

Business Processes Evaluation As A Step For Controlling Interactions In Agroindustrial Organizational Systems

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Abstract: The success of the interaction between agroindustry subsystems affects the development of agroindustry, but there are still many problems that occur, so that control is needed. This control can be done by utilizing information technology. One company that has implemented technology in controlling interactions between subsystems, although not entirely, is PT MAS. This company is a company engaged in upstream agroindustry. The technology applied is only a recording system for product sales, sales, marketing, and the company's website. Based on the interviews, this company has problems related to the accumulation of work by employees. The accumulation of work that often occurs raises suspicion by company owners that employees often come late. This can affect the company's performance and impact consumer confidence. This needs to be evaluated so that the root of the problem can be identified objectively. The research step taken is to find the root cause of the company's issue that develops through the five whys technique then conduct business process analysis to find parts that show the occurrence of problems in a business process that every activity in the process businesses are grouped using value-added analysis. This study found that the issue that developed was the buildup of work due to employees arriving late, and then the root of the problem was the traditional attendance business process. Furthermore, the attendance business process was evaluated using simulation and value-added analysis so that 2 VA business processes were found, 12 BVA business processes, and 5 NVA business processes were found. From the results of this study, it can be concluded that improvement focuses on absenteeism business processes by eliminating five non-value business processes and then simplifying activities that have VA and BVA values.

Index Terms: Business Process, Value Added Analysis, Agroindustry.

I. INTRODUCTION

Agroindustry is a combination of the words agricultural and industry which has the meaning of an industry that uses agricultural products as its primary source or an industry that has output in the form of products that will be used as tools or inputs in agricultural businesses and other sectors [1]. PT. MAS is one of the upstream industrial companies engaged in agriculture, especially agricultural supporting elements. PT. MAS was established on January 19, 2006, and is located on Jl. Kalimantan no. 216 Balung – Jember. This company is a national distribution company that distributes fertilizers, seeds, pesticides, and agricultural equipment with marketing areas throughout Indonesia. The most superior products from this company are pesticide products, namely drugs for plants such as Tripas, Mourinho, and Mateo. The products sold can be categorized into two parts: products that are re-stocked and products by customer or products according to customer demand, either final level customers (farmers) or in parties.

PT. MAS has also implemented Information Technology in the company's business processes, such as a recording system for product sales, sales, marketing, and the company's website. The divisions contained in the organizational structure are Product Development Division, Commercial Products Division, Plantation Division, Fertilizer Division, Accounting Division, HR Division, and Warehouse Division which will support the company's business processes. The total number of employees working in this company reaches 75 people, divided according to their respective divisions. Based on the results of an interview with Evana as Manager on January 9, 2020, during initial observations, this company has problems related to work accumulation. The owner of the company suspects the presence of fraudulent attendance by employees due to arriving late, which causes a buildup of work in subsequent business activities so that hampered business activities can affect the company's performance and impact consumer confidence. Consumer trust can be a factor that can trigger consumers to make purchasing decisions for a product [2].

The problem of absenteeism fraud causes a buildup of work, and it is necessary to analyze business processes so that a problem is found from an objective assessment before making business process improvements. Business process analysis also needs to be carried out to find out the overall business process, which will later be able to know the process flow or description within the company so that ways can be found to improve or improve the business processes running at PT. MAS. Business process analysis is also needed to find parts that show problems in a business process [3].

A business process is a set of activities whose sustainability is related to creating a product or service of value to the organization, its business partners, and/or its customers. The process involves three elements: Inputs: materials, services, and information flow that will be transformed as a result of business processes, Resources: human resources and supporting tools to carry out business processes, Outputs: goods or services produced from business processes.

Successful organizations measure their business processes to evaluate how well the organization is carrying out these processes. Two fundamental metrics that organizations use in assessing processes are efficiency and effectiveness. Efficiency focuses on doing things well in the process; for example, advancing one business process to another without delay or minimizing wasted money or resources. Effectiveness focuses on doing the things that matter, creating outputs of value to process customers [4]. The efficiency and effectiveness of a business process can be found by analyzing business processes and determining the level of business processes. Many studies have carried out business process improvements using value-added and five whys as the first step for improvement. The research results of previous study Business Process Analysis and Improvement Using the Business Process Improvement (BPI)

Method (Case Study: PT. Wonojati Wijaya), this study uses the Five Why Analysis and BPI methods [5]. Five Why Analysis is used to evaluate business processes and BPI as a method of business improvement. The result of improving business processes is that it is known that the five whys can find the root of the problem, which is the main issue in the accounting division, namely the attendance process.

II. VALUE ADD ANALYSIS

The first step is to find the root cause of a company issue that was found during initial observations, namely the accumulation of work due to employee delays, but it is not sure that the employee arrived late due to fraud during the activity of recording employee arrival times. The company's issue is only a temporary guess from the owner of the company, so that in order to carry out control, first identify the objective root of the problem with the five whys technique. Five Why Analysis will analyze the most basic root of a problem by analyzing the form of questions until the question produces no more answers. The causes of problems will be used as recommendations for business improvement solutions [6]. The next step is to identify business processes at PT MAS. Business process identification is used to find out the business processes that are already running in the company. Identification of business processes is used to describe activities in business processes that have direct value perceived by customers, values that are not directly perceived, and activities that have no value. If the entire business process has known value, it will be easy to identify activities that are not valuable to be eliminated [7]. After knowing the business process description, each activity in the business process will be grouped into three value groups, namely Value Added, Business Value Added, and Non-Value Added. According to Mulyadi in Noviana, Anis, and Maryam, activities that are not needed are unnecessary and must be removed from business processes because they can cause obstacles to the running of the company's business processes [8]. This is what makes Non-Value Added the focus in making improvements. If the analysis results are known, suggestions or recommendations for improving business processes using Business Process Improvement will be given.

Value Adding is a method for identifying unnecessary steps or processes in a business process to be eliminated. The analyst can also break down the process into stages. The described process will identify the positive outcomes of a process. Value-adding analyzes each step about the value-added. For example, such as considerations to repair the washing machine. The steps in this process for the technician to diagnose a problem with the washing machine add value because it directly contributes to the customer's desired result, namely the machine being repaired.

The steps that must be taken to start the Five Why Analysis are: Determine the starting point and write it at the top of the graph, Perform analysis by asking, "what is the root cause of the problem?" if an answer appears, then the answer will be the next question, Put a new cause under the question that was initially assumed, Repeat the question until no more answers are found to the question asked. The final answer is most likely the real root cause of the problem. Usually, starting from the starting point to the repetition of questions requires five rounds, but five rounds are not required to conduct a Five Why Analysis [5].

Business Process Modeling Notation has a graphical notation that is easy to use for business analysis needs. Enables users to describe and create communication flows for user and enterprise business processes in collaboration with business partners. The Diagram exchange framework allows users to exchange information through the existing graphical notation of business processes. Graphic notation on BPMN is done to mark an activity [6].

III. METHODOLOGY

This type of research is qualitative research. The qualitative research method is a research method based on the philosophy of postpositivism that will be used to examine the state of natural objects [7]. The object to be examined in the research is the existing business processes at PT. MAS. Data was obtained through internal company interviews with related people. Respondents to be selected were determined using the purposive sampling technique. Purposive sampling is a sampling technique that looks for a critical person with specific considerations, such as the person who is most familiar with or knows the research problem or the person who has the power to facilitate research [7]. The considerations set are knowing the entire business process of PT MAS, having worked at least five years, and having responsibility for managing the organization and operations of the company.

PT. MAS is one of the upstream agricultural industry companies, especially agricultural supporting elements. PT. MAS was established on January 19, 2006, and is located on Jl. Kalimantan no. 216 Balung – Jember. This company is a national distribution company that distributes fertilizers, seeds, pesticides, and agricultural equipment with marketing areas throughout Indonesia. The most superior products from this company are pesticide products, namely drugs for plants such as Tripas, Mourinho, and Mateo. The products sold can be categorized into two parts: products that are re-stocked and products by customer or products according to customer demand, either final level customers (farmers) or in parties [8].

PT. MAS has also implemented Information Technology in the company's business processes, such as a recording system for product sales, sales, marketing, and the company's website. The total number of employees working in this company reaches 95 people, divided according to their respective divisions. Following are the Vision and Mission of PT. MAS.

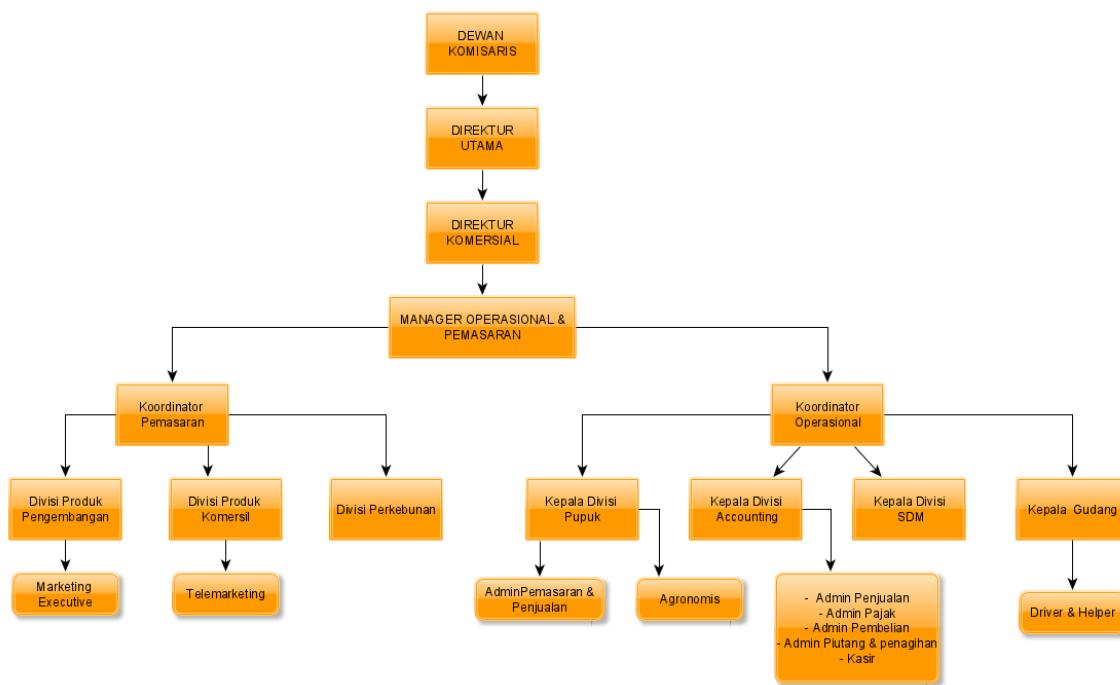


Figure 1. PT. Mas vision and mission

Each division has its duties to integrate into achieving the company's vision. This can be explained through the table of divisions and their duties as follows:

DIVISI	CONCERN WORK
Board of Commissioners	Raising capital or shares to run the company.
President Director	<ol style="list-style-type: none"> The person in charge of the company. Decision maker. Ensure the company runs well.
Commercial Director	Manage company financial data such as cashflow and employee honorarium.
Plantation Division	Division to take care of the plantation area
Marketing and Operations Manager	Manage relationships on the company's internal and external company.
Development division	Develop products such as fertilizers and drugs on behalf of the company's brand rights
Marketing Executive	Serving sales product development
Commercial Division	Develop products to be marketed
Telemarketing	Serving the sale of commercial products both by telephone and in the field
Fertilizer Division	Partnering with Petro Kimia by selling and distributing subsidized fertilizers
Accounting Coordinator/Administrative Coordinator	<ol style="list-style-type: none"> Sales admin is in charge of making notes, travel documents, and documents to support sales. The purchasing admin makes a purchase order until the goods arrive and ensures taxes on each purchase. Tax Admin takes care of taxes such as VAT and PPH taxes. Accounts receivable admin records unpaid payment receivables. The cashier receives the payment, recaps the deposit, and makes the deposit to the bank.
HR Division Coordinator	Taking care of relations between employees, managing employee permits, making SP, attendance and insurance and Jamsostek.
Warehouse Coordinator	Supervise maintaining warehouse and responsible for incoming and outgoing goods.
Helper	Organize and prepare goods in the warehouse.
Driver	Deliver goods.

IV. RESULT AND DISCUSSIONS

Based on the results of observations and interviews, an issue of problems within the company is the accumulation of work. The five whys technique is used to get to the root of the problem. Based on the results of the analysis, there are problems, namely absenteeism fraud and employee tardiness [9]. Based on the description of the value in the entire business process above, it is

concluded that 16 Non-Value Added activities are in the business process. The result of business processes that have Non Value Added with the most significant percentage is the Attendance Business Process, which is 31.8%. The research focus will be centered on the Attendance Business Process. The focus of improvement in this research is on business processes that have the most significant percentage of non-value added. This is based on a previous study entitled "Analysis of Manufacturing Cycle Effectiveness (MCE) in reducing Non-Value Added Activities" that the size of the Non-Value Added business process needs to be reduced and improved so that the production process becomes better [10]

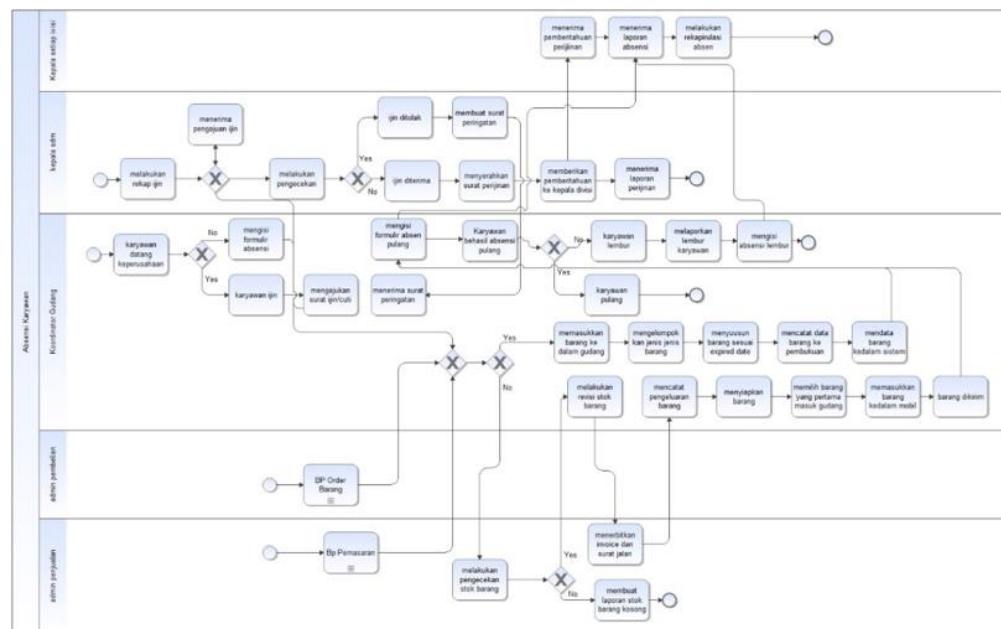


Figure 2. Comparison of Current Employee Attendance

Based on the test results, the warehouse business process has 33 business processes with 8 VA business processes, 17 BVA business processes, and 8 NVA business processes. From the value-added analysis, the problem is how to eliminate eight processes that are not valuable and optimize 17 business processes that are only valuable to the company, which can also be valuable to consumers and simplify ongoing business processes, so it is necessary to simulate the resources and time. Here is the discussion. The business process of employee attendance is given the condition of 17 people in the warehouse coordinator division. By these conditions, the results of Figure 4.29 show that the whole process takes 6.15 hours to complete. The results of the analysis from Figure 4.30 show that the utilization of the HR Coordinator reaches 80.91% or the busiest in the employee attendance process. Utilization of Warehouse Coordinators reached 22.65%, division coordinators reached 53.40%, and sales admins reached 22.65%. The following are the results of resource analysis or utilization of human resources using the employee attendance business process can be seen in Figure 3.

Resource Count	
	Labor/Person
	20

Resource Statistics (Hours)

	Count	Tavg Util	Avg Busy	Avg Idle	Avg Inact	Avg OOS	Avg OT	Avg Res Wait	Tavg NW Util	Avg Cost	Tot Cost
Labor/Person	20	27,10	1,40	3,75	0,00	1,00	0,00	0,00	27,10	\$0	\$0

Resource Statistics (Hours)

Labor/Person

	Count	Tavg Util	Avg Busy	Avg Idle	Avg Inact	Avg OOS	Avg OT	Avg Res Wait	Tavg NW Util	Avg Cost	Tot Cost
Absensi Karyawan/admin penjualan	1	22,65	1,17	3,98	0,00	1,00	0,00	0,00	22,65	\$0	\$0
Absensi Karyawan/kepala sdm	1	80,91	4,17	0,98	0,00	1,00	0,00	0,00	80,91	\$0	\$0
Absensi Karyawan/Kepala setiap ivisi	1	53,40	2,75	2,40	0,00	1,00	0,00	0,00	53,40	\$0	\$0
Absensi Karyawan/Koordinator Gudang	17	22,65	1,17	3,98	0,00	1,00	0,00	0,00	22,65	\$0	\$0

Activity Statistics (Hours)

	Avg Res Wait	Max Res Wait	Tot Res Wait #	Tavg Res Wait #	Max Res Wait #	Max Cap	Count
Absensi Karyawan/kepala sdm - melakukan pengecekan	1,83	3,27	9	2,85	9	1	9
Absensi Karyawan/admin penjualan - melakukan pengecekan stok barang	0,31	0,58	3	0,20	3	1	4
Absensi Karyawan/admin penjualan - menerbitkan invoice dan surat jalan	0,25	0,25	2	0,08	2	1	2
Absensi Karyawan/kepala sdm - menerima pengajuan ijin	0,20	0,40	8	0,29	8	1	9
Absensi Karyawan/Kepala setiap ivisi - menerima pemberitahuan perjalinan	0,10	0,47	2	0,08	1	1	5
Absensi Karyawan/Kepala setiap ivisi - menerima laporan absensi	0,09	0,52	6	0,36	4	1	14

Figure 3. Simulation Results of Current Employee Attendance

V. CONCLUSION

Identification Value chain analysis has divided the company's business processes into two parts: the main and supporting business processes. The company's main business processes: Inbound logistics consists of partnering with trusted suppliers, having large warehouses, and using a FIFO or First In First Out warehousing system so that the goods that enter the company first will also be

issued first. In operations, there is a system for recording goods that already use computers, a vast warehouse capacity that can reach 60 tons in 1 warehouse, printing purchase invoices, and quality control of goods. In outbound logistics, the company has vehicles for shipping as many as 14 large cargo vehicles and two small cargo vehicles, and the limit for shipping goods is 2 x 24 hours. In marketing sales, the company has two types of sales: telemarketing sales, which do marketing by telephone, and field sales, which will go directly to consumers. The company also has a website that is used for promotion and product information. In service, companies and suppliers can negotiate shipping costs and how buying and selling transactions will be carried out. The company will also be responsible if there is a discrepancy in the goods in the delivery. While in the supporting process, the firm instructor PT MAS has a clear organizational structure, and there are SOPs for several of the company's business processes. The company's human resources still use the principle of kinship to relate to employees. The company also prioritizes residents for employee recruitment. They have computerized technology development in their operational systems, such as recording goods, warehousing, and marketing divisions—procurement partners with trusted suppliers such as PT Petro Kimia for fertilizer sales. As a dealer, the company is directly connected with direct suppliers without intermediaries. The root of the problem concluded is that management is still loose, and the attendance system is still traditional.

VI. ACKNOWLEDGMENT

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