

MSMEs Business Process Evaluation using Business Process Management Lifecycle Approach in Gresik

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ABSTRACT

Micro, Small and Medium Enterprises (MSMEs) is one of the fields of business that sustains the national economy by contributing to an increase of GDP and employment. BPS revealed that MSMEs contribute 75% of national income and 97% local employment. They also contributed 57% of gross domestic product in the province of East Java. Despite their contribution in nation's economy, MSMEs have not supported by Information Technology (IT). An understanding of the business processes of an organization becomes more important than directly implementing IT without knowing how it impacts the business processes. For this reason, the analysis process needs to be carried out first to find out the pain points or crucial points of the MSME business process that require completion. An understanding of business processes where pain points are located makes it easier to improve the business processes of MSMEs. This study aims to produce a system that can improve business quality processes from MSMEs which also add value to business processes. In addition, by knowing their pain points, it can help improve business processes to improve the quality of products and services offered. The solution provided is to use QC seven tools to focus on how a process can be managed and controlled in achieving the desired quality. These tools are easy to use and implement which are suitable for MSMEs that do not yet have complex business processes. All in all, these tools can accommodate the needs of MSMEs to find out their pain points so that it helps improve business processes to improve the quality of products and services offered.

Keywords—MSMEs, QC Seven Tools, Pain Points.

1. INTRODUCTION

Micro, Small and Medium Enterprises (MSMEs) is one of the fields of business that sustains the national economy by contributing to an increase in GDP and employment absorption [1]. This is supported by the fact that MSMEs contribute 75% of national income and 97% of local employment. Data from BPS [2] reveals that MSMEs contribute 57% of gross domestic product in the province of East Java. In addition, this is supported by conditions where the number of MSMEs also continues to increase by 9.8% per year. Gresik, one of the districts with a strong and large industrial base, also relies on SMEs totalling 188,534 in 2015 [3].

MSMEs definitively have the characteristics and characteristics stipulated in Law no. 8 of 2008, starting from assets under 50 million to turnover reaching 50 billion. With its small but agile characteristics, MSMEs can become the foundation for microeconomic growth. Under these

conditions, MSMEs excel in structural and operational processes that are more dynamic in terms of their resources. However, MSMEs with all their characteristics and advantages cannot be separated from deficiencies. Besides lacking in financial or capital terms to develop their business, MSMEs also have operational problems. According to [4], the majority of MSMEs still run their business with a manual system, such as recording sales of manuals, counting transactions, up to storage and distribution operations. MSMEs also have difficulty with operational recording matters due to the existence of overly complex and excessive accounting financial accounting rules [5]. The absence of information technology-based systems that help their operational processes due to limited financial capabilities [6]. This operational problem is also corroborated by the results of research on MSMEs that one of the factors for productivity development of MSMEs is the operational side after the human resource factor is the main factor [7].

In term of increasing productivity, MSMEs often see the completion of operational problems as increasing the efficiency of their business processes. Increasing the efficiency of business processes is usually done by

implementing systems or tools to help their business processes. In fact, systems or tools such as IT applications, websites, and other system solutions are just tools to help improve business process efficiency. An understanding of the business processes of an organization becomes more important than directly implementing the system without knowing how it impacts the business processes [8]. For this reason, the analysis process needs to be carried out first to find out the pain points or crucial points of the MSME business process that require completion. An understanding of business processes where pain points are located makes it easier to improve the business processes of MSMEs. Hence, in this study discusses the analysis and improvement of business processes actually have been carried out a lot to get a better process. One analysis process that can be carried out is to use QC seven tools to improve quality. QC seven tools focus on how a process can be managed and controlled so that it can achieve the desired quality. These tools are easy to use and implement which are suitable for MSMEs that do not yet have complex business processes. The hope, these tools can accommodate the needs of MSMEs to find out their pain points so that it helps improve business processes to improve the quality of products and services offered. Then this goal results in the management of MSME business processes in Gresik and Analyzing the 'pain points' or pain points of MSMEs related to managing their business processes to be evaluated for future process improvement.

2. LITERATURE REVIEW

2.1 BPM Lifecycle

The BPM or business management process that is in accordance with what was announced by Dumas & La Rosa [8] is the art and science of work or activities in an organization to ensure the results are done by using continuous improvement. BPM (BPM Lifecycle) which starts from Process Identification, Process Discovery, Analysis, Redesign, Implementation to Monitoring and Process Control (See Figure 1).

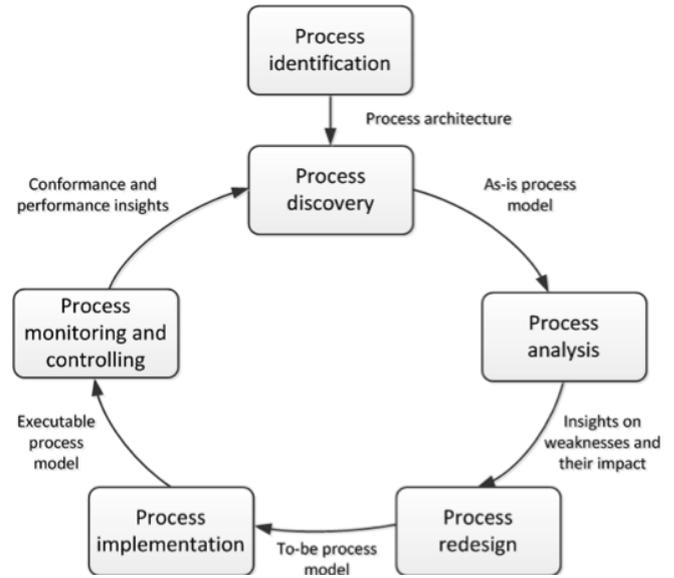


Figure 1 BPM Lifecycle

In this study, not all stages in the above BPM Lifecycle were applied, because the focus was on the analysis and evaluation of the process. These stages are: Process Identification, Process Discovery, and Process Analysis which are described as follows.

Process Identification

Proposing a business problem, the processes that are relevant to the problem are identified, limited and linked to one another

Discovery Process

Documenting the current process conditions into the process model (as-is model)

Process Analysis

Identify and document problems related to as-is processes by using several techniques such as Quality Control Tools (See the Quality Control Tools section). Then measure the performance of the process by taking data related to the process. The next step is to prioritize the problem and calculate the effort or opportunity for improvement that can be done.

2.2 Quality Control Tools (QC Tools)

Quality Control tools (QC Tools) are techniques and templates that can be used in analyzing a process. In general, there are 7 QC tools most commonly used [9], namely:

- Pareto diagram
- Cause and Effect Diagrams
- histogram
- Control Charts
- Scatter Diagrams
- Graphs
- Check sheets

The implementation of each QC tool can be adjusted to the needs of the organization.

3. METHODS

The research method explains the steps of conducting research to achieve the objectives of the study by adopting the first 3 stages of the BPM Lifecycle: Process Identification, Process Discovery, and Process Analysis. The sequence of steps to carry out is explained in the following Figure 2.

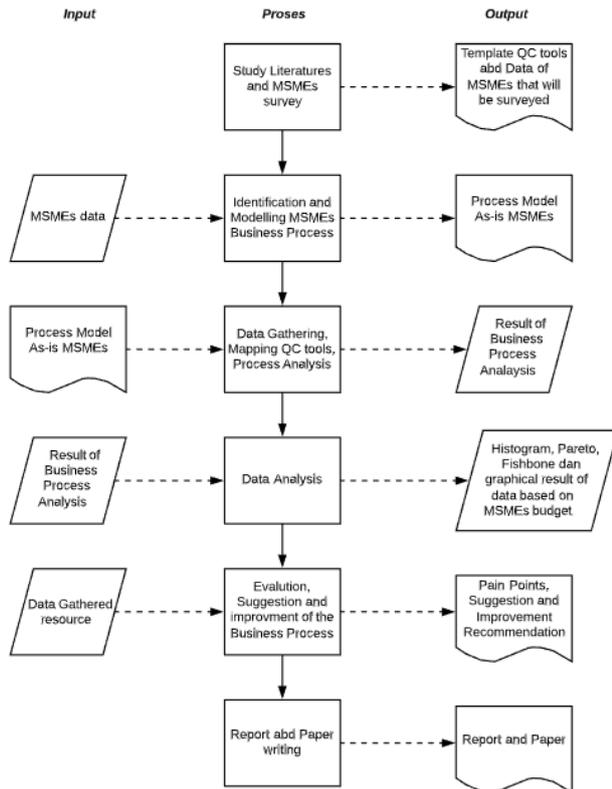


Figure 2 Research Method

4. RESULT

Based on 7 sectors of the MSME business profile consisting of the trade sector, the Manufacturing Industry Sector, Agriculture Sector, Plantation Sector, Livestock Sector, Fisheries Sector, and Service Sector. In terms of livelihoods and land use in Gresik Regency. Most of the residents of Gresik Regency work in the processing industry sector [10]. From the survey, 7 tools of quality were produced consisting of Pareto Diagrams, Cause and Effect Diagrams, Histograms, Control Charts, Scatter Diagrams, Graphs, and Check sheets. Based on the picture (diagram) ... known 30 samples that have been taken in the processing industry often use Cause and Effect Diagrams in determining quality. 57% of surveyors in the processing industry use Cause and Effect

Diagrams on quality improvement. example in the Figure 4 which use Cause and Effect Diagram method to increase shipping stewards

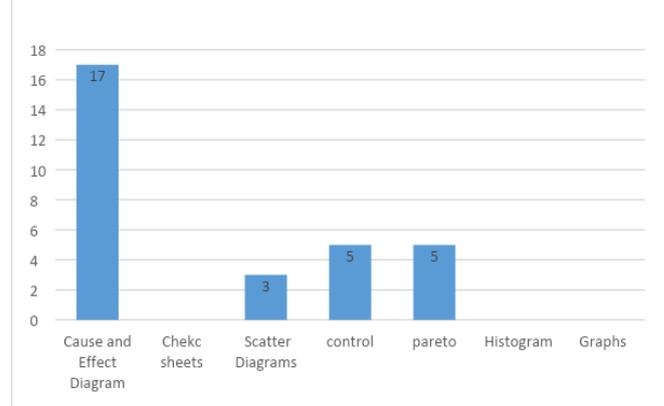


Figure 3 Number of MSMEs surveyed that use QC tools

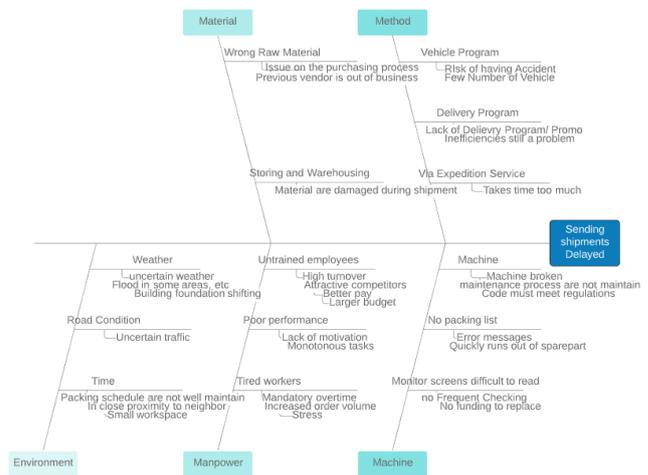


Figure 4 example of Fishbone of one MSMEs (Songkok Awing)

For instance, The Songkok Awing case study uses 5 aspects namely Human, Method, Environment, Machine, and material aspects in resolving late delivery of goods. It is known that in the Human aspect, the solution offered requires an increase in workforce training so there is no pattern error in the business process Environmental Aspect needs to be done Alternative selection of roads to minimize congestion due to skullcap delivery. In the aspects of the Method and the Machine, it is necessary to make an alternative engine so that it is not often damaged. In the material aspect, it is necessary to make criteria for selecting material suppliers to minimize the level of damage.

In addition, Pareto and Check sheets are two other tools that are used by the MSMEs. Check sheets give log record of any variances or mistakes in the process. The log will eventually analysed which process are having problems

most. Figures 5 below depicted the example of using Check sheets and Pareto.

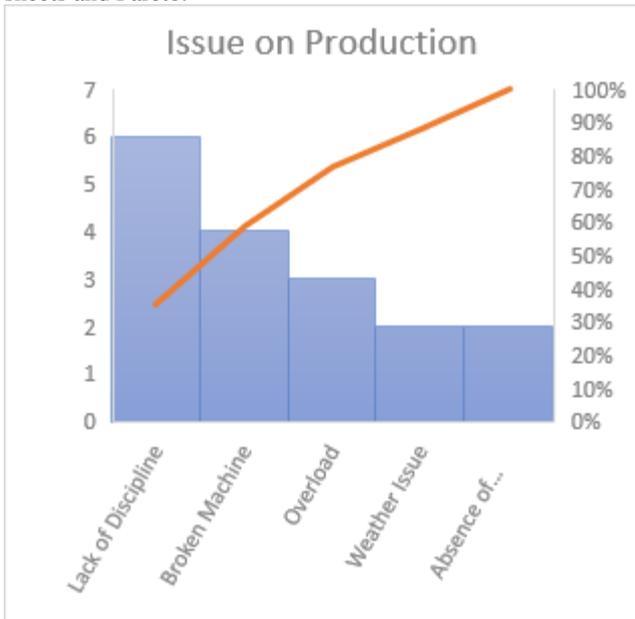


Figure 5 Example of Pareto Diagram Used

Issues are also identified not only by number of occurs pareto depicts, but also by the time it occurs. Table 1 below

depicted example use of check sheet to determine issues and the time it occurs.

On the other hand, there is MSME used Root Cause Analysis in analyzing their problem. This root cause analysis are based on 5 why's to determine the main cause of an issue.



Figure 6 Root Cause Analysis

Table 1 Example of Check Sheet of one MSMEs

Issue	Period (January - July)							Total
	1	2	3	4	5	6	7	
Amount of unhandled complains			I			I		2
Amount of unfinished internal guarantee								0
Amount of unfinished external guarantee				II				2
Amount of uninstalled part			I				II	3
Amount of unserved online order	I	III					I	5
Amount of broken products	I		I	II				4
Total	2	3	3	4	0	1	3	16

Therefore, once the analysis are done by the MSMEs, the insights from each are collected and analysed to gain problems they have. Insights are then listed and concluded. These insights for each MSMEs are defined as their pain points (see Table 2) which need improvements.

Table 2 Pain Points derived from 30 MSMEs

No	UKM	Pain points
1	Salon Young Fa Gresik	Customer Service are not yet satisfying
2	Digital Printing	Late finishing and delivery
3	Superstar Fotocopy and Printing	Many Photocopies are wrong, missing pages etc.
4	Gresik Laundry	Washing Process takes time and fading clothes
5	Shrimp Peel Processing	Quality of the Shrimp (Raw Material)
6	Awing Songkok (Skull Cap)	Late on delivery
7	Pudak Sari Kelapa, Jl Sindujoyo	Cooking process asre still manual and takes time
8	Otak-otak Milk Fish, Jl Sindujoyo	Marinating process are manual and unstandardized
9	Electronic Rental (Camera, Projector, etc)	Damage on the rented electronic
10	Fried Fish Restaurant Joss	Bad service from the waiters
11	Speedometer small manufacturer	quality assurance process on final checking often miss on dust checking
12	Sunan Giri Juice	Wrong order process
13	Fastfood stall	Lack of stock and broken of machine (Ice Cream machine, etc)
14	Noodle food court Jl. Tenger, Roomo, Manyar Gresik	Delivery of the food (wrong desk, takes too long)
15	sumber rejeki kitchen appliance store Jl. Samanhudi Gresik	Order and delivery from the vendor takes too long
16	softdrink canteen campus	Buyer don't pay, wrong delivery
17	Top laundry (Jl. Panglima Sudirman Gresik)	Delay in the delivery, lost clothes / swapped with other customer
18	K3PG Sport Equipment	Many retur and complains
19	Accu store jl. Tembok dukuh	Payment process takes time
20	Sumber Ayam buildings material store	Payment administrations are different with the real money
21	Motorcycle services	Irregular queues, and unclear finishing process
22	Home Industry of Crackers	Mixing ingredient process are unstandardized
23	Paving Block Materials	Mixing and finishing process unstable
24	Hlsana Fried Chicken	Different and unstandardized size of the chicken
25	Rumpunsari kemuning Tea	Tea leave quality inspection
26	CV Berkat abadi	Schedule plotting on the worker
27	Pentol Meatball Store	Meatball are not chewy
28	Home industry Yoghurt	Quality of the milk are not standard
29	Tempe home industri	Fermentation process are manual
30	Sweet Bread store	Inaccurate and manual raw material mixing

5. DISCUSSION AND CONCLUSION

From the results of the above, a survey, process modeling, process analysis using QC tools were conducted to 30 MSMEs that were spread out in 7 fields in Gresik Regency. Of all the targeted MSMEs, most find it suitable to use analysis with Cause and Effect Diagrams (Fishbone) because they feel easier. Others use check sheets, pareto diagrams and scatter plots. From the results of the analysis of MSMEs, the core problems or pain points of each MSME were obtained. These pain points will be input for SMEs to find out which processes in their business need attention. After knowing the process points that need attention, the proposed improvements can be planned and carried out to help them better in doing business.

For future improvements, suggestions that can be taken namely the determination of QC tools that will be used can be done first so that it is optimal in the implementation of the analysis. In addition, the distribution of MSMEs can be expanded further so that they can provide an overview of the challenges and opportunities for improvement that can be done to help MSMEs.

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