



Analyzing Sales Challenges with Root Cause Analysis to Enhance Business Process

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Authors' contributions

This work was carried out in collaboration between both authors. Both authors read and approved the final manuscript.

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ABSTRACT

Aims: The purpose of this study is to analyze sales problems of a company using root cause analysis to support business process improvement.

Study Design: This study is qualitative approach and uses Root Cause Analysis to analyse the data.

Place and Duration of Study: To maintain company confidentiality, this research uses the name of XYZ instead of the actual name. The object of this research is XYZ Company that company engaged in the wholesale trade of car parts and accessories, retail trade of vehicle parts and accessories, between August 2023 and December 2023.

Methodology: This study used mixed method approach (qualitative and quantitative). The informants in this study were divided into internal and external sources. Informants from internal sources come from Directors, Commissioners, Area Sales Managers, Finance Administration and

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Tax Managers, HRGA Managers, and Branch Managers. The external informants of this study are external informants are Senior Trainer Performance Excellence, Founder & Trainer Expert Club Indonesia. The data also collected from results of the meeting minutes at the time of the Sales Gathering, and minutes of branch sales performance evaluation meetings.

Results: The results of this study indicates the most dominant cause of the problems are customer database not update, Apps Upgrade and Notifications, Address and location do not match, and Force Majeure conditions (flooding business premises). The solutions are standardization, automation and/or mechanization, and improve sales person capability.

Conclusion: Increasing sales is the main thing that top management wants to achieve for all teams under it, to support business process improvement; has been proven by changes in results or ongoing improvement processes using root cause analysis in an effort to resolve problems that occur and continuous improvement or improvement.

Keywords: Root cause analysis; business process improvement; fishbone diagram; logic tree diagram.

1. INTRODUCTION

The object of this research is a company engaged in the wholesale trade of car parts and accessories, retail trade of vehicle parts and accessories, based on the Indonesian Business Field Standard Classification (KBLI) of companies. In order to maintain company confidentiality, the company does not wish to be named, so this research calls it XYZ Company. The company has an organizational commitment based on the spirit of continuous improvement and sustained competitive advantage to improve business performance in terms of products and services. The company's line of business in this study focuses more on its trade as a distributor of car and motorcycle tires. Officially, XYZ Company received an appointment letter as an official distributor from the factory or manufacturer to market these vehicle tire products.

XYZ Company was founded in 2018, and currently has one head office in Jakarta and has six branches until 2022 spread across Indonesia, namely the Jp branch, Sr branch, Mr branch, Tm branch, Mk branch and Nr branch. In 2018 the company officially opened two branches, namely the Jp branch and the Sr branch; in 2019 the company opened two more branches, namely the Mr branch and the Tm branch; in 2021 the company opened two branches namely the Mk branch and the Nr branch. The company has the confidence to continue to grow and improve its business in terms of company size, company revenue and the welfare of all stakeholders. With the company's confidence and ability, during the Covid 19 pandemic for two years, the company was able to survive and continue to grow. This requires hard work and greater effort in

managing the company with strategies that are adapted to the conditions that exist in the company's internal and external.

In order to survive and develop, XYZ Company always implements improvements to improve business performance. Business performance or business performance is defined as the achievement of organizational goals related to profitability, sales growth and market share, as well as the achievement of the company's strategic goals in general [1]. There are many factors in the assessment and factors that underlie the company's business performance in its capacity as a distributor. Factors that support the company's business performance include achieving company profits, sales quantity, price quality, service speed, stock availability in warehouses, continuity of company and customer relationships in repeat orders, business networks, and strategies implemented, capabilities and skills or skills of the sales force and its support team. Increased sales and good price quality have triggered the company to be more advanced and developed by expanding its territory and diversifying its business such as the retail business or retailers and workshops.

Based on the Regulation of the Minister of Trade of the Republic of Indonesia Number 24 of 2021 concerning agreements for the distribution of goods by distributors or agents [2]; distributor is a distribution business actor acting on his own behalf and/or on the appointment of a producer or supplier or importer based on an agreement to carry out goods marketing activities; agent is a distribution business actor acting as an intermediary for and on behalf of the party who appoints him based on an agreement to carry out goods marketing activities; Retailers or retailers

are distribution business actors whose main activities are marketing goods directly to consumers. The requirements to become a distributor are listed in article 10 paragraph (1) of the Regulation of the Minister of Trade of the Republic of Indonesia Number 22/M-DAG/PER/3/2016 concerning General Provisions for the Distribution of Goods [3,4], which must comply with the following provisions: a. business entity in the form of a legal entity or non-legal entity established and domiciled in the territory of Indonesia; b. has a license in the trading sector as a distributor from the authorized agency and/or institution; c. owns or controls a place of business with a correct, permanent and clear address; d. owns or controls a warehouse that has been registered with the correct, permanent and clear address; and e. have agreements with producers or suppliers or importers regarding goods to be distributed [3,4].

Customers cover almost all levels, from end users (personal end users or companies), retail, resellers, companies and governments. Each of these customers has a different character and treatment, therefore good communication and negotiation skills are required. Sales or salespeople are the spearhead of the company's survival. Therefore, it is necessary to have human resources who have skills in sales and expertise to support their work functions.

In the span of the company's inception until the end of 2022, for approximately four years, the company experienced business ups and downs which took up quite a lot of costs, time, effort, thoughts and specific strategies to overcome obstacles and obstacles. The company's hard work is needed to support business process improvement by using various specific strategies and approaches, adjusting to market conditions and conditions. In recent years, especially in 2020 and 2021, the company has experienced a ratio of declining sales at three branches due to the Covid 19 pandemic, lost sales and slow-moving inventory. The limited supply of goods in the warehouse and the slow fulfillment of customer requests have become a problem for the company to achieve optimal business process improvement.

Based on the evaluation and observation results at. XYZ Company, this problem occurs because the company's product sales system as a distributor is less effective and efficient. Another factor that affects the effectiveness and efficiency of the sales division is the lack of optimal SOP (standard operating procedures) in carrying out

company administration and operations, lack of focus on priority problem solving (problem solving) that occurs as the root cause of the main problem. Based on the results of the evaluation of these problems and causes, a more in-depth analysis and solutions are needed for the problems that occur, so that it is expected to get better results and require proper business process improvements.

This study aims to perform root cause analysis to support business process improvement. The implementation of root cause analysis in this study uses a combination of several techniques such as 5-Why, brainstorming, process flow analysis, waste, value added-non-value-added, tree diagrams, and fishbone diagrams. These techniques are used to help identify the factors that cause problems and use several alternative analytical methods that suit the needs of problem solving. In the next stage, improvements can be made, from several improvement tools such as streamlining, idealizing, quality factor diagrams, work unit analysis, business and benchmarking which can be applied according to the objectives of this research using streamlining.

2. MATERIALS AND METHODS

2.1 Material

2.1.1 Business process improvement (BPI)

Business Process Improvement (BPI) is a method used to carry out Continuous Improvement, defined as a systematic framework built to assist organizations in making significant progress in the implementation of their business processes. BPI provides a system that will assist in streamlining business processes, by guaranteeing that internal and external customers of the organization will get better output than before [5-8]. Business Process Improvement or called business process improvement is an activity that provides added value to turn inputs into outputs, whether in the form of goods or services to customers by combining the people, methods and tools used [9]. Business improvement can be implemented using improvement tools and steps.

According to Badan Standardisasi Nasional [10], Business improvement tools or continual improvement include: 1) The main purpose of the tool; 2) The rate of change produced by the tool; 3) Time and resources needed to use the tool; and 4) Source of driving improvement. The steps

for business improvement or improvement according to the ISO 9001 Quality Management System version 2015 clause 10.3 are: 1) Prioritize improvement efforts; 2) Understand the problem and process; 3) Analyze the problem; 4) Generating ideas; 5) Develop improvement actions; and 6) Implementation.

2.1.2 Root cause analysis (RCA)

Root Cause Analysis is a problem-solving process to search for the roots of a problem, concern or inconsistency of problems found [11]. RCA requires investigators to find solutions to problems and understand the underlying causes of a situation and solve problems appropriately, thereby preventing reoccurrence of problems that have already occurred. The method of root cause analysis (RCA) is a common method used by organizations, however, there are many tools used to find root causes, including: The Five Why's; The Fishbone Diagram (Ishikawa Diagram); and The Logic Tree. These techniques are used to help identify the factors causing the problem and use several alternative analysis methods that suit the needs of solving the problem.

The five why's is the simplest method to analyze the root cause of the problem. This method is done by asking questions that are used to find the root of the problem that occurs. This method uses the question 'why/why?' to a conclusion can

be obtained. The five whys is a simple question and answer technique that investigates the cause-and-effect relationships of the underlying problems [12-14]. The questions asked are sequences of events that describe cause and effect relationships. It is generally recommended that a minimum of five questions be asked, although sometimes additional questions are necessary, as it is important to ensure that questions are continued until the true cause is identified. The five whys flow can be described in many models or forms, but in a simple way it can be described as in the Fig. 1 below by adding questions and a flow of relationships [13].

Ishikawa diagrams or commonly known as fishbone diagrams are a visual tool to identify and explore in detail all the possible causes associated with a problem/condition and find the root of the problem. This diagram aims to visually show various influences to identify the root cause of a problem. Fishbone diagrams are generally used to investigate cause-and-effect relationships at the root of a problem; overcome the problems that have occurred by finding the root cause of the most dominant causal factors. This technique is usually combined with five whys or brainstorming, to get more in-depth results, namely exploring the main cause down to the sub causes, to find the root cause of the problem [12]. Fig. 2 is an example of fishbone diagram.

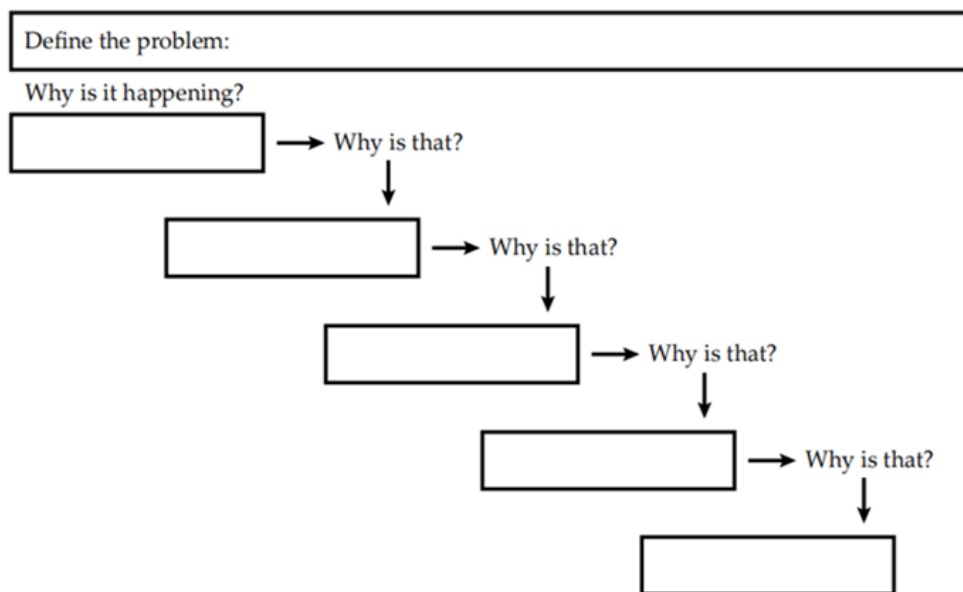


Fig. 1. Five why's model

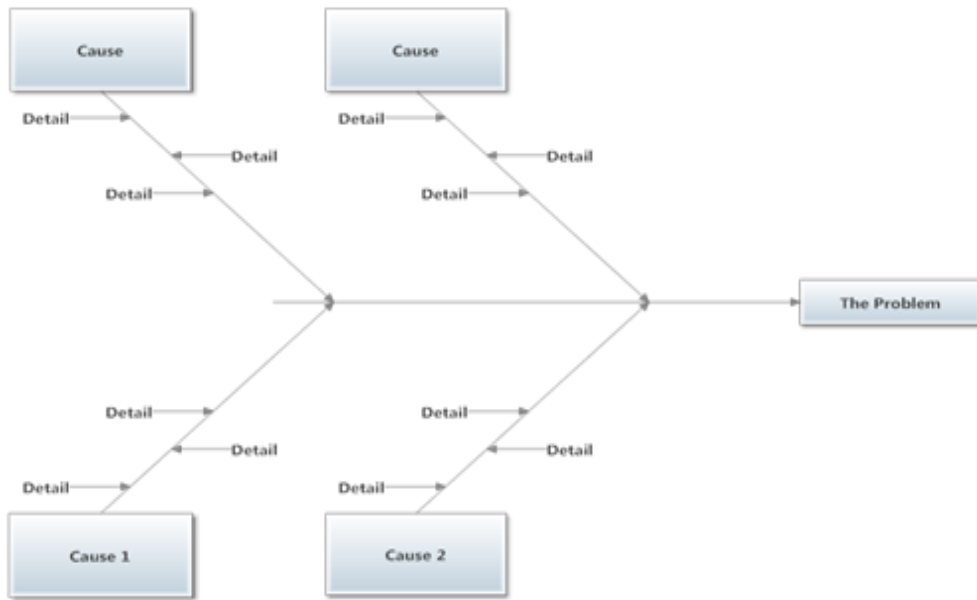


Fig. 2. Fishbone diagram

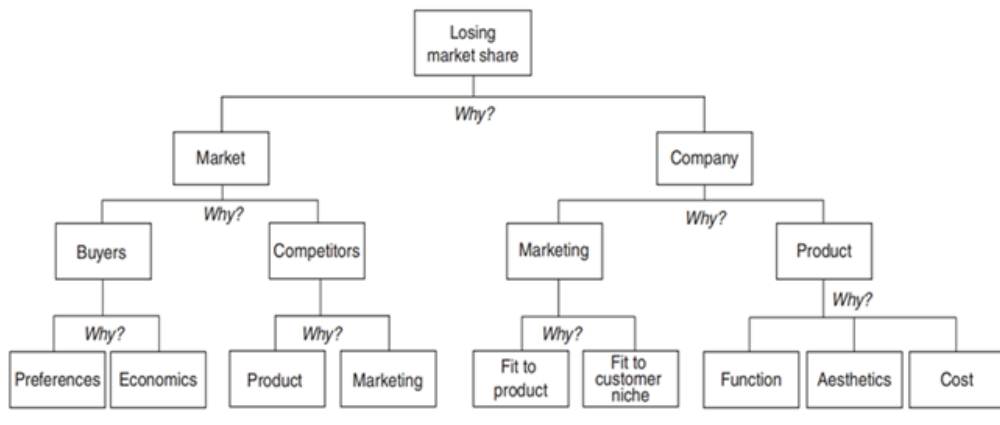


Fig. 3. Logic tree with the case loss market share

Key processes \ Knowledge capabilities/ skills required	Ability to sell to customers	Communication skills	Data entry skills	Dealing with difficult customers
Notification	2	2	3	1
Assessment	1	1	3	1
Approval	3	2	3	1
Payment	2	2	3	2
Finalization	2	3	1	1

Fig. 4. People capability matrix for sales [15]

A logic tree is also called a why-why diagram, is conceptually the same or similar to an organization chart and is a way of documenting the five whys idea. This diagram is a simplified form of fault tree analysis, which looks at the different ways a system fails. Logic trees are a more powerful tool from a causal perspective, and will likely be used to supplement flowcharts. One of the significant advantages of logic trees is that they allow infinite depth in tracing the system being analyzed. Fig. 3 is the example of logic tree diagram.

People capability is the level of knowledge, skills and operational technical capabilities required for

superior business activities of an organization. People capability is a reflection of organizational capability, which means the readiness of the organization to carry out critical activities required by the business, the output of the business activities carried out and the potential benefits from investment in process improvement or technological advances used [16,17]. Each people competency represents a unique integration of knowledge, skills, and process abilities and is achieved by the individual through special education or work experience. Fig. 4 is an example of people capability matrix for sales.

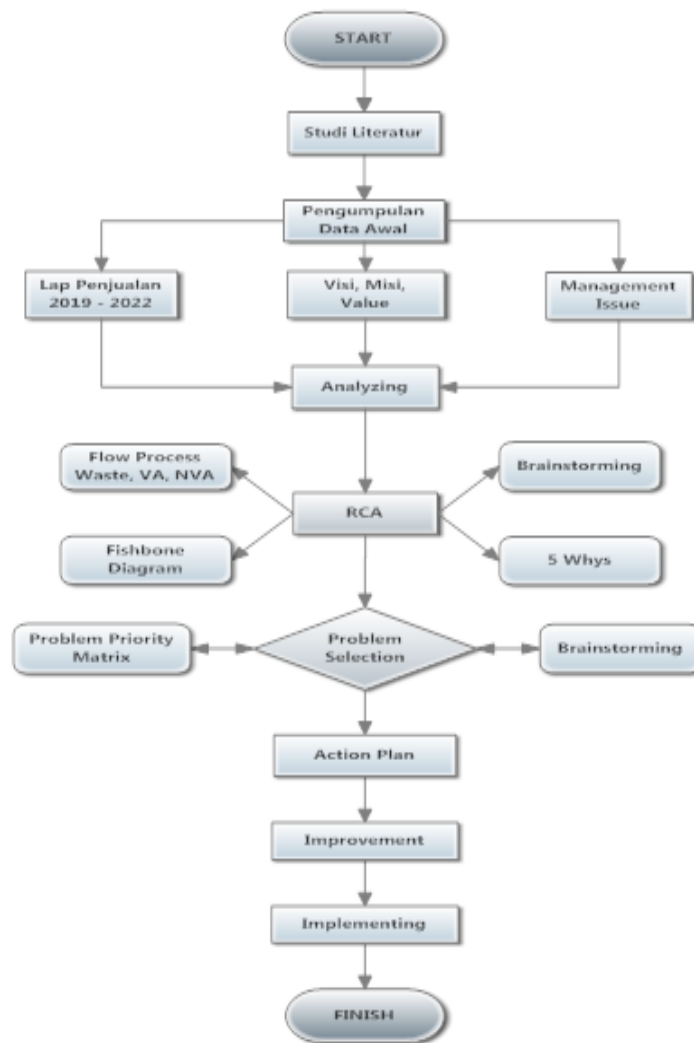


Fig. 5. Stages of research

Note:

- Studi literature = Literature Reviews
- Pengumpulan data awal = Initial data collection
- Lap. Penjualan = Sales Report
- Visi, Misi, Value = Vision, Mission, Value

2.2 Methodology

This research is a qualitative research using a case study approach [18,19]. The objects used in this study are the four branches of XYZ Company which has been operating for at least 3 years. The informants in this study were divided into internal and external sources. Informants from internal sources come from Directors, Commissioners, Area Sales Managers, Finance Administration and Tax Managers, HRGA Managers, Branch Managers and the results of the meeting minutes at the time of the Sales Gathering, minutes of branch sales performance evaluation meetings; while external informants are Senior Trainer Performance Excellence, Founder & Trainer Expert Club Indonesia, Continuous Improvement & Lean Six Sigma, and Group Discussion [20].

The data used in this study is the annual branch sales report recapitulation data. The measurement taken is the percentage increase in sales at the four branches for three years, starting from 2019 to 2022. Other data in this case study were obtained from interviews, evaluation results of board of directors meetings, results of evaluation of annual management meetings, results of evaluation meetings between branches, management group discussions and brainstorming, consultations with trainers and practitioners of performance excellence and lean six sigma master black belt, continuous improvement project. The stages in this study use the order and explanation of the research process flow in Fig. 5.

3. RESULTS AND DISCUSSION

3.1 Vision, Mission, Values and Commitment of XYZ Company

Vision from XYZ Company has been determined to "Become a Professional Tire Supply Company in all parts of Indonesia". The mission of XYZ Company has been determined to create jobs and professional human resources; build a quality and professional work culture; preparing the right strategy for business development and realizing short-term and long-term goals; build a marketing network through B2B collaboration. Values and passion instilled in XYZ Company namely the value of customer satisfaction; excellent service value; the value of honesty, the value of openness, the value of justice and simplicity, the spirit of learning and the spirit of continuous improvement. Organizational

commitment from XYZ Company is based on Value Creation & Sustained Competitive Advantage to improve Business Performance, for products and services; confidence to continue to develop and improve its business in terms of company size, company revenue and the welfare of all stakeholders.

3.2 Initial Business Process

The initial business process of XYZ Company can be described on Fig. 6.

Those initial business process can be explained as follows.

1. The main processes are processes that generate value, starting from customer requests, sales and promotions, processing sales orders, making sales notes, distributing products to customers, to the ultimate goal, namely customer satisfaction. This main process is translated from the company's vision and mission of XYZ Company.
2. Support processes are processes that do not directly generate value but are needed to support the main process which includes operational activities, finance and personnel management. This supporting process is derived from the main process, so it will remain connected between the supporting process and the main business process at XZY Company.
3. Development processes are processes to improve value chain performance with main and supporting processes, for example increasing sales force skills, developing effective and efficient operational processes, developing application systems and developing goods management systems in warehouses.

Process flow of the main activities of sales up to the delivery of purchase orders to customers, by the distributor XYZ Company from 2018 to 2021 can be seen in the Fig. 7.

3.3 Problem Concentration Matrix

Based on the results of management evaluations that are carried out periodically and consistently, both from the commissioners, directors, central and branch management, several types of problems are generated which become a joint focus for follow-up action to solve the problem. The problem concentration matrix is made based

on four assessment criteria, namely the problem concentration matrix based on process criteria (based on processes); problem concentration matrix based on BSC perspective criteria (based on perspectives); concentration matrix based on important and urgent assessments; and the level of management support (management support).

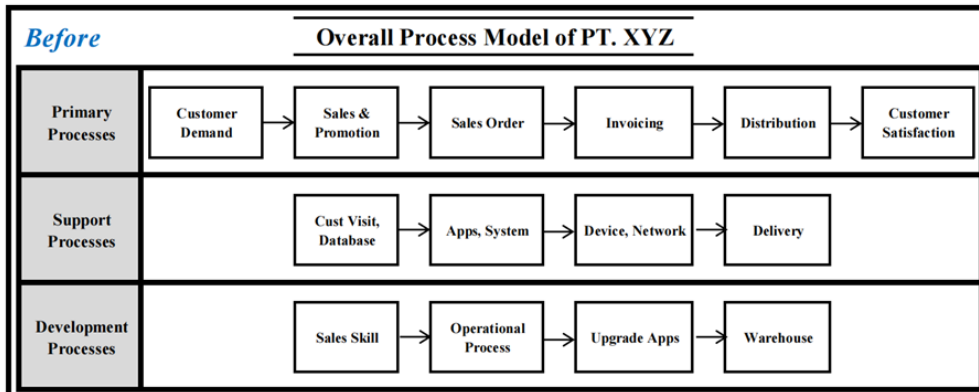


Fig. 6. Initial Business Process of XYZ Company

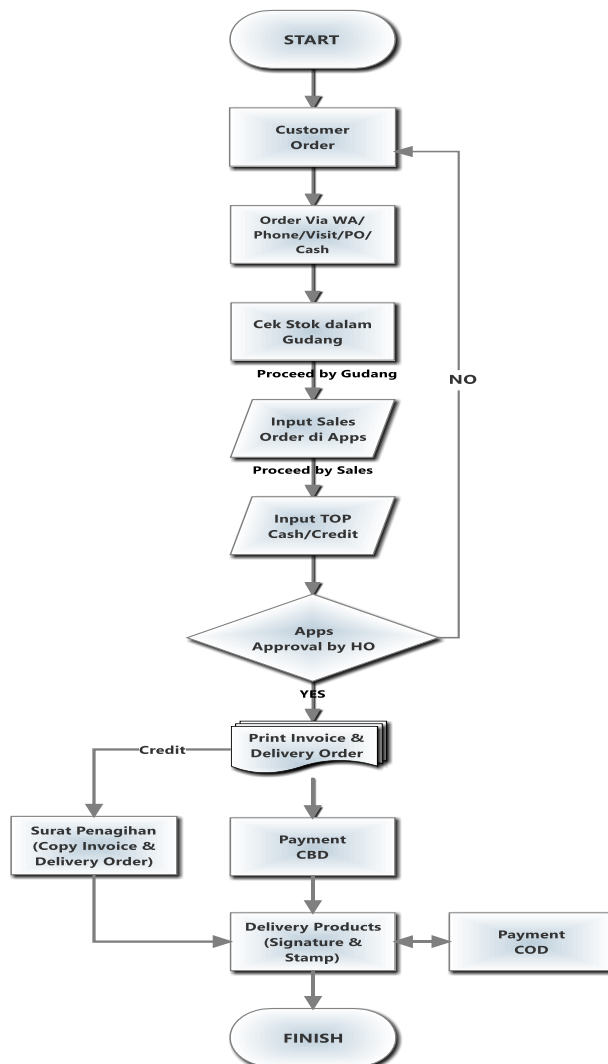


Fig. 7. Sales Process Flow of XYZ Company in 2018 to 2021

PROBLEM FINDING	PT. XYZ - PROBLEM FOCUS - DECISION MATRIX A						
	Primary Process	Support & Development Process	Urgent Level	Importance Level	Score	Type Level	Priority
	3	2	5	4			
Profit Margin	4	3	4	4	54	HIGH	8
Sales Growth	5	3	5	5	66	TOP PRIORITY	1
Lost sales	3	4	4	3	49	HIGH	12
Loyalty	3	4	3	3	44	HIGH	15
Demand Forecast	2	3	3	4	43	HIGH	17
Sales Target	5	5	4	5	65	TOP PRIORITY	2
Speed Service	4	5	4	5	62	VERY HIGH	4
Stock	3	4	3	3	44	HIGH	15
Fleet Company	3	4	3	5	52	HIGH	10
Sales Skill	4	5	5	4	63	VERY HIGH	3
SOP	4	4	4	4	56	VERY HIGH	7
Problem Solving	3	3	3	4	46	HIGH	14
Apps System	3	4	5	3	54	HIGH	8
Fraud	3	5	4	5	59	VERY HIGH	6
Uncollectible receivables	4	5	4	5	62	VERY HIGH	4
Decision Maker Authority	3	4	3	4	48	HIGH	13
CRM	3	3	4	4	51	HIGH	11

Fig. 8. Problem focus – decision matrix

The focus of the problem in Fig. 8 uses a process-based decision-making priority matrix, namely determining the priority of problems that must be solved first by using 4 categories [21,22]. The priority level of the problem category is measured based on the order of the score or the total value of each problem finding.

The way to calculate the score is to determine the level of category influence or category influence degree (1 is not influential to 5 is very influential); multiplied by the weight of the problem or problem weight (value 1 is the lowest and 5 is the highest); the total rating is the total sum of the 4 categories and with the following automatic formula:

1. If the score is between 14 – 27, then the value is LOW priority
2. If the score is between 29 – 41, then the value is MEDIUM priority
3. If the score is between 43 – 55, then the value is HIGH priority
4. If the score is between 57 – 64, then the value is VERY HIGH priority
5. If the score is between 65 – 70, then the value is TOP PRIORITY

Example:

- a. Sales Growth = (5x3) + (3x2) + (5x5) + (5x4) =15+6+25+20 = 66 (TOP PRIORITY)
- b. Sales Skill = (4x3) + (5x2) + (5x5) + (4x4) = 12+10+25+16 = 63 (VERY HIGH)

Fig. 9 describe problem weighting standard of XYZ Company.

3.4 Root Cause Analysis

Result of root cause analysis of XYZ Company can be seen in the Fig. 10.

From the pattern of relationships that use tree diagrams and combined with why-why it can be seen that the relationship is multilevel from above; namely Profit Margin which has derivatives to the lowest level. The relationship that occurs is a relationship that supports each other, so that the relationship can be mapped. If a problem arises, it can be immediately traced to the source of the cause and the resulting consequences. This tree diagram or tree diagram will help understand the pattern of cause and effect relationships, so that when the root cause of a problem is found, it will be easier to find solutions to solve the problem.

Based on the root cause analysis, sales skills and knowledge are needed to increase sales productivity, in supporting the success of the company. Based on an assessment of the level of knowledge, knowledge and experience of eight salespeople, in general or at two levels, namely 3 people at the learning level and 4 people at the intermediate level. Recommendations based on the results of the sales skill matrix scores, are given recommendations to take part in basic training for sales which includes the type of study; and recommendations for following advanced training for sales who are of the middle type. Fig. 11 describes sales skill's matrix recommendation of XYZ Company.

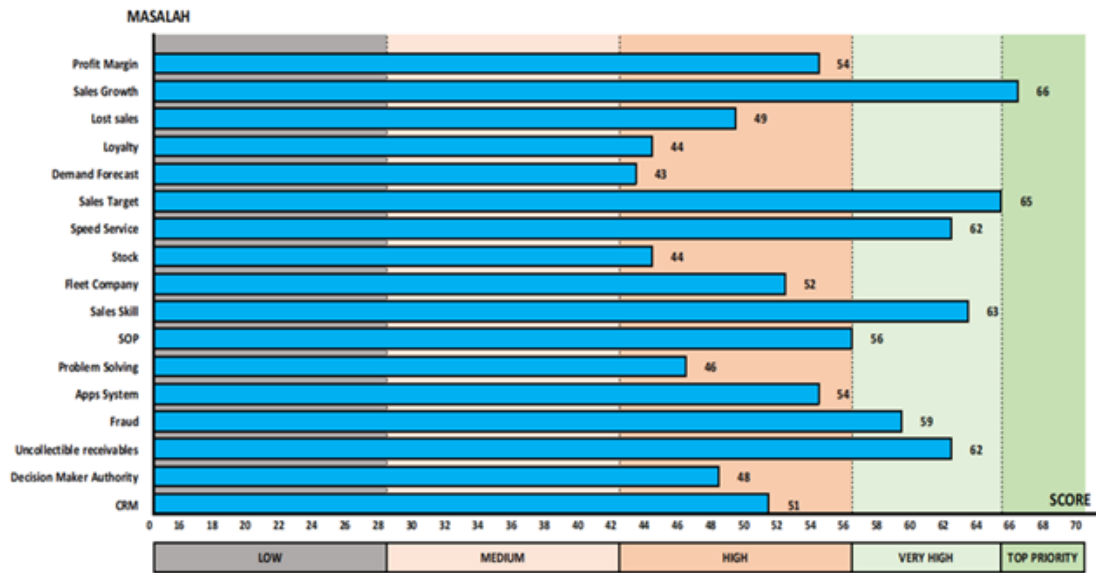


Fig. 9. Problem weighting standard of XYZ Company



Fig. 10. Root cause analysis of XYZ company

Capabilities	Proficiency Minimum Level Basic Level = 1; Intermediate = 2; Advance = 3	Sales Skills - Capability Matrix PT.XYZ (after 1 year)									Corporate Recommendation
		Sales Ey	Sales Ac	Sales Sm	Sales Jr	Sales La	Sales As	Sales Jk	Sales Pm	Avarage	
Komunikasi	2	4	3	4	3	4	3	4	3	3.5	Training Support
Negosiasi	2	5	4	4	3	5	3	4	3	3.875	Training Support
Product Knowledge	3	4	4	4	3	4	3	3	3	3.5	Training Support
Technical Skill	1	3	4	3	4	3	3	3	4	3.375	Training Support
Problem Solving Skill	2	3	3	4	2	4	2	3	2	2.875	Review
Time Management Skill	2	4	3	4	3	4	3	3	2	3.25	Training Support
Social Media Skill	1	3	4	3	3	3	3	3	3	3.125	Training Support
Closing Skill	2	4	4	4	3	4	3	3	3	3.5	Training Support
Prospecting Skill	2	4	3	4	2	4	2	3	3	3.125	Training Support
SCORE		66	60	66	48	68	47	55	48		
TYPE		Menengah	Menengah	Menengah	Belajar	Menengah	Belajar	Menengah	Belajar		
Personal Recommendation		Training Lanjutan	Training Lanjutan	Training Lanjutan	Training Dasar	Training Lanjutan	Training Dasar	Training Lanjutan	Training Dasar		

1 = Sangat Kurang 2 = Kurang 3 = Dasar 4 = Menengah 5 = Ahli

Fig. 11. Sales skill's matrix recommendation of XYZ Company

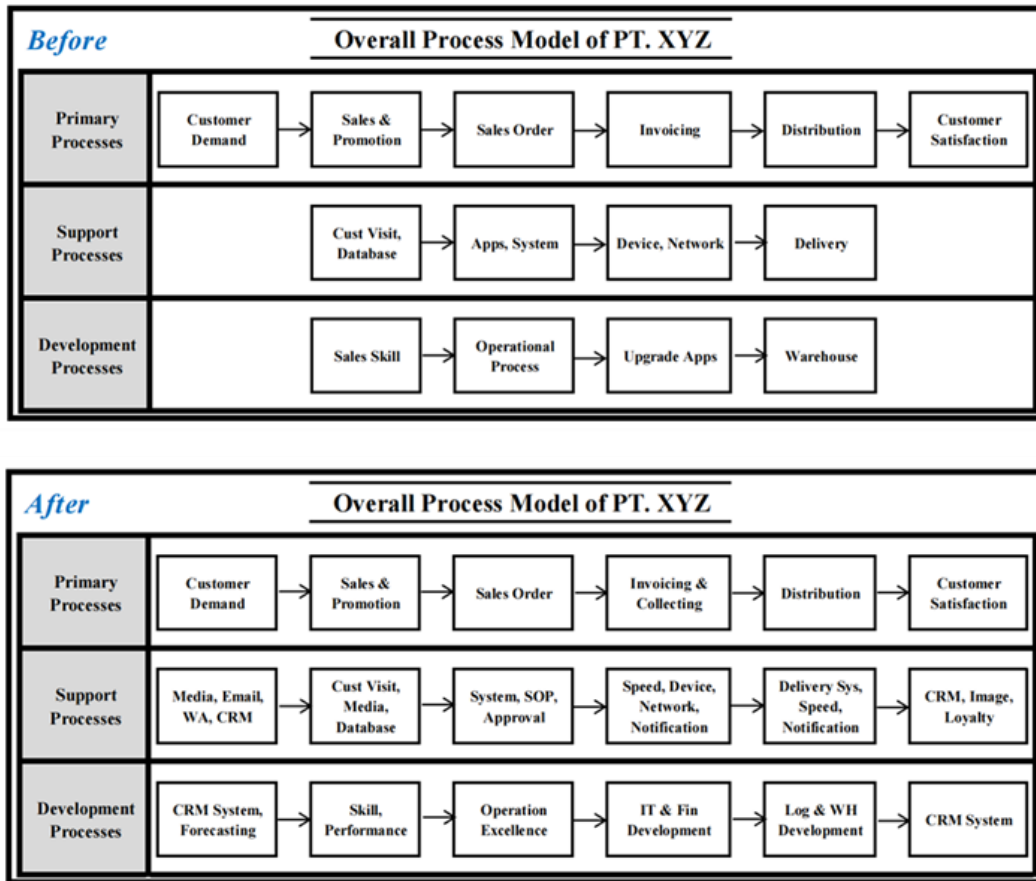


Fig. 12. Overall process model XYZ before and after

3.5 Recommendations for Improvements with the Streamlining Method

Fig. 12 above describes Overall Process Model XYZ Before and after improvement.

The results of the changes after the main process improvements were made to the sales flow, namely the process flow before and after the improvement (flow process before-after).

1. Bureaucracy elimination, this is a technique for eliminating unnecessary administrative work, permits, and paperwork [23-25]. Changes in 2022 are: no need to physically check the availability of goods in the warehouse, either by sales or warehouse people. Data in the application system is always updated and connected to the inventory system; in the application of each sales that has been synchronized with stock and sales and payment history; Tax invoices do not need to be printed physically, because they are
2. Duplication elimination, is a way to eliminate activities that are almost the same in a process. Repetitive control processes can be eliminated by cutting non-value-added processes, such as checking the number of goods and types of goods which are usually carried out alternately one by one in each work area (admin section, warehouse section, driver and assistant sections, and by security).
3. Value-added assessment is carried out by evaluating each activity in the business

process to find out what added value can be given to each customer.

4. Simplification, reducing the complexity of the process.
5. Process cycle-time reduction, reducing processing time cycles to make it more efficient for customers [26].
6. Error proofing, the prevention of errors in the process. This process include: Cannot continue to make SO if sales have not completed with identity data, a clear address; Cannot change notes whose value is different from orders and payments; Notifications appear if there are deficiencies and errors in the system, for example, inputting the wrong price, inputting the wrong discount, incorrectly inputting the number of orders that exceed stock; and Purchase orders from customers will be automatically locked, if there are still notes hanging, so you cannot place an order [26].
7. Upgrading, streamlining the use of equipment and work environment in order to improve performance.
8. Simple language, reducing the complexity of how to write and speak and creating documents that are easily understood by all users [27].
9. Standardization, making process standards.
10. Supplier partnerships, maintaining good relations with suppliers to maintain input quality [28].
11. Big picture improvement, done if all the previous methods can't give the desired result.
12. Automation and/or mechanization.

4. CONCLUSION

The conclusion of this research is that increasing sales is the main thing that top management wants to achieve for all teams under it, to support business process improvement; has been proven by changes in results or ongoing improvement processes using root cause analysis in an effort to resolve problems that occur and continuous improvement or improvement. The competence of sales personnel is very important in the company's business processes, because sales are the spearhead of the company in carrying out business processes to achieve business goals, namely making a profit. Good sales skills and competencies have been able to prove an increase in overall sales;

which also has a positive impact on achieving profits and increasing the company's business. Things that must be of mutual concern are full support from management to improve sales skills and all its supporting teams, by carrying out periodic training and continuous improvement.

Implementation of improvements can be done by mapping the problems that occur and making a target time for repairs. Target time for improvement or development can be carried out in accordance with the needs and targets set by top management. Changes in mindset towards progress and improvement can be started from small things that can be implemented immediately, namely corrective actions, eliminating waste, on spot improvement/just do it/quick solution. Furthermore, for development, short-term, medium-term and long-term targets and goals are needed.

COMPETING INTERESTS

Authors have declared that no competing interests exist.

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