.692.708	Rp	1.557.292
3	Barcode Scanner	1	2018	Rp	1.850.000	Rp	539.583	Rp	1.310.417
4	Bending Machine	1	2018	Rp	525.000.000	Rp	136.718.750	Rp	388.281.250
5	Benso Machine	1	2018	Rp	16.000.000	Rp	8.333.333	Rp	7.666.667
6	Boat Spray 1	1	2018	Rp	25.000.000	Rp	13.020.833	Rp	11.979.167
7	Boat Spray 2	1	2018	Rp	40.000.000	Rp	10.416.667	Rp	29.583.333
8	Circle Machine	1	2018	Rp	7.500.000	Rp	3.906.250	Rp	3.593.750
9	Compressor 1	1	2019	Rp	1.900.000	Rp	118.750	Rp	1.781.250
10	Compressor 2	1	2019	Rp	950.000	Rp	52.778	Rp	897.222
12	Converter DVI HDMI	1	2018	Rp	50.000	Rp	26.042	Rp	23.958
13	Cutting Machine 1	1	2018	Rp	2.200.000	Rp	641.667	Rp	1.558.333
14	Cutting Machine 2	1	2018	Rp	1.500.000	Rp	781.250	Rp	718.750

No	Fixed Asset	Total (Unit)	Year of Purchase	Acquisition Cost		Depreciation Accumulation		Depreciation	
15	Cutting Machine 3	1	2018	Rp	2.500.000	Rp	1.302.083	Rp	1.197.917
16	Drilling Machine 1	1	2018	Rp	2.826.000	Rp	824.250	Rp	2.001.750
17	Drilling Machine 2	1	2018	Rp	5.000.000	Rp	2.604.167	Rp	2.395.833
18	Drilling Machine 2	1	2018	Rp	7.250.000	Rp	3.776.042	Rp	3.473.958
19	Drilling Machine 3	1	2018	Rp	750.000	Rp	390.625	Rp	359.375
20	Drilling Machine 4	1	2018	Rp	600.000	Rp	312.500	Rp	287.500
21	Drilling Machine 5	1	2018	Rp	2.600.000	Rp	1.354.167	Rp	1.245.833
22	Drilling Machine 6	1	2018	Rp	1.925.000	Rp	1.002.604	Rp	922.396
23	Drilling Machine 7	1	2019	Rp	3.000.000	Rp	166.667	Rp	2.833.333
24	Drilling Machine 8	1	2019	Rp	675.000	Rp	28.125	Rp	646.875
25	Employee Shoe Package	1	2020	Rp	9.775.500	Rp	814.625	Rp	8.960.875
26	Fingerprint	1	2019	Rp	1.767.000	Rp	294.500	Rp	1.472.500
27	Fraish Machine	1	2018	Rp	12.750.000	Rp	6.640.625	Rp	6.109.375
28	Generator Machine	1	2018	Rp	150.000.000	Rp	39.062.500	Rp	110.937.500
29	Grinder Machine 1	1	2018	Rp	375.000	Rp	132.813	Rp	242.188
30	Grinder Machine 2	1	2018	Rp	2.500.000	Rp	1.302.083	Rp	1.197.917
31	Grinder Machine 3	1	2018	Rp	1.700.000	Rp	885.417	Rp	814.583
32	Grinder Machine 4	1	2018	Rp	3.500.000	Rp	1.822.917	Rp	1.677.083
33	Grinding Sparepart	1	2018	Rp	3.650.000	Rp	1.901.042	Rp	1.748.958

No	Fixed Asset	Total (Unit)	Year of Purchase	Acquisition Cost		Depreciation Accumulation		Depreciation	
34	Hammer Drill	1	2018	Rp	1.925.000	Rp	1.002.604	Rp	922.396
35	Hand Pallet	1	2019	Rp	4.123.000	Rp	171.792	Rp	3.951.208
36	Hand lift 1	1	2018	Rp	12.500.000	Rp	6.510.417	Rp	5.989.583
37	Hand lift 2	1	2018	Rp	12.908.610	Rp	6.723.234	Rp	6.185.376
38	Lathe Machine 1	1	2018	Rp	225.000.000	Rp	58.593.750	Rp	166.406.250
39	Lathe Machine 2	1	2018	Rp	95.000.000	Rp	24.739.583	Rp	70.260.417
40	Lathe Machine 3	1	2018	Rp	35.000.000	Rp	9.114.583	Rp	25.885.417
41	Manual Hydraulic Stacker	1	2018	Rp	12.500.000	Rp	6.510.417	Rp	5.989.583
42	Multimeter	1	2018	Rp	550.000	Rp	286.458	Rp	263.542
43	Pilers 1	1	2018	Rp	270.000	Rp	140.625	Rp	129.375
44	Pilers 2	1	2018	Rp	1.550.000	Rp	807.292	Rp	742.708
45	Plasma Machine 1	1	2018	Rp	10.000.000	Rp	5.208.333	Rp	4.791.667
46	Plasma Machine 2	1	2018	Rp	3.900.000	Rp	2.031.250	Rp	1.868.750
47	Plasma Sparepart	1	2020	Rp	426.365	Rp	17.765	Rp	408.600
48	Press Machine	1	2018	Rp	15.000.000	Rp	7.812.500	Rp	7.187.500
49	Printer 1	1	2019	Rp	4.000.000	Rp	666.667	Rp	3.333.333
50	Regulator	1	2018	Rp	300.000	Rp	87.500	Rp	212.500
51	Roll Machine	1	2018	Rp	20.000.000	Rp	10.416.667	Rp	9.583.333
52	Roll Machine 2	1	2018	Rp	20.000.000	Rp	10.416.667	Rp	9.583.333

No	Fixed Asset	Total (Unit)	Year of Purchase	Acquisition Cost	Depreciation Accumulation	Depreciation
53	Sanding Machine 1	1	2018	Rp 821.000	Rp 290.771	Rp 530.229
54	Sanding Machine 2	1	2018	Rp 1.300.000	Rp 677.083	Rp 622.917
55	Sanding Machine 3	1	2018	Rp 1.425.000	Rp 742.188	Rp 682.813
56	Scale Tools 1	1	2018	Rp 800.000	Rp 416.667	Rp 383.333
57	Scale Tools 2	1	2018	Rp 2.000.000	Rp 1.041.667	Rp 958.333
58	Sigmat 1	1	2018	Rp 540.000	Rp 157.500	Rp 382.500
59	Sigmat 2	1	2018	Rp 8.420.000	Rp 4.385.417	Rp 4.034.583
60	Sigmat 3	1	2019	Rp 6.250.250	Rp 390.641	Rp 5.859.609
61	Tools 1	1	2019	Rp 2.519.000	Rp 524.792	Rp 1.994.208
62	Tools 2	1	2019	Rp 1.420.833	Rp 118.403	Rp 1.302.431
63	Tools 3	1	2018	Rp 500.000	Rp 177.083	Rp 322.917
64	Trash Trolley	1	2021	Rp 450.919	Rp -	Rp 450.919
65	Turner Machine	1	2018	Rp 2.800.000	Rp 1.458.333	Rp 1.341.667
66	Welding Machine 1	1	2018	Rp 14.400.000	Rp 7.500.000	Rp 6.900.000
67	Welding Machine 2	1	2018	Rp 7.500.000	Rp 3.906.250	Rp 3.593.750
68	Welding Machine 3	1	2018	Rp 800.000	Rp 416.667	Rp 383.333
69	Welding Machine 4	1	2018	Rp 28.000.000	Rp 14.583.333	Rp 13.416.667
70	Welding Machine 5	1	2018	Rp 2.200.000	Rp 1.145.833	Rp 1.054.167
71	Welding Machine 6	1	2018	Rp 4.500.000	Rp 2.343.750	Rp 2.156.250
72	Welding Machine 7	1	2018	Rp 4.500.000	Rp 2.343.750	Rp 2.156.250

No	Fixed Asset	Total (Unit)	Year of Purchase	Acquisition Cost	Depreciation Accumulation	Depreciation
73	Welding Machine 8	1	2018	Rp 13.980.000	Rp 7.281.250	Rp 6.698.750
74	Welding Machine 9	1	2018	Rp 387.000	Rp 201.563	Rp 185.438
75	Welding Machine 10	1	2018	Rp 13.500.000	Rp 7.031.250	Rp 6.468.750
76	Welding Machine 11	1	2018	Rp 27.960.000	Rp 14.562.500	Rp 13.397.500
77	Welding Machine 12	1	2018	Rp 7.500.000	Rp 3.906.250	Rp 3.593.750
78	Welding Sparepart 1	1	2018	Rp 2.875.000	Rp 1.497.396	Rp 1.377.604
79	Welding Sparepart 2	1	2021	Rp 100.000	Rp 100.000	Rp -
80	Withstanding Tools	1	2018	Rp 8.300.000	Rp 4.322.917	Rp 3.977.083
			Total			Rp 1.007.074.844

Every year, the value of fixed assets is owned by PT. XYZ will experience depreciation due to several factors, such as acquisition cost, estimated residual value of assets, and estimated economical lifetime of assets. The cost of acquisition or commonly referred to as the cost of acquisition, is the main factor in determining the depreciation cost. This fee is obtained from the amount of money spent to acquire fixed assets from start to finish.

The residual value of assets, or what is commonly referred to as the residual value of assets, is the value that can be realized when the asset is sold and is no longer used.

c. Plan Fixed Asset Value Planning (A.M. 3.20)

The plan process at PT. XYZ has several fixed assets that are used to support the initial process in the supply chain. This planning includes product demand planning, production planning, sales planning, inventory planning, distribution planning, and product delivery. Some of these fixed assets are as follows.

Table 4 18 Plan Fixed Assets on PT. XYZ

No	Fixed Asset	Total (Unit)	Year of Purchase	Depreciation	Depreciation Accumulation	Net Fixed Asset
1	Air Conditioner	1	2018	Rp 6.350.000	Rp 3.307.292	Rp 3.042.708
2	Building	1	2018	Rp 150.000.000	Rp 15.625.000	Rp 134.375.000
3	Chair 1	1	2018	Rp 4.000.000	Rp 2.083.333	Rp 1.916.667
4	Chair 2	1	2018	Rp 6.075.000	Rp 3.164.063	Rp 2.910.938
5	Chair 3	1	2018	Rp 625.000	Rp 325.521	Rp 299.479
6	Chair 4	1	2018	Rp 3.800.000	Rp 1.979.167	Rp 1.820.833
7	Computer Table + Meeting Table	1	2018	Rp 4.790.000	Rp 2.494.792	Rp 2.295.208
8	CPU 1	1	2018	Rp 2.500.000	Rp 1.302.083	Rp 1.197.917
9	CPU 2	1	2018	Rp 2.200.000	Rp 1.145.833	Rp 1.054.167
10	Fax Machine	1	2018	Rp 1.225.000	Rp 638.021	Rp 586.979

No	Fixed Asset	Total (Unit)	Year of Purchase	Depreciation	Depreciation Accumulation	Net Fixed Asset
11	Hard disk	1	2018	Rp 1.270.000	Rp 661.458	Rp 608.542
12	Laptop 1	1	2018	Rp 3.100.000	Rp 1.614.583	Rp 1.485.417
13	Laptop 2	1	2018	Rp 3.000.000	Rp 1.562.500	Rp 1.437.500
14	Laptop 3	1	2018	Rp 6.500.000	Rp 3.385.417	Rp 3.114.583
15	Laptop 4	1	2018	Rp 3.800.000	Rp 1.979.167	Rp 1.820.833
16	Laptop 5	1	2018	Rp 6.099.000	Rp 3.176.563	Rp 2.922.438
17	Mak 45210 29000	1	2018	Rp 21.699.000	Rp 11.301.563	Rp 10.397.438
18	Mobile File	1	2018	Rp 3.500.000	Rp 1.822.917	Rp 1.677.083
19	Mobilephone 1	1	2018	Rp 3.340.000	Rp 1.739.583	Rp 1.600.417
20	Mobilephone 1	1	2018	Rp 2.700.000	Rp 1.406.250	Rp 1.293.750
21	Mobilephone 2	1	2018	Rp 1.550.000	Rp 807.292	Rp 742.708
22	PC 1	1	2018	Rp 5.500.000	Rp 2.864.583	Rp 2.635.417
23	PC 2	1	2018	Rp 470.000	Rp 244.792	Rp 225.208
24	PC 3	1	2018	Rp 495.000	Rp 257.813	Rp 237.188
25	PC 4	1	2018	Rp 22.000.000	Rp 11.458.333	Rp 10.541.667
26	Printer 1	1	2018	Rp 2.130.000	Rp 1.109.375	Rp 1.020.625
27	Printer 2	1	2018	Rp 3.285.000	Rp 1.710.938	Rp 1.574.063
28	Printer 3	1	2018	Rp 1.000.000	Rp 520.833	Rp 479.167
29	Projector	1	2018	Rp 4.140.000	Rp 2.156.250	Rp 1.983.750

No	Fixed Asset	Total (Unit)	Year of Purchase	Depreciation	Depreciation Accumulation	Net Fixed Asset
30	Projector 2	1	2018	Rp 2.000.000	Rp 1.041.667	Rp 958.333
31	Safe-deposit box	1	2018	Rp 1.500.000	Rp 781.250	Rp 718.750
32	Stove	1	2018	Rp 385.000	Rp 200.521	Rp 184.479
33	Telephone	1	2018	Rp 798.000	Rp 415.625	Rp 382.375
34	White Table	1	2018	Rp 400.000	Rp 208.333	Rp 191.667
Total						Rp 197.733.292

The calculation of accumulated depreciation is done by multiplying the age of the asset since it was purchased with the depreciation that has been obtained previously. Based on the calculations that have been carried out and presented in the table above, it is found that the number of fixed assets used to support the plan process in the PT. XYZ supply chain is 20 units with a net fixed asset of Rp 97.733.292.

d. Return Fixed Asset Value (A.M. 3.24)

In the return process, PT. XYZ does not have fixed assets for product returns either to suppliers or customers.

e. Source Fixed Asset Value (A.M. 3.27)

In the source process, PT. XYZ does not have fixed assets for the procurement of raw materials or human resources.

Table 4 19 Total Fixed Asset

Attribute Level 3	***Fixed Asset Value***	
AM.3.11 Deliver Fixed Asset Value	Rp	476.730.000
AM.3.18 Make Fixed Asset Value	Rp	1.007.074.844
AM.3.20 Plan Fixed Asset Value	Rp	197.733.292
AM.3.24 Return Fixed Asset Value		-
AM.3.27 Source Fixed Asset Value		-
Total	Rp	1.681.538.136

Based on Table 4.19, it can be seen that the fixed assets are owned by PT. XYZ is found in AM.3.11, AM.3.18, and AM.3.20, while for the other 3 levels, there are no fixed assets owned by PT. XYZ, so the total fixed asset value of PT. XYZ is Rp 1.681.538.136

2.3.3.3 Calculation of Return on Supply Chain Fixed Assets

Return on Supply Chain Fixed Assets (ROFA) is the amount of return obtained from capital invested in fixed assets in the supply chain. The formula for calculating Return on Supply Chain Fixed Assets is as follows.

$$Return\ of\ Supply\ Chain\ Fixed\ Assets = \frac{([Supply\ Chain\ Revenue]-[Total\ Cost\ toServe])}{[Supply\ Chain\ Fixed\ Assets]}$$

Total Cost to Serve is obtained from the sum of Cost of Goods Sold (COGS) and Supply Chain Management Costs (SCMC). COGS is the cost incurred by the company to produce a product. COGS costs at PT. XYZ consists of production costs, labor costs, and overhead costs. The following is the calculation of COGS at PT. XYZ.

Table 4 20 Cost of Goods Sold of PT. XYZ

Years	Production	Human Resource	Overhead	Total
2020	Rp1.346.725.000	Rp739.213.000	Rp127.143.000	Rp2.213.081.000
2021	Rp804.988.000	Rp424.401.000	Rp97.644.000	Rp1.327.033.000
Total				Rp3.540.114.000

The production process at PT. XYZ is “make-to-order” so that the raw material needs are based on existing demand. Product production costs are obtained by multiplying the need for raw materials, prices of raw materials, and products sold in that year. Direct labor costs at PT. XYZ are wages from each project making for the production of products that have been adjusted so that they are accumulated in one year. The labor cost in the table above is obtained from the division of products sold by the total number of employees, then multiplied by the length of production. So that the labor cost per employee is obtained and then multiplied by the total employee to obtain the monthly labor cost issued by PT. XYZ to pay for its direct labor. The overhead costs in the table above are obtained from the sum of indirect labor costs, electricity costs, and maintenance

costs, so that overhead costs are obtained. Based on the calculation of the Cost of Goods Sold for the years 2020-2021, the COGS cost was Rp. 3.540.114.000.

Table 4 21 Supply Chain Management Costs of PT. XYZ

Years	Delivery
2020	Rp141.130.000
2021	Rp34.077.000
Total	Rp175.207.000

The Delivery costs in Table 4.21 are obtained from the costs incurred by PT. XYZ to complete the security of packing through expeditions so that the products sent are kept safe until they reach the customer's hands. Based on the results of SCMC calculations, the total Supply Chain Management Costs are Rp. 175.207.000.

Table 4 22 Total Costs to Serve of PT. XYZ

Years	COGS	SCMS	Total
2020	Rp2.213.081.000	Rp141.130.000	Rp2.354.211.000
2021	Rp1.327.033.000	Rp34.077.000	Rp1.361.110.000
	Total		Rp3.715.321.000

Based on the calculation of the Total Cost to Serve wallet products in Table 4.22, the total cost was Rp3.715.321.000. After obtaining the Total Cost to Serve value, it can be calculated as Return on Supply Chain Fixed Assets as follows.

Table 4 23 Return on Supply Chain Fixed Assets of PT. XYZ

Metric	Calculation	ROFA
AM 1.2 Return on	$ROF = \frac{Supply\ Chain\ Revenue - Total\ Cost\ to\ Serve}{Supply\ Chain\ Fixed\ Asset}$	0,31

Metric	Calculation	ROFA
Supply Chain Fixed Assets	$ROF = \frac{Rp.4.242.041.767 - Rp.3.715.321.000}{Rp.1.681.538.136}$	

Based on the Return on Supply Chain Fixed Assets value in Table 4.23, it can be concluded that every rupiah invested by PT. XYZ for assets to produce all products generates 0,31, which means 31%. And this ROFA result will continue into the Benchmark step.

4.3.3 Benchmarking

In the next step, benchmarks are carried out by comparing the state of PT. XYZ is currently in the best position for PT. XYZ. Then, the best position will then be used as a target which is then used in calculating the gap analysis. The following is the income earned by PT. XYZ at 2019 as the target.

Table 4 24 Best ROFA Condition of PT. XYZ (at 2019)

Metrics	Amount	ROFA
Supply Chain Revenue	Rp.3.862.810.294	79%
Total Cost to Serve	Rp.2.554.676.362	
Supply Chain Fixed Asset	Rp.1.647.645.771	

Based on Table 4.24, it can be seen that the Supply Chain Revenue is in the best condition of PT. XYZ is Rp.3.862.810.294. Total Cost to Serve in the best condition of PT. XYZ is Rp.2.554.676.362. Supply Chain Fixed Asset in the best condition of PT. XYZ is Rp.1.647.645.771. So that a calculation is carried out to find the ROFA, and the result is 79%.

Table 4 25 Benchmark of ROFA at PT. XYZ

Attribute	Metrics	2019	2020-2021
Assets Management Efficiency	AM.1.2 Return on Supply Chain Fixed Asset	79%	31%

From table 4.25 above, there is a gap in AM.1.2 Return on Supply Chain Fixed Assets PT. XYZ from the target to get 79% from return on supply chain fixed assets and in 2020-2021 PT. XYZ got 31%. Because of that gap, some improvement programs are needed to solve the problem of PT. XYZ.

4.3.4 Gap Analysis

Performance evaluation is done by applying gap analysis to the SCOR model. Gap analysis is obtained from the difference between the percentage of company performance achievement and the percentage of supply chain performance parameters. The percentage of performance achievement is measured from the actual percentage of the company's target. The table below presents a comparison between the targets the company wants to achieve with the actual data.

Table 4 26 Gap Analysis

Attribute	Metics	Target	Actual Data	Gap
Assets Management Efficiency	AM.1.2 Return on Supply Chain Fixed Asset	79%	31%	48%

Based on Table 4.26, it can be seen that the gap between the Return of Supply Chain Fixed Asset target data is 79%. Meanwhile, the Return of Supply Chain Fixed Asset actual data is 10%. Then, the gap between the target and the actual data is 48%.

4.3.5 Supply Chain Thread Diagram

Based on the mapping of each process in PT.XYZ can be simplified in one part called a thread diagram. This diagram describes the entire business process starting from suppliers who send raw materials to PT.XYZ. The black line shows the flow of raw materials, the raw materials that have been sent will be received by the manufacturer, after which the raw materials will be produced at the manufacturer. After the production process is carried out, the finished product will move to the warehouse. After the product passes at the warehouse, the product will be sent to the customer. The dotted line indicates the flow of information.

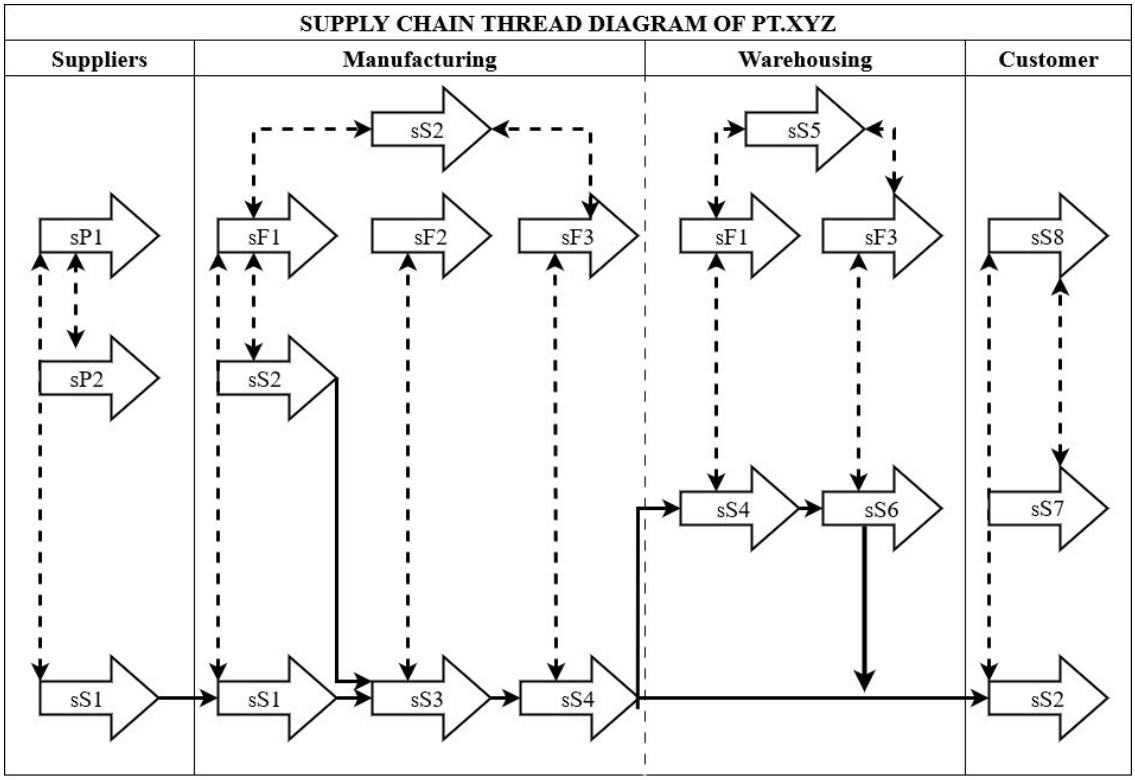

Figure 4 11 Supply Chain Thread Diagram of PT. XYZ

4.3.6 Fishbone Diagram

A Fishbone diagram is a visual tool to identify, explore, and describe in detail the causes associated with a problem. Fishbone diagrams help to identify the root cause or cause of nonconformity in a process or product. Fishbone diagram obtained based on interviews with the

employee of PT. XYZ and observation. Return of Supply Chain Fixed Assets contained in PT. XYZ runs less optimally and effectively during the COVID-19 pandemic is the main problem that will be used in this Fishbone Diagram. The following is the Fishbone Diagram, as shown in Figure 4.13 below.

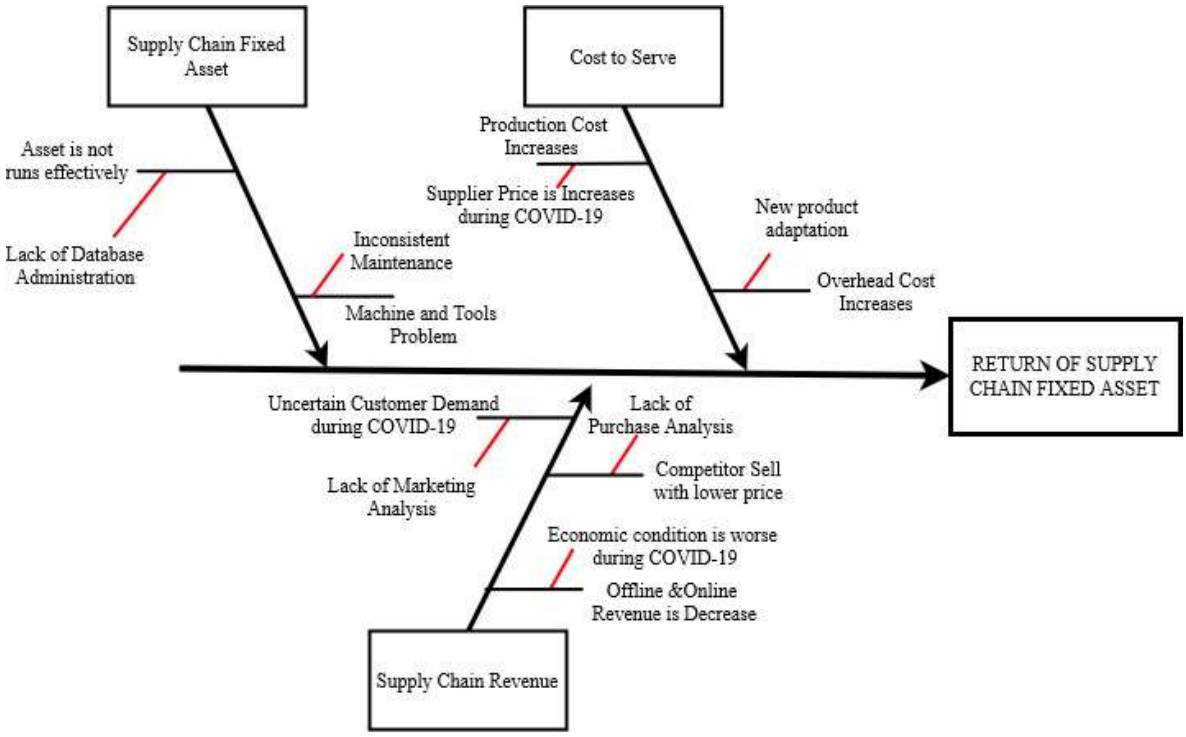

Figure 4 12 Fishbone Diagram of PT. XYZ

Based on the fishbone diagram, it is known the cause of the decline in the Return of Supply Chain Fixed Assets. The following are the causes in terms of 3 (three) metrics that experience gaps, namely:

a. Cost to Serve

Involving China's suppliers also leads to problem of why the Cost to Serve PT. XYZ is higher. Nowadays, a lot of foreign suppliers have an obstacle during COVID-19 regulation that can increase the distribution cost and limit production, and it will affect PT.XYZ to create

new products to prevent that obstacle, such as DONG SO Automatic Wastafel Stainless Steel and Anion Fresh Air product.

b. Supply Chain Fixed Asset

The decrease in Supply Chain Revenue that occurred at PT. XYZ was caused by several factors, namely engine problems because there was inconsistent maintenance, then database management in manufacturing which was considered less effective.

c. Supply Chain Revenue

Supply Chain Revenue has two problems, namely sales that are decreased during the COVID-19 pandemic. This is due to the decline in the country's economic condition, which is a direct impact of the COVID-19 pandemic. The second problem is Uncertain Customer Demand during COVID-19. The cause of this problem is the decrease in the income of several businesses that use industrial laundry machines, which is also a direct impact of the COVID-19 pandemic. Based on the Fishbone diagram discussed above, it is found that the main reasons that affect the limit on the decline in revenue at PT. XYZ during 2020 – 2021, including:

Table 4 27 Caused of Gap Analysis

Level 1 Metrics	Level 2 Metrics	Caused Gap
AM 1.2 Return on Supply Chain Fixed Assets	AM.2.4 Supply Chain Revenue	#1 Marketing Strategy #2 Overpriced in the product
	AM.2.5 Supply Chain Fixed Assets	#3 Inconsistent Maintenance

4.4 Optimize the Project

In this step, an analysis of the calculated data and benchmarks is carried out has been carried out to determine possible performance priorities to make improvements and the benefits that can be obtained when implementing the project. The steps in optimizing the Project are as below.

4.4.1 Project Portfolio

At this stage, a portfolio project is created which aims to identify and classify the metrics that will be improved. In the process of improving this project, it has been determined that there will be several projects that can be carried out will show below.

Table 4 28 Project Lists

Level 1 Metrics	Level 2 Metrics	Project
AM 1.2 Return on Supply Chain Fixed Assets	AM.2.4 Supply Chain Revenue	#1 Create a Marketing Strategy #2 Cost of Goods Sold Analysis
	AM.2.5 Supply Chain Fixed Assets	#3 Database Management Asset

4.4.2 Grouping Issues

At this stage, the metrics are grouped based on the process and the similarity of the problems. The grouping of metrics can be seen in Table 4.29 below.

Table 4 29 Grouping Issues

Group	Plan	Source	Make	Deliver	Return	Enable
Marketing	#1 #2	-	-	-	-	-
Production	#3	-	-	-	-	-

4.4.3 Project Lists

At this stage, a list of projects is made for alternative improvements at PT. XYZ is based on the Fishbone Diagram that has been made as follows.

Table 4 30 Project Description

Project #	Project Description	SCOR Level 2 Metrics
1	Create a marketing strategy to increase supply chain revenue so that the company's target is achieved	AM.2.4 Supply Chain Revenue
2	Create a Cost of Goods Sold Analysis to minimize excess production costs so that overhead costs can be avoided	
3	Create Standard Operational Procedures for Production Department, which contains several SOP regarding the asset maintenance database in the company.	AM.2.5 Supply Chain Fixed Assets

CHAPTER V

RESULT AND DISCUSSION

5.1. Ready for Implementation

5.1.1. Implementation Project Charter

Implementation Project Charter is the activity carried out to create a document that contains the whole information contained in discussions related to the development project to be carried out, Implementation Project Charter of PT. XYZ can be seen in table 5.1 below.

Table 5 31 Implementation Project Charter

Metric	Case	Plan Improvement	Benefits
AM.2.4 Supply Chain Revenue	From 2020 to 2021 PT. XYZ experienced a decrease in supply chain revenue, which was far from the target and affected the income.	#1 Create a Marketing Strategy	Efforts to minimize the risk of further declines in revenue. It can also help companies to achieve company targets.
	Besides the declining supply chain revenue, the cost of goods sold from PT. XYZ increases, which will affect the Return of Assets in PT. XYZ	#2 Cost of Goods Sold Analysis	Efforts to increase the effectiveness in the use of the cost of goods sold. In order to be conditioned like this, PT. XYZ can still have sufficient assets to run its business.
AM.2.5 Supply Chain	The increase in Overhead Costs and Human Resource Costs is caused by the maintenance of	#3 Database Management Asset	To increase the effectiveness in asset equipment maintenance at PT. XYZ periodically so as not

Metric	Case	Plan Improvement	Benefits
Fixed Assets	asset equipment at PT. XYZ, which is an administrative case, it can be said as ineffective.		to incur additional costs for maintenance costs from PT. XYZ.

5.1.2. Readiness Check

Readiness Check is the checking activity before the improvement implementation, which consists of 5 checks, namely Vision, Incentives, Resources, Skills, dan Action Plan. There is the following table readiness check.

Table 5 32 Readiness Check

Project	Vision	Incentives	Resources	Skill	Action Plan	Result
#1	✓	✓	✓	✓	✓	Change
#2	✓	✓	✓	✓	✓	Change
#3	✓	✓	✓	✓	✓	Change

5.1.3. Prioritization Matrix

Prioritize Matrix is the sort of project that will be carried out with the matrix form. Based on the previous analysis result, the improvement priorities will be carried out from the consideration of PT. XYZ is based on effort and risk. The results of Prioritization Matrix Analysis are shown as follows.

Table 5 33 Prioritization Matrix

PT. XYZ		Effort				
		1	2	3	4	5
Risk	1 (low)					
	2					
	3		#2 #3	#1		

4	
5 (high)	

Based on Table 5.3, it can be seen that there are 3 projects with each effort and risk classification. Based on the results of the discussion with PT. XYZ, the prioritized project on the project kick-off, is Project #1 with the category of medium effort and risk. Meanwhile, the Project #2 and Project #3 are stillquite prioritized on this research to make the prioritize project can be carried out optimally.

5.2. Project Kick-off

5.2.1. Marketing Strategy

This step will be describe the best marketing strategy for PT. XYZ. It will be arranged with 6 steps, namely STP (Segmenting, Targeting, dan Positioning), Marketing Mix and Selling, Effective Communication Technique, Business Writing, Business Model Canvas, dan Advertisement Strategy. This strategy is carried out to maximize the number of prospects that have a big impact on the company's supply chain revenue.

a. Segmenting, Targeting, and Positioning (STP)

STP is the main method to identify the needs, and the next step in arranging a marketing strategy which consists of 3 steps that can help companies to reach the target that can be used. There are the following 3 steps.

1. Segmenting

   Segmentation is the marketing process that is divided into a smaller segment based on a similar characteristic of customer's behavior to determine which segment to focus as can be seen in the segmentation below.

Table 5 34 Segmentation of PT. XYZ

Demographic Segmentation	
Category	**Target**

Gender	Male and Female
Age	20 – 60 Years Old
Jobs	**Group** ● Regional Government Hospital Institue ● Public Hospital ● Hospitally Institute **Individual** ● Company Leader ● Company Employee ● Laundry Business
Geographic Segmentation	
Category	**Target**
Regional	Java, Kalimantan, and Sumatera
City Category	Industrial City and Metropolitan City
Psychographic Segmentation	
Category	**Target**
Lifestyle	Good and Durable quality laundry machine product.
Social Class	Middle-Up
Behaviour Segmentation	
Category	**Target**
Needs	Laundry machine utilization on a large quantity
Perception	Use of products that are customized to customer needs

i. Demographic Segmentation

Target in this demographic segmentation at PT. XYZ is identified with several categories, namely gender, age, and jobs. The Table 5.4 above on segmentation shows

that demographic segmentation on PT. XYZ to the customer. For the offline customer, PT. XYZ is targeting the prospect from several hospitals, hotels, and laundry with a huge order.

ii. Geographic Segmentation

To set the place of the geographic segmentation at PT. XYZ, will be used customer data based on location and its instation that orders from PT. XYZ, and the majority of the customer is originated from Java, Sumatra, and Kalimantan, with the city category, Industrial City and Metropolitan City.

iii. Psychographic Segmentation

In determining the psychological segmentation at PT. XYZ, it is intended for Good and Durable quality laundry machine products from customer with Middle-Up economic minded. This is because the prices of services and quality offered by the company are quite competitive with other companies. Customer also places more emphasis on the quality of materials than on price.

iv. Behaviour Segmentation

The Behaviour of customer who uses products from PT. XYZ are those who require the use of laundry machines or others products in large quantities at one time with good quality related to materials and product types that suit customer needs.

2. Targeting

In this step, targeting is carried out to evaluate the interest or tendencies of each market segment and select the best segment for penetration. This process is carried out to determine the target for PT. XYZ with the following description below.

i. Profitability

Industrial washing machine products are washing machine products with competitive prices and are relatively expensive. To be able to get benefit from product sales, PT. XYZ must sell the products to the middle and upper class and must find the target at developing companies that have a prospect with large purchases order.

ii. Market Potential

The market potential for PT. XYZ is a company or business that uses a washing machine as an operational item. The market is very potential because through washing machines as operational goods, companies can reach potential customers more easily considering the scope of targeted customers that are originated from laundry stores, hotels, or hospitals. The customer has the potential to become a loyal customer of PT. XYZ.

3. Positioning

Positioning is the company's process of designing the offers and images to accommodate the minds of customers. This case can be carried out to used as a guarantee to the customer that the product from PT. XYZ has good quality. Besides, PT. XYZ has to improve its service to provide the best service to the customer.

5.2.2. Marketing Mix and Selling

a. Marketing Mix

Marketing Mix refers to a combination of Actions or techniques to promote the products a company offers to customers both offline and online. Price, Product, Promotion, Place, Process, and People are categories of methods that make up the conventional marketing mix, as an industrial washing machine company, PT. XYZ not only offers good quality products but also offers custom product services. The table below shows the marketing mix strategy that must be implemented by PT. XYZ.

Table 5 35 Marketing Mix & Selling Strategy

Marketing Mix	Strategy
Place	- PT. XYZ must be easily accessible offline and online. - PT. XYZ needs to have partners in several big cities in Indonesia for offline

Marketing Mix	Strategy
	service delivery places that can make customers comfortable during ordering.
Product	- PT. XYZ needs to facilitate every service provided with service products for customers - PT. XYZ needs to give the detail about their product and give the brand awareness detail about their good quality product. - Assurance and Warranty system for each product from PT. XYZ.
Promotion	- PT. XYZ needs to do sales promotion through online and offline approaches - PT. XYZ needs to design special offers related to service facilities for potential customers - PT. XYZ needs to design, evaluate, and conduct market research on its marketing strategy
Price	- PT. XYZ needs to provide special prices and discounts that have been considered for customers. - PT. XYZ needs to give rewards or compliments to customers who are loyal to PT. XYZ - PT. XYZ needs to design and evaluate the prices determined

b. Selling

Sales is a strategy to create a better relationship with customers through the products offered by the company. Each customer is handled with a different sales strategy, depending on the scope and products offered to the customer.

Table 5 36 Selling Strategy

Type of Sale	Key Objectives	Typical Sales Structure	Organizational Linkages
Transactional	● Selling products ● Minimize costs ● Provides convenience and satisfaction	● Sales Call ● Direct Sales	● Order Fulfillment Execution ● Flexible service and delivery ● Customization Order ● *Standard service value package*
Consultative	● Offer appropriate solutions or problem-solving ● Supports individual value creation	● Account Sales Team	● Function-to-function relationship ● Experience Value Package
Enterprise	● Sell to the Institution ● Take advantage of core competencies and total assets for strategic customer	● Senior Management (led the cross-functional & cross-company) ● Online Spare-parts Sales	● Combined Staff ● Top Priority for Both Parties ● Transformation Value Package

5.2.3 Effective Communication Technique

Communication is a process that is very important and influential in way to convey to create mutual understanding. Communication is a way to define and convey company messages to the customer. PT. XYZ has to use communication techniques effectively to maximize its business. There are 4 communication techniques which are directive, reflective, supportive, and emotive. Table 4.37 below shows the characteristics of each communication technique.

Table 5 37 Effective Communication Technique

Communication Style	Characteristic
Emotive	● Expressive ● Responsive ● Optimistic ● Spontaneous
Directive	● Focus ● Directive ● Competitive ● Instructive
Reflective	● Formal ● Logic ● Innovative ● Accuracy
Supportive	● Kinship ● Peace ● Humble ● Informative

Based on table 4.29 above, PT. XYZ must apply all communication techniques based on the intended target respondent. For emotive techniques, companies can implement these

characteristics to the individual customer in the product. The emotive technique can give a good impression to the customer about the company's services in the ordering process.

The second is a directive technique that is suitable to be implemented with company partners such as hospitals and hotels. This communication technique is suitable because the company can directly approach the intentions and desires of the partners so that there are no circumvention processes and errors in meeting needs.

The third is the Reflective technique which is suitable to be implemented with the prospective customer such as organizations or companies. Communication with the customer who comes from the company requires a more formal way.

The last is the Supportive technique, where this technique can increase engagement between the customer who is loyal to PT. XYZ and also this method can maintain good communication between PT. XYZ with the loyal customer so that they do not hesitate to use the services of PT. XYZ again.

5.2.4 Business Writing

Business Writing is a form of written communication for business purposes to achieve predetermined goals. Business Writing can increase company reliability because, based on this, customers can see the capabilities, professionalism, and reputation of the company. In its application, business writing has data records, data flows, and company legal documents as input. This is an important thing for companies as evaluation materials that can improve the performance.

In the business writing preparation process, it is necessary to customize the contents of the formal file according to the type of request that comes in from the customer. In this case, PT. XYZ needs to give detailed attention to the customization process and remember the importance of files in the company's performance so that they can then be more effective in fulfilling them. Business writing also can increase the reliability of PT. XYZ, from business writing, clients can see the capability of PT. XYZ. Business writing includes an official letter, business letter, MoU (Memorandum of understanding), quotation letter, and inquiry letter. PT. XYZ should pay attention to detail with this issue due to this is very important to run the business. Business writing can represent how professional a company and show its reputation.

5.2.5 Business Model Canvas

The business model is useful for describing the detailed rationale of the key elements in a business about creating, delivering, and capturing value by the company. The canvas approach is aimed at reviewing the entire business process to make it more competitive or also to support the development of new businesses.

Table 5 38 Business Model Canvas of PT.XYZ

<table>
<tr><th>Key Partnerships</th><th>Key Activities</th><th>Value Propositions</th><th>Customer Relationships</th><th>Customer Segments</th></tr>
<tr><td rowspan="3">- Raw Material and Dynamo Machine Supplier
- Instagram
- Facebook
- Expeditio n</td><td>- Research and Development
- Design
- Manufacturing
- Distribution
- Marketing and Sales
- Branding</td><td rowspan="3">- Good Quality Product
- SNI Standart Local Laundry Machine Product
- Customizatio n Product
- Performance</td><td>- Brand Awareness
- Quality
- Guarantee Product
- Service Product
- Customer Experience</td><td rowspan="3">- Mass Market
- Hospitalit y Industries
- Hotel Industries
- Laundry Business</td></tr>
<tr><td>Key Resources</td><td>Channels</td></tr>
<tr><td>- Raw Material
- Employees
- Asset Product</td><td>- Hospital State Institute
- Hotel Institute
- Distributors
- Industries Ministry government</td></tr>
<tr><td colspan="3">Cost Structure</td><td colspan="2">Revenue Streams</td></tr>
</table>

- Delivery - Human Resource Cost - Manufacturing Cost - Taxes	- Selling Products - Information and Communication Service - Delivery Services - Financial Service

a. Key Partnership

In achieving the Key Partnership indicators, cooperation with partners or other parties is also required. Key partners are a network of partners that support the running of the business. In this case, several types of partnerships that take place are strategic partnerships with competitors such as Raw Material and Dynamo Machine Supplier, Instagram, Facebook, and Expedition.

b. Customer Segment

The Business Model Canvas involves various types of customers that companies need to consider regarding the benefits that customers can provide to the company. Creating customer segmentation is done by dividing customers into large categories until they are conical with specifications that are relevant to their needs.

Table 5 39 Customer Segmentation of PT. XYZ

Demographic Segmentation	
Category	**Target**
Gender	Male and Female
Age	20 – 60 Years Old
Jobs	**Group**
	● Regional Government Hospital Institute ● Public Hospital ● Hospital Institute
	Individual
	● Company Leader

Demographic Segmentation	
Category	**Target**
	● Company Employee ● Laundry Business

c. Value Proposition

Value Propositions can be regarded as the differentiation offered by the company to the targeted customers, which may have an influence on the customer segmentation to be selected so that there is conformity and acceptance of the value offered. The subject value proposition at PT. XYZ are Good Quality Products, SNI Standard Local Laundry Machine Product, Customization Product, and Performance.

d. Channels

In delivering the value that has been previously said to the target customer, it is necessary to observation to the delivery methods. In this case, the channels owned by PT. XYZ channels are Hospital State Institute, Hotel Institute, Distributors, and Industries Ministry Government.

e. Customer Relationship

In maintain the communication and needs with the old customers, encouraging new customer networks, or increasing sales are called customer relationship management. In this case, PT. XYZ can provide brand awareness, quality, guarantee products, service products, and customer experience.

f. Revenue Streams

Revenue streams, or the amount of revenue earned from running business processes, can come from several categories. One of them, in this case, the revenue streams at PT. XYZ comes from Selling Products, Information and Communication services, Delivery Services, and Financial Service

g. Key Resources

Key resources are the main resources or assets that are relied on in running a business; where in this case, the resource categories are divided into 3 categories, namely Raw Material, Employees, and Asset products.

h. Key Activities

Key activities are needed to realize the previous indicators, namely creating and providing a value proposition, reaching the targeted market, maintaining customer relationships, and earning revenue. In this case, the key activities that can be focused on by PT. XYZ are Research and Development, Design, Manufacturing, Distribution, Marketing and Sales, and Branding.

i. Cost Structure

In carrying out the company's business processes, it is necessary to have a cost structure to support the company's operations in achieving the target. As a manufacturing company for industrial laundry machines, PT. XYZ has the following cost structure: Delivery, Human Resource Cost, Manufacturing Cost, and Taxes.

5.2.6 Advertising Strategy

Advertising strategy is a campaign to give ideas related to products or services that are directed to potential customers in a persuasive manner. Other business factors and their objectives will occur if designed wisely and logically, as well as business factors related to total budget and brand awareness initiatives and objectives related to improving the public image and increasing market share. Advertising strategies can be carried out by companies online and offline.

a. Offline Advertising Strategy

i. Speaking Engagement

Speaking Engagement is a huge opportunity in terms of marketing. Speaking Engagement is carried out by directly approaching the marketing materials to customers by paying attention to several things on the type of sales that will be made (consultative selling) and the communication techniques used (emotive, reflective, and supportive). In addition to this, the details of the types of consultative selling that will be carried out in this type of communication also need to be considered in stages.

ii. Networking

Network expansion to another customer is a step that is also needed for PT. XYZ. The expansion is carried out based on the segmentation that has been determined. Based on the segmentation, it is known that network expansion needs to be carried out with institutes that are included in the potential market coverage, such as institutes in the cities of Java, Sumatra, and Kalimantan.

iii. After Sales

After-sales is one way that can be done as an indirect advertising type at after-product sales. The function is to give a good influence to continue the business relationships and even to support service improvement. The intended good influence is to allow conditions where customers will recommend the company's products to others people sincerely.

After-sales, in this case, can be carried out with activities such as providing after-sales facilities and equipment, for example, providing service and product guarantees that will be sent to customers. It can also be done by contacting service customers to ask for satisfaction, service rates, thanks, and others. In addition, after-sales can also be done by recommending the use of further services.

iv. Direct Mail

Direct Mail is an effective marketing strategy, and prospective target customers will feel delivered more personally through direct mail. PT. XYZ can use direct mail to deliver available product offers so that potential customers can interact, and bonding relationships will be built through these interactions. This can be helped so the prospective customers can find out the information updates carried out by PT. XYZ. Through this direct mail, companies can convey information about available products or even make direct offers.

b. Online Advertising Strategy

i. Search Engine Optimization

Search Engine Optimization is a search technique that can optimize a website owned by a company so that it gets to the top on Google searches and can support the use of the web to capture more potential traffic to the right target web visitors. In addition, to

make it easier to search and attract the right target web visitors, SEO can also build brand awareness or Top of Mind - Brand from customers to the company. Search Engine Optimization. in this case, can be done by the company in 3 ways, namely: SEO on Page, SEO Off Page, and Technical SEO.

ii. Social Media Marketing

Social Media Marketing is also a part of internet marketing that can be used either for free or paid. This activity is carried out by creating and sharing content on social media networks for marketing and branding purposes. The content that can be created is usually in the form of text, images, videos, infographics, tutorials, and other content that has a certain concept to direct approach potential customers. Marketing through social media, in this case, can be used by PT. XYZ by utilizing several free and paid platforms and paying attention to several important steps such as Content Planning, Content Consistency, Brand Image Consistency, Content Promotion with Social Media, and Tracking or Monitoring Competitors.

iii. Ads Manager

Advertisements manager is a device to do a marketing campaign through social media. Ads manager generates an account for you and wants manual users by putting in place the consumer's first ad marketing campaign. Ads managers can guide the users to do campaigns based on the target market on social media. PT. XYZ desires to do a marketing campaign for his or her product thru the advertisements manager on Facebook and Instagram. Facebook and Instagram have been chosen because each program is quite famous with million customers in Indonesia. Marketing campaign thru ads manager is also rather cheap and they may be greater powerful due to the fact customers can set the target market. PT.XYZ is recommended to set the commercial based on its goal market. PT. XYZ can set the campaign for 17 - 60 years customers based on the segmentation before with an area in Java, Kalimantan, and Sumatra. PT. XYZ desires to put in force a marketing campaign in the marketing department on facebook and Instagram because both programs are the best platforms for PT.XYZ to promote their product.

5.2.7 Cost of Goods Sold Analysis

Cost of Goods Analysis at PT. XYZ will be analyzing several types of Cost of Goods that have increased between 2020 and 2021 if compared to the declining number of supply chain revenues at PT. XYZ. Therefore, it is necessary to analyze the type of high cost in order to minimize supply chain revenue somewhat from PT. XYZ can be maximum. And here are the details of the cost of goods sold data from 2019-2021.

Table 5 40 Cost of Goods Sold from 2019 - 2021

Years	Production	Human Resource	Overhead	Total
2019	Rp1.695.305.853	Rp611.228.819	Rp104.319.190	Rp2.510.853.863
2020	Rp1.346.725.000	Rp739.213.000	Rp127.143.000	Rp2.213.081.000
2021	Rp804.988.000	Rp424.401.000	Rp97.644.000	Rp1.327.033.000

Based on the table above, it can be seen that the type of Cost of Goods Sold that has increased when compared to Supply Chain Revenue in 2020 and 2021 is in the Human Resource Cost and Overhead Cost sections; therefore it is necessary to follow up in the form of making SOP on maintenance assets in the production department rather minimize the increase in Cost of Goods Sold at PT. XYZ.

5.2.8 Standard Operational Procedures (SOP)

SOP can be defined as a document that describes operational activities that are carried out correctly, precisely, and consistently to produce products or services according to predetermined standards, while in a narrow sense, it is defined as part of a work system document that regulates operational activities in detail. The preparation of standard operating procedures is based on several factors, such as technical, administrative, and procedural adjustments to the work system, so that the organization's operational activities can be carried out systemically.

Below is an SOP that is compiled based on the use of equipment assets from the production department. The following SOPs, according to the nature of their activities, fall into the category of Technical SOPs.

Table 5 41 Standard Operational Procedure of Production Department of PT.XYZ

<table>
<tr><td rowspan="2">(THE LOGO OF THE COMPANY)

PT. XYZ</td><td>Document Number :</td><td></td></tr>
<tr><td>Start From :</td><td></td></tr>
<tr><td rowspan="3">STANDAR OPERASIONAL PROSEDUR OF PRODUCTION DEPARTMENT</td><td>Revision :</td><td></td></tr>
<tr><td>Revision Date :</td><td></td></tr>
<tr><td>Page :</td><td></td></tr>
<tr><td colspan="3">I. OBJECTIVE</td></tr>
<tr><td colspan="3">This procedure aims to control the implementation of the Planned Maintenance System (PMS) on production machines and other supporting machines from PT. XYZ, and determine the duties and responsibilities of each party, both within the Production Department and other related departments.</td></tr>
<tr><td colspan="3">II. SCOPE</td></tr>
<tr><td colspan="3">This procedure is used as a reference in setting a maintenance work order for each machine, compiling a weekly, monthly or yearly schedule for machine maintenance, to efforts to implement it in the field, including recording and archiving all activities carried out.</td></tr>
<tr><td colspan="3">III.DEFINITION</td></tr>
<tr><td colspan="3">The Main Schedule of Machine Maintenance is the main schedule that is used as the basis for managing the maintenance and maintenance of production machines with a Planned</td></tr>
</table>

Maintenance System (PMS), namely the consistent implementation of Weekly, Monthly, and Annual maintenance.		
IV. STEPS DETAILING		
Types of Work	**Works Step**	
VICE OF PRODUCTION	**1.**	Creating the Main Schedule of Machine Maintenance, especially production machines, for the next year.
	2.	Ask for the Engineering Manager's approval for the Main Production Machine Maintenance Schedule that he has prepared.
RESEARCH AND DEVELOPMENT	**1.**	Describe the Production Machine Maintenance Schedule into Weekly (W), Monthly (M), and Yearly (Y) Maintenance Schedules by marking W, M, or Y on the Machine Maintenance Schedule.
	2.	Request confirmation and approval from the Head of Production with a cover letter from the Production Vice.
	3.	After being approved by the Head of Production, the Head of Production gives his approval and signature.
	4.	Organize the machine maintenance tasks for the maintenance executor.
QUALITY CONTROL	**1.**	Carry out maintenance and machine maintenance activities according to the schedule that has been determined.
	2.	Record all maintenance activities carried out in the machine maintenance book that has been provided for each machine.
INVENTORY CONTROL	**1.**	Carry out a thorough inspection of the execution of the work from quality control in the field, and sign their initials on the maintenance book of the machine being inspected.
V. ATTATCHMENT		

Schedule of Production Machines Maintenance Form.		
Date Prepared**: …/…/….** **Vice of Production**	Checked by: **Head of Production**	Approved by: **Vice of Director**

CHAPTER VI

CONCLUSION AND RECOMMENDATION

6.1. Conclusion

Based on the analyzed data and discussion, the conclusion can be stated as defined below:

1. Performance attributes that need to be improved at PT. XYZ using the SCOR Racetrack method, is on the Asset Management Efficiency attribute with Level-1, namely AM.1.2 Return on Supply Chain Fixed Asset because of PT. XYZ wants to improve supply chain revenue as the edecreased in the last 2 years, and the company still wants to keep the asset in any condition. Followed by Metric level 2 AM.2.4 Supply Chain Revenue and AM.2.5 Supply Chain Fixed Assets.
2. In the calculation of metric level 2 of Asset Management Efficiency (AM.2.4 Supply Chain Revenue and AM.2.5 Supply Chain Fixed Assets), a gap or limit of 48% is obtained from the differentiation between the target from 2019. The calculation of metric level 2 of the Asset Management Efficiency attribute with the calculation of Return on Supply Chain Fixed Assets (ROFA).
3. From the target, design improvement projects that can be proposed for implementation are the preparation of marketing strategies, cost of goods sold analysis, and the preparation of standard operational procedures (SOPs) for the production department based on the asset management tools of the relevant departments.

6.2. Recommendation

Based on the analysis and conducted discussion, suggestions that can be given to the company, as well as further research, are:

1. Recommendation for PT. XYZ

   The author recommends steps to maximize marketing and sales by utilizing a series of marketing strategies starting from a sales plan, sales monitoring, to sales evaluation. Related to this, the author also recommends the company to provide training to every marketer so that ts implementation can be more detailed in terms of accuracy and responsiveness of each step. This is able to support an increase in the number of running prospects that are directly related to revenue, and it can also improve the company's reputation and customer loyalty.

   In addition, the author also recommends the Standard Operational Procedure, which is prepared based on the job description of the production department staff, which aims to increase the effectiveness of asset equipment at PT. XYZ and avoid overlapping in work and can also know the view of the need for the number of workers so that it can improve the performance of each staff.

2. Recommendation for the next author

   The author recommends doing further research related to improvements in all core business processes, KPI proposals, implementation, and measurement with new deeper systems. Then also research related to steps to maximize the usefulness of sales strategies and marketing strategies because the authors believe that sales and marketing activities as the spearhead and front shield of a company have the greatest influence in business so that the implementation of marketing strategies and sales strategies can be a medium that supports improvement company performance significantly.

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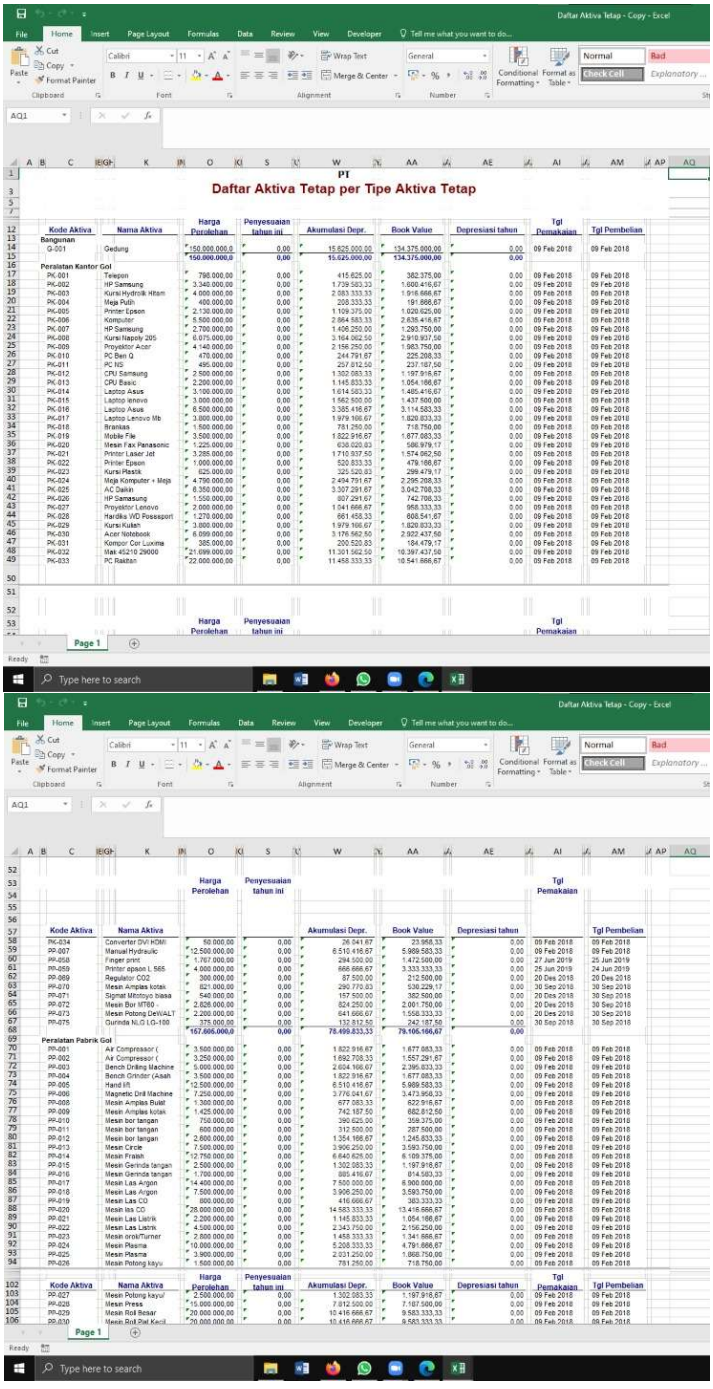
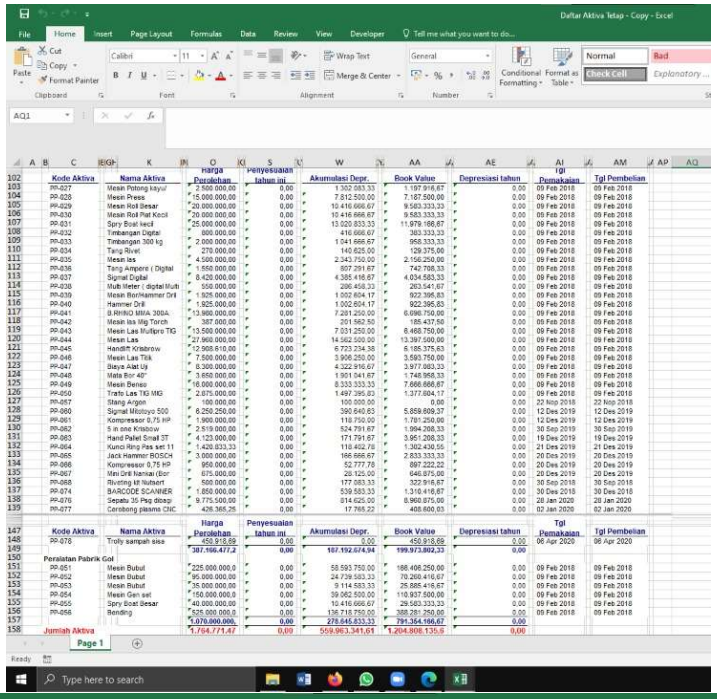
ATTACHMENTS



PT

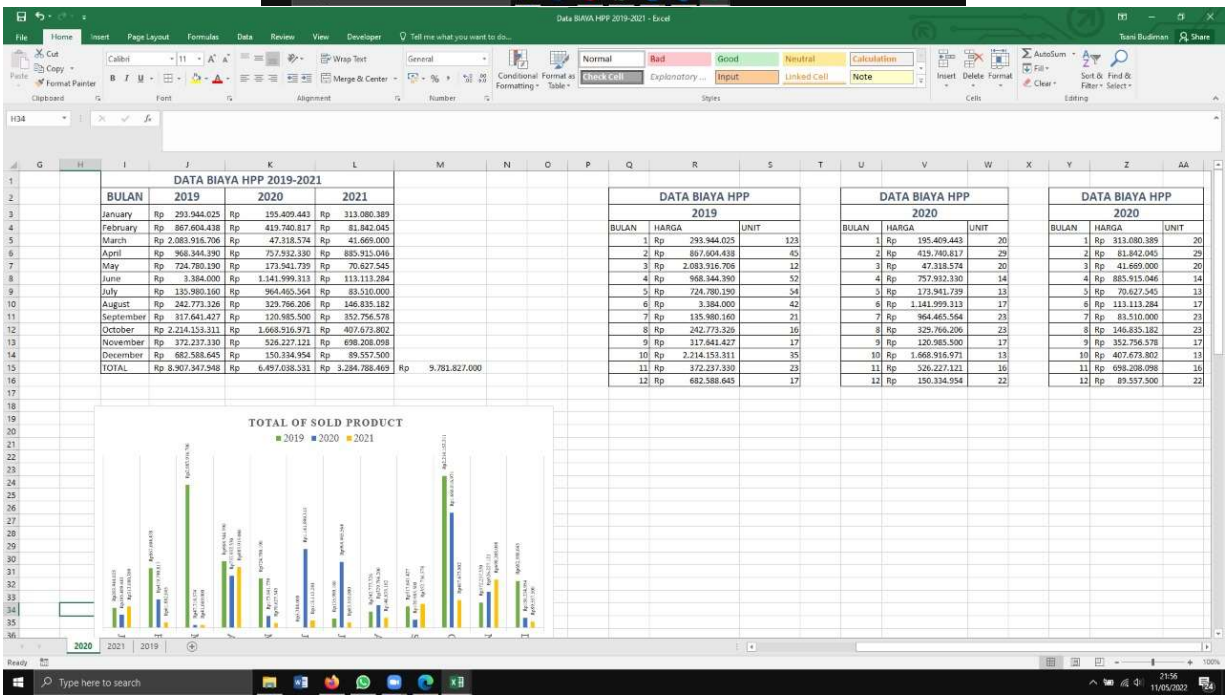
Daftar Aktiva Tetap per Tipe Aktiva Tetap

Kode Aktiva	Nama Aktiva	Harga Perolehan	Penyesuaian tahun ini	Akumulasi Depr.	Book Value	Depresiasi tahun	Tgl Pemakaian	Tgl Pembelian
Bangunan								
G-001	Gedung	150.000.000,0	0,00	15.625.000,00	134.375.000,00	0,00	09 Feb 2018	09 Feb 2018
		150.000.000,0	**0,00**	**15.625.000,00**	**134.375.000,00**	**0,00**		
Peralatan Kantor Gol								
PK-001	Telepon	798.000,00	0,00	415.625,00	382.375,00	0,00	09 Feb 2018	09 Feb 2018
PK-002	HP Samsung	3.340.000,00	0,00	1.739.583,33	1.600.416,67	0,00	09 Feb 2018	09 Feb 2018
PK-003	Kursi Hydrolik Hitam	4.000.000,00	0,00	2.083.333,33	1.916.666,67	0,00	09 Feb 2018	09 Feb 2018
PK-004	Mega Pulih	400.000,00	0,00	208.333,33	191.666,67	0,00	09 Feb 2018	09 Feb 2018
PK-005	Printer Epson	2.130.000,00	0,00	1.109.375,00	1.020.625,00	0,00	09 Feb 2018	09 Feb 2018
PK-006	Komputer	5.500.000,00	0,00	2.864.583,33	2.635.416,67	0,00	09 Feb 2018	09 Feb 2018
PK-007	HP Samsung	2.700.000,00	0,00	1.406.250,00	1.293.750,00	0,00	09 Feb 2018	09 Feb 2018
PK-008	Kursi Nappoly 205	6.075.000,00	0,00	3.164.062,50	2.910.937,50	0,00	09 Feb 2018	09 Feb 2018
PK-009	Proyektor Acer	4.140.000,00	0,00	2.156.250,00	1.983.750,00	0,00	09 Feb 2018	09 Feb 2018
PK-010	PC Ben Q	470.000,00	0,00	244.791,67	225.208,33	0,00	09 Feb 2018	09 Feb 2018
PK-011	PC HS	495.000,00	0,00	257.812,50	237.187,50	0,00	09 Feb 2018	09 Feb 2018
PK-012	CPU Samsung	2.500.000,00	0,00	1.302.083,33	1.197.916,67	0,00	09 Feb 2018	09 Feb 2018
PK-013	CPU Basic	2.200.000,00	0,00	1.145.833,33	1.054.166,67	0,00	09 Feb 2018	09 Feb 2018
PK-014	Laptop Asus	3.100.000,00	0,00	1.614.583,33	1.485.416,67	0,00	09 Feb 2018	09 Feb 2018
PK-015	Laptop lenovo	3.000.000,00	0,00	1.562.500,00	1.437.500,00	0,00	09 Feb 2018	09 Feb 2018
PK-016	Laptop Asus	6.500.000,00	0,00	3.385.416,67	3.114.583,33	0,00	09 Feb 2018	09 Feb 2018
PK-017	Laptop Lenovo Mb	3.800.000,00	0,00	1.979.166,67	1.820.833,33	0,00	09 Feb 2018	09 Feb 2018
PK-018	Brankas	1.500.000,00	0,00	781.250,00	718.750,00	0,00	09 Feb 2018	09 Feb 2018
PK-019	Mobile File	3.500.000,00	0,00	1.822.916,67	1.677.083,33	0,00	09 Feb 2018	09 Feb 2018
PK-020	Mesin Fax Panasonic	1.225.000,00	0,00	638.020,83	586.979,17	0,00	09 Feb 2018	09 Feb 2018
PK-021	Printer Laser Jet	3.285.000,00	0,00	1.710.937,50	1.574.062,50	0,00	09 Feb 2018	09 Feb 2018
PK-022	Printer Epson	1.000.000,00	0,00	520.833,33	479.166,67	0,00	09 Feb 2018	09 Feb 2018
PK-023	Kursi Plastik	625.000,00	0,00	325.520,83	299.479,17	0,00	09 Feb 2018	09 Feb 2018
PK-024	Meja Komputer + Meja	4.790.000,00	0,00	2.494.791,67	2.295.208,33	0,00	09 Feb 2018	09 Feb 2018
PK-025	AC Daikin	6.350.000,00	0,00	3.307.291,67	3.042.708,33	0,00	09 Feb 2018	09 Feb 2018
PK-026	HP Samasung	1.550.000,00	0,00	807.291,67	742.708,33	0,00	09 Feb 2018	09 Feb 2018
PK-027	Proyektor Lenovo	2.000.000,00	0,00	1.041.666,67	958.333,33	0,00	09 Feb 2018	09 Feb 2018
PK-028	Hardika WD Powerport	1.270.000,00	0,00	661.458,33	608.541,67	0,00	09 Feb 2018	09 Feb 2018
PK-029	Kursi Kulan	3.800.000,00	0,00	1.979.166,67	1.820.833,33	0,00	09 Feb 2018	09 Feb 2018
PK-030	Acer Notebook	6.099.000,00	0,00	3.176.562,50	2.922.437,50	0,00	09 Feb 2018	09 Feb 2018
PK-031	Kompor Cor Luxima	385.000,00	0,00	200.520,83	184.479,17	0,00	09 Feb 2018	09 Feb 2018
PK-032	Mas 45210 29000	21.699.000,00	0,00	11.301.562,50	10.397.437,50	0,00	09 Feb 2018	09 Feb 2018
PK-033	PC Rakitan	22.000.000,00	0,00	11.458.333,33	10.541.666,67	0,00	09 Feb 2018	09 Feb 2018
PK-834	Converter DVI HDMI	50.000,00	0,00	26.041,67	23.958,33	0,00	09 Feb 2018	09 Feb 2018
PP-007	Manual Hydraulic	12.500.000,00	0,00	6.510.416,67	5.989.583,33	0,00	09 Feb 2018	09 Feb 2018
PP-058	Finger print	1.767.000,00	0,00	294.500,00	1.472.500,00	0,00	27 Jun 2019	25 Jun 2019
PP-059	Printer epson L 565	4.000.000,00	0,00	666.666,67	3.333.333,33	0,00	25 Jun 2019	24 Jun 2019
PP-069	Regulator CO2	300.000,00	0,00	87.500,00	212.500,00	0,00	20 Des 2018	20 Des 2018
PP-070	Mesin Amplas kotak	821.000,00	0,00	290.770,83	530.229,17	0,00	30 Sep 2018	30 Sep 2018
PP-071	Sigmat Mototyo biasa	540.000,00	0,00	157.500,00	382.500,00	0,00	20 Des 2018	30 Sep 2018
PP-072	Mesin Bor MT60 -	2.828.000,00	0,00	824.250,00	2.001.750,00	0,00	20 Des 2018	30 Sep 2018
PP-073	Mesin Potong DeWALT	2.200.000,00	0,00	641.666,67	1.558.333,33	0,00	20 Des 2018	30 Sep 2018
PP-075	Gurinda N.G LG-100	375.000,00	0,00	132.812,50	242.187,50	0,00	30 Sep 2018	30 Sep 2018
		167.605.000,0	**0,00**	**78.499.833,33**	**79.105.166,67**	**0,00**		
Peralatan Fabrik Gol								
PP-001	Air Compressor (	3.500.000,00	0,00	1.822.916,67	1.677.083,33	0,00	09 Feb 2018	09 Feb 2018
PP-002	Air Compressor (	3.250.000,00	0,00	1.692.708,33	1.557.291,67	0,00	09 Feb 2018	09 Feb 2018
PP-003	Bench Drilling Machine	5.000.000,00	0,00	2.604.166,67	2.395.833,33	0,00	09 Feb 2018	09 Feb 2018
PP-004	Bench Grinder (Asah	3.500.000,00	0,00	1.822.916,67	1.677.083,33	0,00	09 Feb 2018	09 Feb 2018
PP-005	Hand lift	12.500.000,00	0,00	6.510.416,67	5.989.583,33	0,00	09 Feb 2018	09 Feb 2018
PP-006	Magnetic Drill Machine	7.250.000,00	0,00	3.776.041,67	3.473.958,33	0,00	09 Feb 2018	09 Feb 2018
PP-008	Mesin Amplas Budi	1.300.000,00	0,00	677.083,33	622.916,67	0,00	09 Feb 2018	09 Feb 2018
PP-009	Mesin Amplas kotak	1.425.000,00	0,00	742.187,50	682.812,50	0,00	09 Feb 2018	09 Feb 2018
PP-010	Mesin bor tangan	750.000,00	0,00	390.625,00	359.375,00	0,00	09 Feb 2018	09 Feb 2018
PP-011	Mesin bor tangan	600.000,00	0,00	312.500,00	287.500,00	0,00	09 Feb 2018	09 Feb 2018
PP-012	Mesin bor tangan	2.600.000,00	0,00	1.354.166,67	1.245.833,33	0,00	09 Feb 2018	09 Feb 2018
PP-013	Mesin Circle	7.500.000,00	0,00	3.906.250,00	3.593.750,00	0,00	09 Feb 2018	09 Feb 2018
PP-014	Mesin Frasah	12.750.000,00	0,00	6.640.625,00	6.109.375,00	0,00	09 Feb 2018	09 Feb 2018
PP-015	Mesin Gerinda tangan	2.500.000,00	0,00	1.302.083,33	1.197.916,67	0,00	09 Feb 2018	09 Feb 2018
PP-016	Mesin Gerinda tangan	1.700.000,00	0,00	885.416,67	814.583,33	0,00	09 Feb 2018	09 Feb 2018
PP-017	Mesin Las Argon	14.400.000,00	0,00	7.500.000,00	6.900.000,00	0,00	09 Feb 2018	09 Feb 2018
PP-018	Mesin Las Argon	7.500.000,00	0,00	3.906.250,00	3.593.750,00	0,00	09 Feb 2018	09 Feb 2018
PP-019	Mesin Las CO	800.000,00	0,00	416.666,67	383.333,33	0,00	09 Feb 2018	09 Feb 2018
PP-020	Mesin las CO	28.000.000,00	0,00	14.583.333,33	13.416.666,67	0,00	05 Feb 2018	09 Feb 2018
PP-021	Mesin Las Listrik	2.200.000,00	0,00	1.145.833,33	1.054.166,67	0,00	09 Feb 2018	09 Feb 2018
PP-022	Mesin Las Listrik	4.500.000,00	0,00	2.343.750,00	2.156.250,00	0,00	09 Feb 2018	09 Feb 2018
PP-023	Mesin orok/Turner	2.800.000,00	0,00	1.458.333,33	1.341.666,67	0,00	09 Feb 2018	09 Feb 2018
PP-024	Mesin Plasma	10.000.000,00	0,00	5.208.333,33	4.791.666,67	0,00	09 Feb 2018	09 Feb 2018
PP-025	Mesin Plasma	3.900.000,00	0,00	2.031.250,00	1.868.750,00	0,00	09 Feb 2018	09 Feb 2018
PP-026	Mesin Potong kayu	1.500.000,00	0,00	781.250,00	718.750,00	0,00	09 Feb 2018	09 Feb 2018
PP-027	Mesin Potong kayu	2.500.000,00	0,00	1.302.083,33	1.197.916,67	0,00	09 Feb 2018	09 Feb 2018
PP-028	Mesin Press	15.000.000,00	0,00	7.812.500,00	7.187.500,00	0,00	09 Feb 2018	09 Feb 2018
PP-029	Mesin Rol Besar	20.000.000,00	0,00	10.416.666,67	9.583.333,33	0,00	09 Feb 2018	09 Feb 2018
PP-030	Mesin Rol Plat Kecil	20.000.000,00	0,00	10.416.666,67	9.583.333,33	0,00	09 Feb 2018	09 Feb 2018



Kode Aktiva	Nama Aktiva	Harga Perolehan	Penyesuaian tahun ini	Akumulasi Depr.	Book Value	Depresiasi tahun	Tgl Pemakaian	Tgl Pembelian
PP-027	Mesin Potong kayu/	2.500.000,00	0,00	1.302.083,33	1.197.916,67	0,00	09 Feb 2018	09 Feb 2018
PP-028	Mesin Press	15.000.000,00	0,00	7.812.500,00	7.187.500,00	0,00	09 Feb 2018	09 Feb 2018
PP-029	Mesin Roll Besar	20.000.000,00	0,00	10.416.666,67	9.583.333,33	0,00	09 Feb 2018	09 Feb 2018
PP-030	Mesin Roll Plat Kecil	20.000.000,00	0,00	10.416.666,67	9.583.333,33	0,00	09 Feb 2018	09 Feb 2018
PP-031	Spry Boat kecil	25.000.000,00	0,00	13.020.833,33	11.979.166,67	0,00	09 Feb 2018	09 Feb 2018
PP-032	Timbangan Digital	800.000,00	0,00	416.666,67	383.333,33	0,00	09 Feb 2018	09 Feb 2018
PP-033	Timbangan 300 kg	2.000.000,00	0,00	1.041.666,67	958.333,33	0,00	09 Feb 2018	09 Feb 2018
PP-034	Tang Rivet	270.000,00	0,00	140.625,00	129.375,00	0,00	09 Feb 2018	09 Feb 2018
PP-035	Mesin las	4.500.000,00	0,00	2.343.750,00	2.156.250,00	0,00	09 Feb 2018	09 Feb 2018
PP-036	Tang Ampere (Digital	1.550.000,00	0,00	807.291,67	742.708,33	0,00	09 Feb 2018	09 Feb 2018
PP-037	Signal Digital	8.420.000,00	0,00	4.385.416,67	4.034.583,33	0,00	09 Feb 2018	09 Feb 2018
PP-038	Multi Meter (digital Multi	550.000,00	0,00	286.458,33	263.541,67	0,00	09 Feb 2018	09 Feb 2018
PP-039	Mesin Bor/Hammer Dril	1.925.000,00	0,00	1.002.604,17	922.395,83	0,00	09 Feb 2018	09 Feb 2018
PP-040	Hammer Drill	1.925.000,00	0,00	1.002.604,17	922.395,83	0,00	09 Feb 2018	09 Feb 2018
PP-041	B.RHINO MMA 308A	13.980.000,00	0,00	7.281.250,00	6.698.750,00	0,00	09 Feb 2018	09 Feb 2018
PP-042	Mesin las titig Torch	387.000,00	0,00	201.562,50	185.437,50	0,00	09 Feb 2018	09 Feb 2018
PP-043	Mesin Las Multipro TIG	13.500.000,00	0,00	7.031.250,00	6.468.750,00	0,00	09 Feb 2018	09 Feb 2018
PP-044	Mesin Las	27.960.000,00	0,00	14.562.500,00	13.397.500,00	0,00	09 Feb 2018	09 Feb 2018
PP-045	Handfit Krisbrow	12.908.810,00	0,00	6.723.234,38	6.185.575,63	0,00	09 Feb 2018	09 Feb 2018
PP-046	Mesin Las Titik	7.500.000,00	0,00	3.906.250,00	3.593.750,00	0,00	09 Feb 2018	09 Feb 2018
PP-047	Biaya Alat Uji	8.300.000,00	0,00	4.322.916,67	3.977.083,33	0,00	09 Feb 2018	09 Feb 2018
PP-048	Mata Bor 40"	3.650.000,00	0,00	1.901.041,67	1.748.958,33	0,00	09 Feb 2018	09 Feb 2018
PP-049	Mesin Benso	16.000.000,00	0,00	8.333.333,33	7.666.666,67	0,00	09 Feb 2018	09 Feb 2018
PP-050	Trafo Las TIG MIG	2.675.000,00	0,00	1.497.395,83	1.377.604,17	0,00	09 Feb 2018	09 Feb 2018
PP-057	Stang Argon	100.000,00	0,00	100.000,00	0,00	0,00	22 Nop 2018	22 Nop 2018
PP-060	Signal Mitotoyo 500	8.250.250,00	0,00	390.640,63	5.859.609,37	0,00	12 Des 2019	12 Des 2019
PP-061	Kompressor 0,75 HP	1.900.000,00	0,00	118.750,00	1.781.250,00	0,00	12 Des 2019	12 Des 2019
PP-062	5 in one Krisbow	2.519.000,00	0,00	524.791,67	1.994.208,33	0,00	30 Sep 2019	30 Sep 2019
PP-063	Hand Pallet Small 3T	4.123.000,00	0,00	171.791,67	3.951.208,33	0,00	19 Des 2019	19 Des 2019
PP-064	Kunci Ring Pas set 11	1.420.833,33	0,00	118.402,78	1.302.430,55	0,00	21 Des 2019	21 Des 2019
PP-065	Jack Hammer BOSCH	3.000.000,00	0,00	166.666,67	2.833.333,33	0,00	20 Des 2019	20 Des 2019
PP-066	Kompressor 0,75 HP	950.000,00	0,00	52.777,78	897.222,22	0,00	20 Des 2019	20 Des 2019
PP-067	Mini Grit Kenlan (Bor	675.000,00	0,00	28.125,00	646.875,00	0,00	20 Des 2019	20 Des 2019
PP-068	Riveting kit Nutsert	500.000,00	0,00	177.083,33	322.916,67	0,00	30 Sep 2019	30 Sep 2019
PP-074	BARCODE SCANNER	1.850.000,00	0,00	539.583,33	1.310.416,67	0,00	30 Des 2019	30 Des 2019
PP-076	Sepatu 35 Pkg dbagi	9.775.500,00	0,00	814.625,00	8.960.875,00	0,00	28 Jan 2020	28 Jan 2020
PP-077	Cerobong plasma CNC	426.365,25	0,00	17.765,22	408.600,03	0,00	02 Jan 2020	02 Jan 2020

Kode Aktiva	Nama Aktiva	Harga Perolehan	Penyesuaian tahun ini	Akumulasi Depr.	Book Value	Depresiasi tahun	Tgl Pemakaian	Tgl Pembelian
PP-078	Troly sampah sisa	450.918,68	0,00	0,00	450.918,68	0,00	06 Apr 2020	06 Apr 2020
		387.166.477,2	0,00	187.192.674,94	199.973.802,33	0,00		
Peralatan Pabrik Gol								
PP-051	Mesin Bubut	225.000.000,0	0,00	58.593.750,00	166.406.250,00	0,00	09 Feb 2018	09 Feb 2018
PP-052	Mesin Bubut	95.000.000,00	0,00	24.739.583,33	70.260.416,67	0,00	09 Feb 2018	09 Feb 2018
PP-053	Mesin Bubut	35.000.000,00	0,00	9.114.583,33	25.885.416,67	0,00	09 Feb 2018	09 Feb 2018
PP-054	Mesin Gen set	150.000.000,0	0,00	39.062.500,00	110.937.500,00	0,00	09 Feb 2018	09 Feb 2018
PP-055	Spry Boat Besar	40.000.000,00	0,00	10.416.666,67	29.583.333,33	0,00	09 Feb 2018	09 Feb 2018
PP-056	Bending	525.000.000,0	0,00	136.718.750,00	388.281.250,00	0,00	09 Feb 2018	09 Feb 2018
		1.070.000.000,	0,00	278.645.833,33	791.354.166,67	0,00		
Jumlah Aktiva		1.764.771.47	0,00	559.963.341,61	1.204.808.135,9	0,00		



DATA BIAYA HPP 2019-2021

BULAN	2019	2020	2021
January	Rp 293.944.025	Rp 195.409.443	Rp 313.080.389
February	Rp 867.604.438	Rp 419.740.817	Rp 81.842.045
March	Rp 2.083.916.706	Rp 47.318.574	Rp 41.669.000
April	Rp 968.344.390	Rp 757.932.330	Rp 885.915.046
May	Rp 724.780.190	Rp 173.941.739	Rp 70.627.545
June	Rp 3.384.000	Rp 1.141.999.313	Rp 113.113.284
July	Rp 135.980.160	Rp 964.465.564	Rp 83.510.000
August	Rp 242.773.326	Rp 329.766.206	Rp 146.835.182
September	Rp 317.641.427	Rp 120.985.500	Rp 352.756.578
October	Rp 2.214.153.311	Rp 1.668.916.971	Rp 407.673.802
November	Rp 372.237.330	Rp 526.227.121	Rp 698.208.098
December	Rp 682.588.645	Rp 150.334.954	Rp 89.557.500
TOTAL	Rp 8.907.347.948	Rp 6.497.038.531	Rp 3.284.788.469

Rp 9.781.827.000

DATA BIAYA HPP 2019

BULAN	HARGA	UNIT
1	Rp 293.944.025	123
2	Rp 867.604.438	45
3	Rp 2.083.916.706	12
4	Rp 968.344.390	52
5	Rp 724.780.190	54
6	Rp 3.384.000	42
7	Rp 135.980.160	21
8	Rp 242.773.326	16
9	Rp 317.641.427	17
10	Rp 2.214.153.311	35
11	Rp 372.237.330	23
12	Rp 682.588.645	17

DATA BIAYA HPP 2020

BULAN	HARGA	UNIT
1	Rp 195.409.443	20
2	Rp 419.740.817	29
3	Rp 47.318.574	20
4	Rp 757.932.330	14
5	Rp 173.941.739	13
6	Rp 1.141.999.313	17
7	Rp 964.465.564	23
8	Rp 329.766.206	23
9	Rp 120.985.500	17
10	Rp 1.668.916.971	13
11	Rp 526.227.121	16
12	Rp 150.334.954	22

DATA BIAYA HPP 2020

BULAN	HARGA	UNIT
1	Rp 313.080.389	20
2	Rp 81.842.045	29
3	Rp 41.669.000	20
4	Rp 885.915.046	14
5	Rp 70.627.545	13
6	Rp 113.113.284	17
7	Rp 83.510.000	23
8	Rp 146.835.182	23
9	Rp 352.756.578	17
10	Rp 407.673.802	13
11	Rp 698.208.098	16
12	Rp 89.557.500	22