

CHAPTER 3 - RESEARCH METHODS

3.1 Research Methods

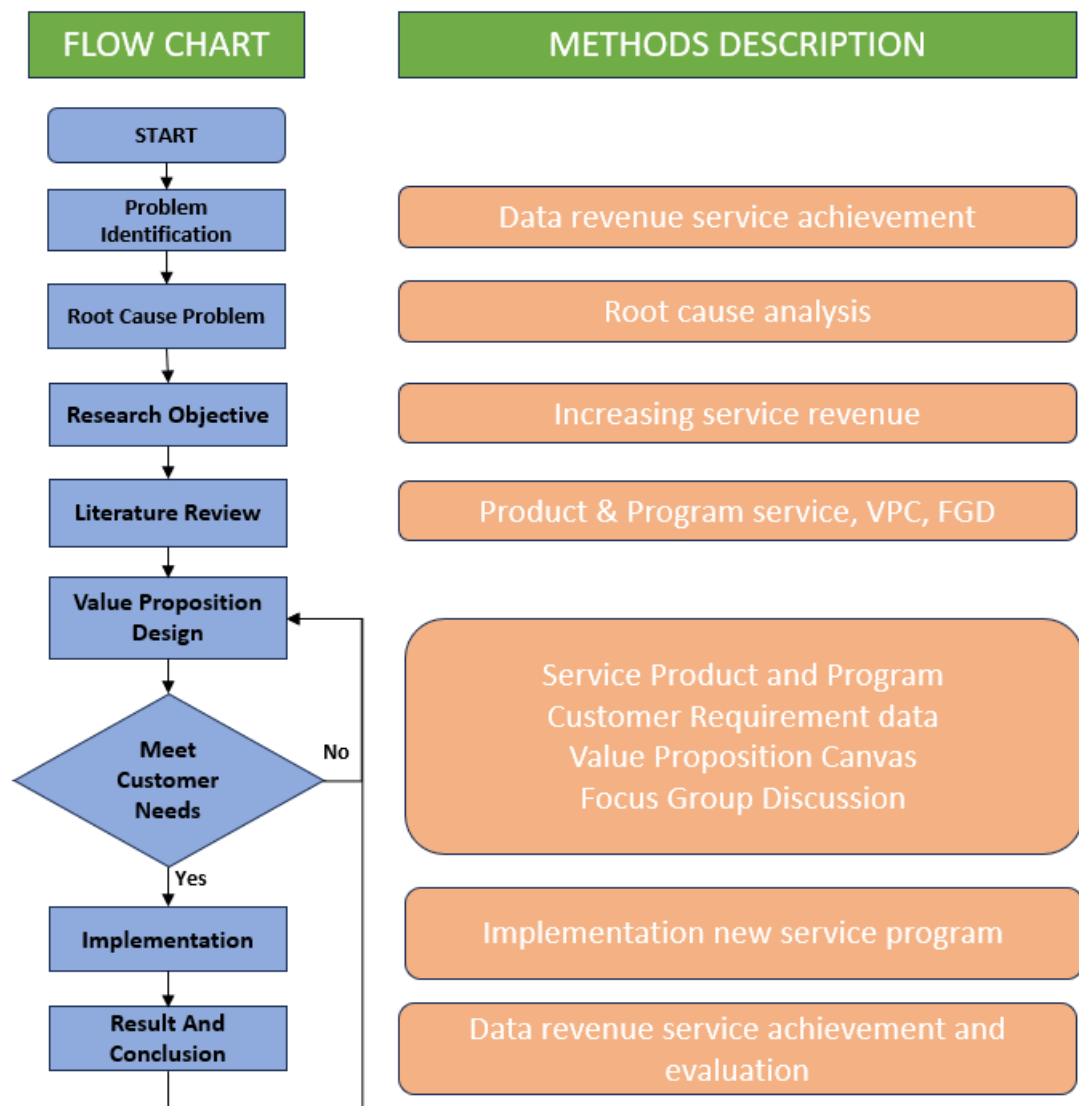


Figure 3. 1 Research Flowchart

Referring to figure 3.1 provides an explanation of the research steps and flow procedure. Methods used in this study is a descriptive qualitative research method where has the purpose of explaining the event or facts, circumstances and variables, at the time of this study takes place by writing down what is true happen.

1. Initial Data Collection

Initial data collection is carried out by taking service revenue data on XYZ customers for the last two years based on the number of incoming work orders from customers which shows the unattainment of service revenue which only reached 68% in 2021 and 73% in 2022. Data retrieval only focuses on service revenue.

2. Root cause Analysis

In this stage, the research uses the root cause analysis method to determine the cause of the unattainment of service revenue in XYZ customers.

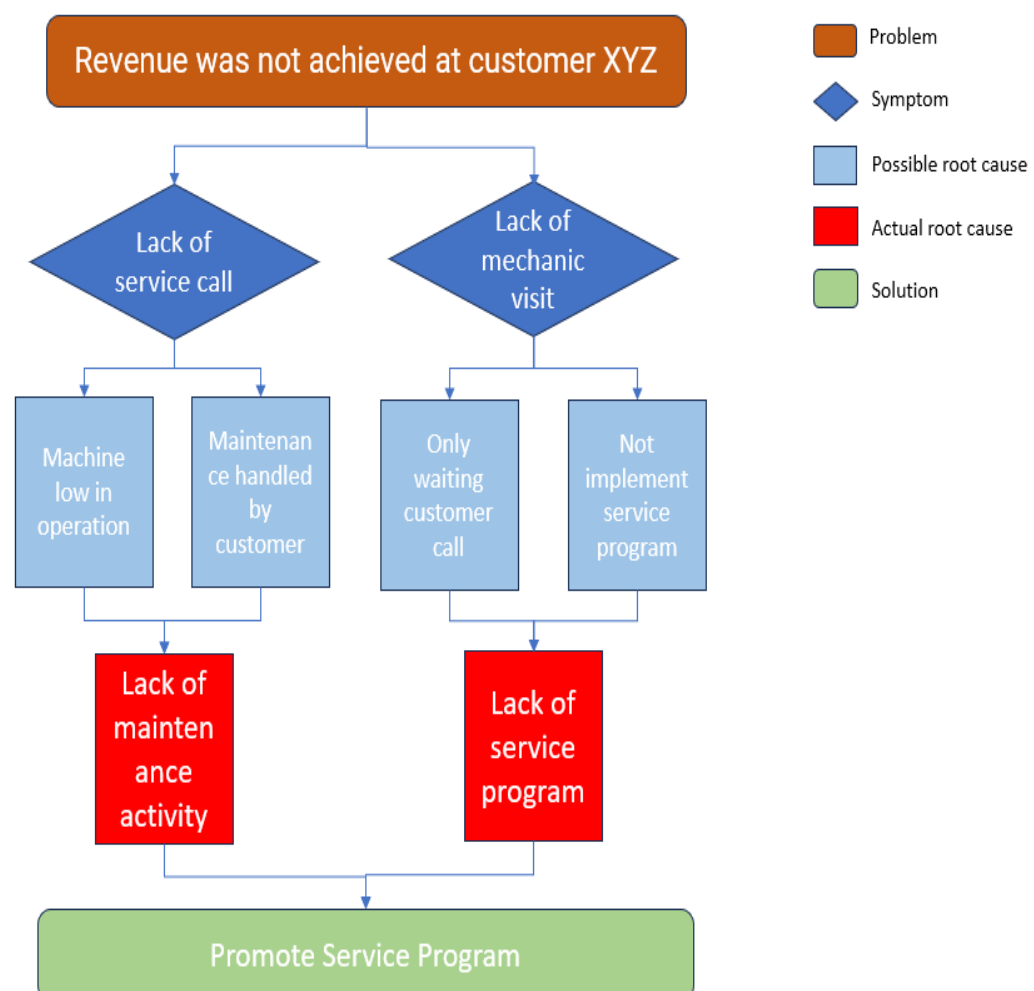


Figure 3. 2 Root Cause Analysis

By using the root cause analysis method and based on analysis data with a team of 3 people, Once the data is grouped, researchers will reduce data by summarizing,

selecting and sorting out the basics, focusing on the things that it is important to then find the solution. A solution was obtained to increase revenue service at XYZ customers must be promoted to customers. But to get a suitable service program according to customer needs, it is necessary to do a more in-depth analysis.

3. Customer Requirements and Value Proposition Canvas

To explore customer needs and create a service program, a meeting or discussion with customers is held to find out what are the pains or problems faced by customers today and the expected gains that can be given from distributors as a form of after sales service. After obtaining pain and gain from the customer, then continued the discussion internally involving the customer support team and the product team or program development to produce the right program according to customer needs using the Value Proposition Canvas method.

3.2 Design of Research

This research will consist of 3 stages, the first is the process of exploring customer needs which translates into customer pain and customer gain, the second is to design service programs that are in accordance with customer needs through the Value Proposition Canvas, and the third is to implement the approved program results and evaluate the results against the increase in service revenue.

3.2.1 Exploring Customer Needs

The process to explore customer needs is carried out by discussion or Discussion Group Forum with customers involving leaders or coordinators of heavy equipment maintenance area teams as resource persons and decision makers with positions as area managers and section head areas. The place of discussion is carried out at the customer's place. The following are the results of discussions with customers and obtained pain and gain as follows.

Customer XYZ	Position	Working on job
Mr. AG	Area Maintenance Dept Head	5 years
Mr. SU	Area Maintenance Section Head	3 years

Table 3. 1 Customer XYZ Profile

Customers who have five and three years of work experience have understood in detail the problems that occur in the scope of their work, so that when invited to discuss can produce productive discussions related to things that must be supported related to customer pain and customer gain.

Job Desc	Cust Pains	Cust Gains
Maintenance all heavy equipment	Lack of mechanic quantity	Need support from vendor to handle maintenance execution
Mechanic development	Service job quality	System control for maintenance monitoring
Monitoring maintenance execution (periodical service, repair, overhaul)	Lack of mechanic skills	Proper maintenance execution
Manage vendor heavy equipment coordination	No oil analysis program to monitor component condition	
Handling maintenance report	Reporting maintenance is still manual	
	High turnover mechanic	

Table 3. 2 Customer XYZ Voice

From the results of mapping pains and gains customers, it is found that customer needs are quite critical, namely related to people where the number of mechanics is lacking due to many of mechanics were resign. The other problem is the existing mechanic competence is also still below standard due to many of them is junior mechanic so that the quality of heavy equipment maintenance is not achieved properly. In addition, the need for monitoring maintenance processes carried out in plantations systematically is also a significant need so that it can be controlled by the area maintenance manager team. At this time the reporting maintenance execution job was still manual and there

was no infrastructure to collect and record all reporting data. The following are the mapping results of customer pains and gains.

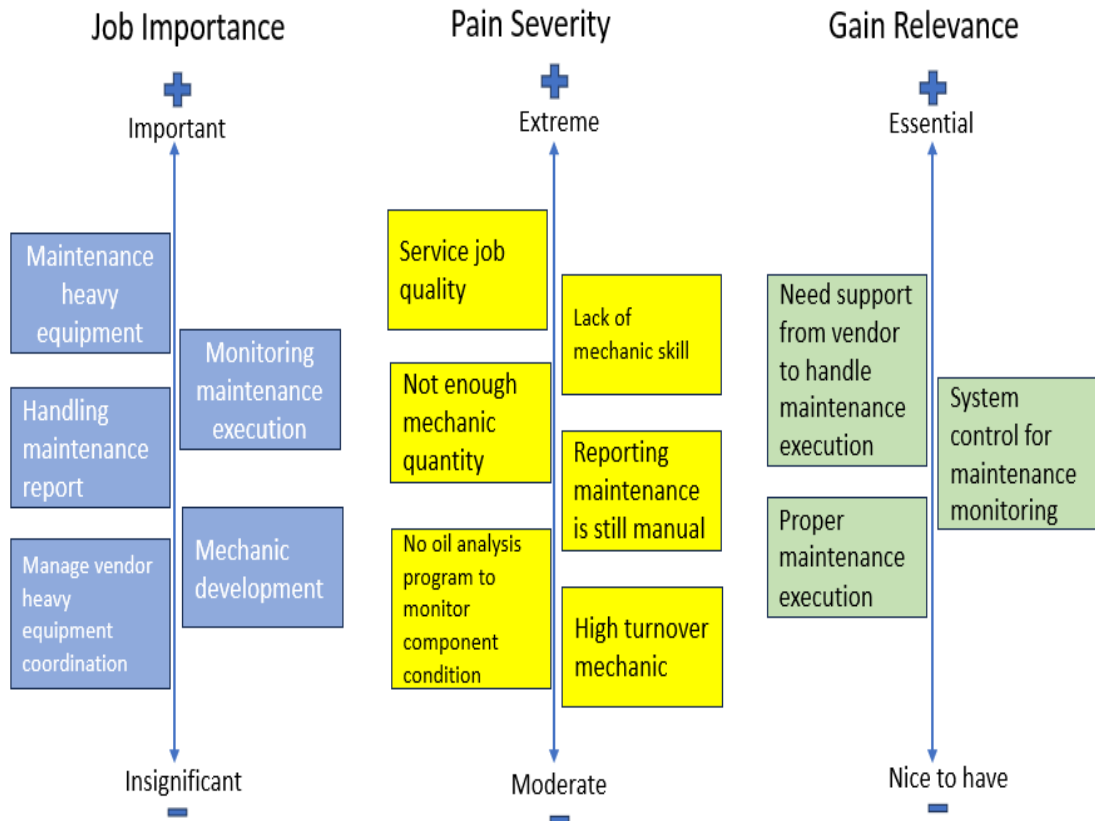


Figure 3.3 Mapping Customer Pains and Gains

3.2.2 Value Proposition Design

After getting pains and gains from XYZ customer, the next step is to find a service program that suits customer needs. The customer support team together with the program and product service development team conducted a Focus Group Discussion (FGD) to analyse the pains and gains of XYZ customer. Customer Support Manager as a leader who provides all data and presenting existing problem focus on lacking service revenue in agro sector and choose one of biggest customer XYZ to be researched. Input data form customer voices concerning Job Importance, Pain severity, and Gain Relevance also presented. Customer Support Manager becomes the leader of the FGD with the Manager of the Program Development team and expert members in the program.

Participant	Position	Job Desc
Mr. AP	Service Program Dept Head	Manager Service Program
Mr. SB	Service Program Section Head	Service program development & pricing strategy
Mr. AR (Moderator)	Customer Support Dept Head	Leader customer support XYZ
Mr. NU	Associate Service Program	Leader for system development in service program including digitalization
Mr. FJ	Associate Customer Support Dept	Assistant for customer contact support

Table 3. 3 Focus Group Discussion Participants

FGD is also carried out with vendors who will support the development system for maintenance monitoring according to customer needs. And here are the summary points from the FGD results:

Product & Services	Pains Relievers	Gain Creators
Oil Analysis Program (PAP)	Maintenance program contract	Online maintenance monitoring system
Periodical Service Regular (PSR)	Training program for mechanic	Periodical Service On Time
Backlog Activity Report	Component oil sample execution	Web development for maintenance
Backlog Follow up Execution Report		Periodical Inspection program
Online reporting for maintenance program		

Table 3. 4 Focus Group Discussion Results

The next step is to create levels of pain relievers and gain relievers as a value proposition that will be confirmed to XYZ customers.

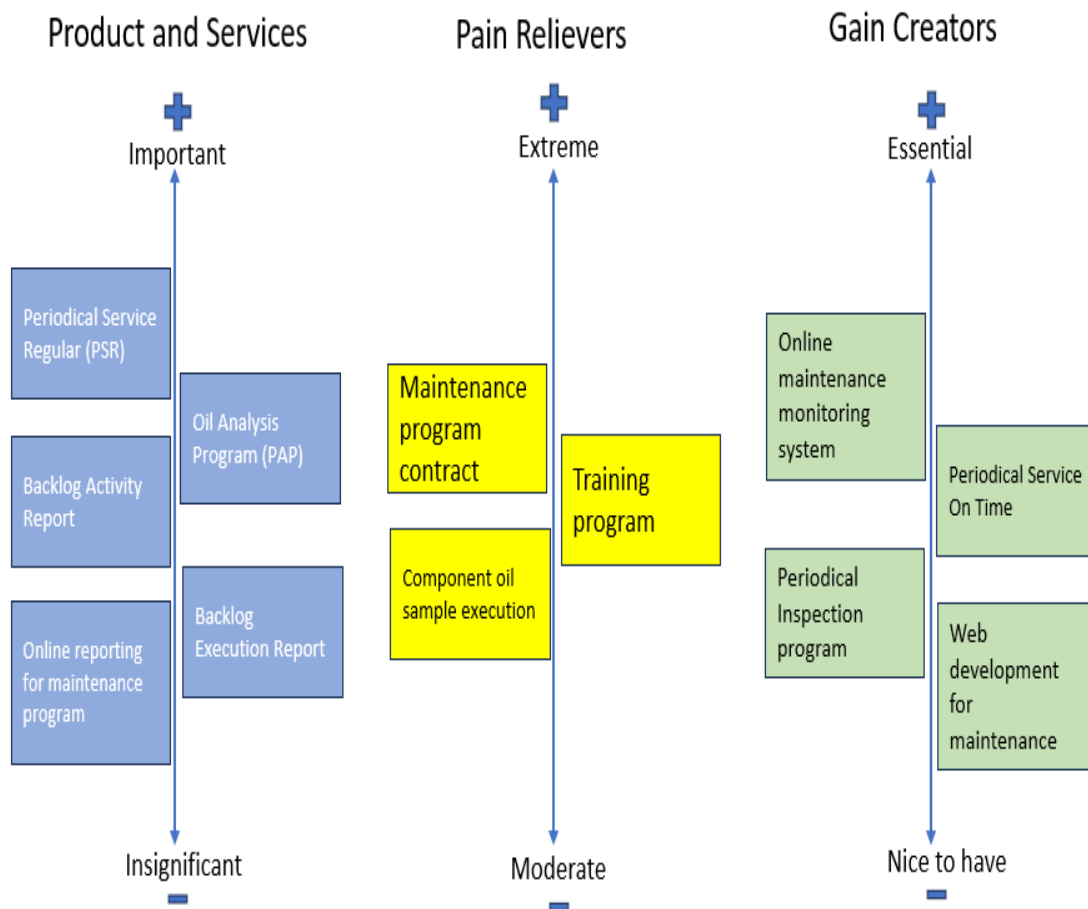


Figure 3.4 Mapping of Value Proposition

Based on the results of focus group discussions and several confirmations with customers through meetings and discussions, based on the rankings of Product and Services, Pain Relievers, and Gain Creator obtained as follows:

Product and Services:

1. Periodical Service Regular, Implementation of periodic visits from mechanics to carry out heavy equipment maintenance according to schedule.
2. Oil Analysis Program, the process of taking oil samples from major machine components that will be sent to the laboratory to obtain wear that occurs in the components.

3. Backlog Activity, the process of carrying out an overall unit inspection to ensure the overall condition of the unit and make part recommendations if part replacement is needed.
4. Backlog Execution Report, the follow-up process of part replacement execution that has been recommended at the time of machine inspection.
5. Online Reporting for maintenance program, data input process of work results carried out by mechanics which includes, PS Report, Backlog, Backlog execution, Oil Analysis Report.

Products and services offered to customers can answer or match with Pain relievers and Gain Creators because these products and services have been confirmed and confirmed with the customer. In addition to pain relievers, customers in the form of training programs for mechanics can be given several programs related to mechanical development consisting of formal training in class and on job field instruction in the form of knowledge transfer from distributor mechanics when mechanics visit regularly to perform periodical service. From the results of mapping the value proposition then described in the form of a value proposition canvas produces a picture like the following:

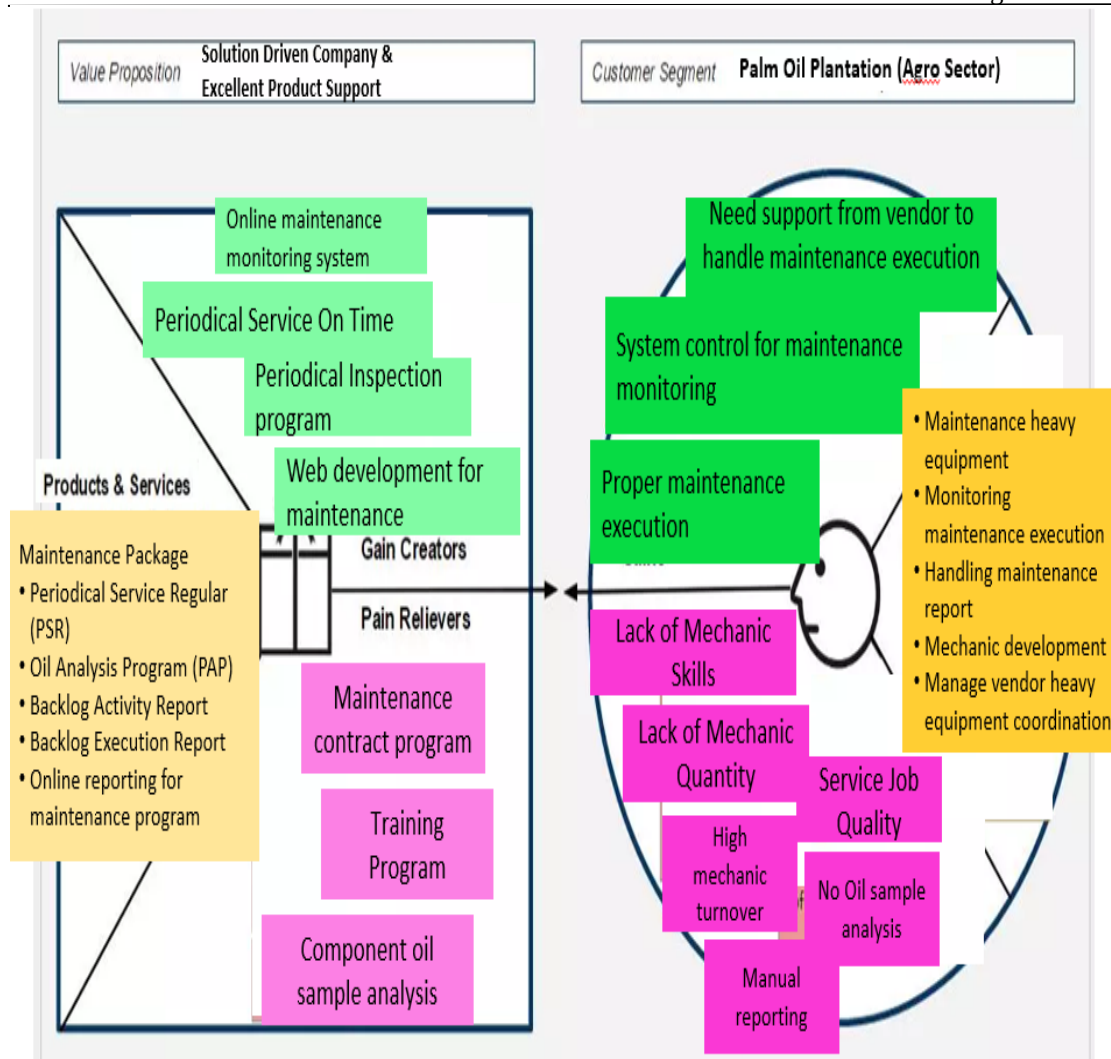


Figure 3. 5 Value Proposition Canvas Customer XYZ

The next discussion process is to determine the fit model for each grain creator and pain relievers and determine the products and services that suit XYZ customers. The results of mapping a fit model are obtained as follows:

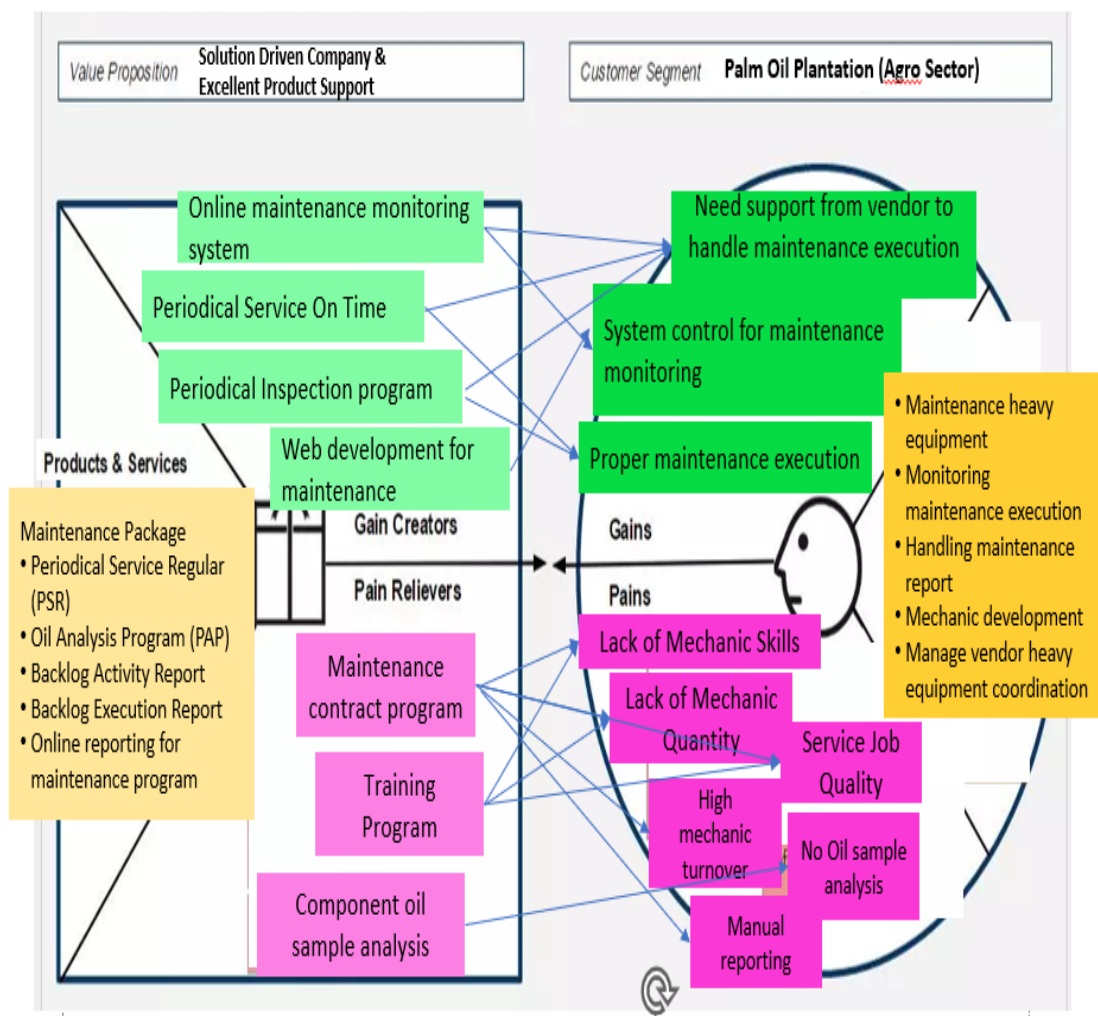


Figure 3. 6 Fit Model of Customer XYZ

The fit results were obtained from interviews with XYZ customers as well as getting feedback and price negotiations agreed to run service programs that will be carried out to maintain heavy equipment in customers' oil palm plantations. Adjustment and improvement steps will continue to be carried out along with the program as a form of evaluation of the program.