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# Improvement Analysis of customer complaints with Total Quality Management method in the food manufacturing Industry

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**Abstract.** The demands of customer with fast lifestyles affect the growth of food and beverages in the Indonesian industrial sector. Total Quality Management (TQM) is an approach to running a business that is oriented to customer satisfaction by trying to maximize organizational competitiveness through continuous improvement of products, services, people, processes, and the environment. The problem that arises in the food manufacturing industry which is used as a research location is the level of customer complaints during the 2018-2019 period, totaling 179 issues. The target set by the company is 2 complaints per month. This study aims to determine how the strategy for improvement and to know the application of TQM to customer complaints. This type of research is applied research with qualitative data types. The results showed that improvements in human factors can reduce the level of customer complaints. Thus TQM has been effectively applied to the Food Industry in Tangerang.

**Keywords:** Total Quality Management, Human Factor, Customer Complaint

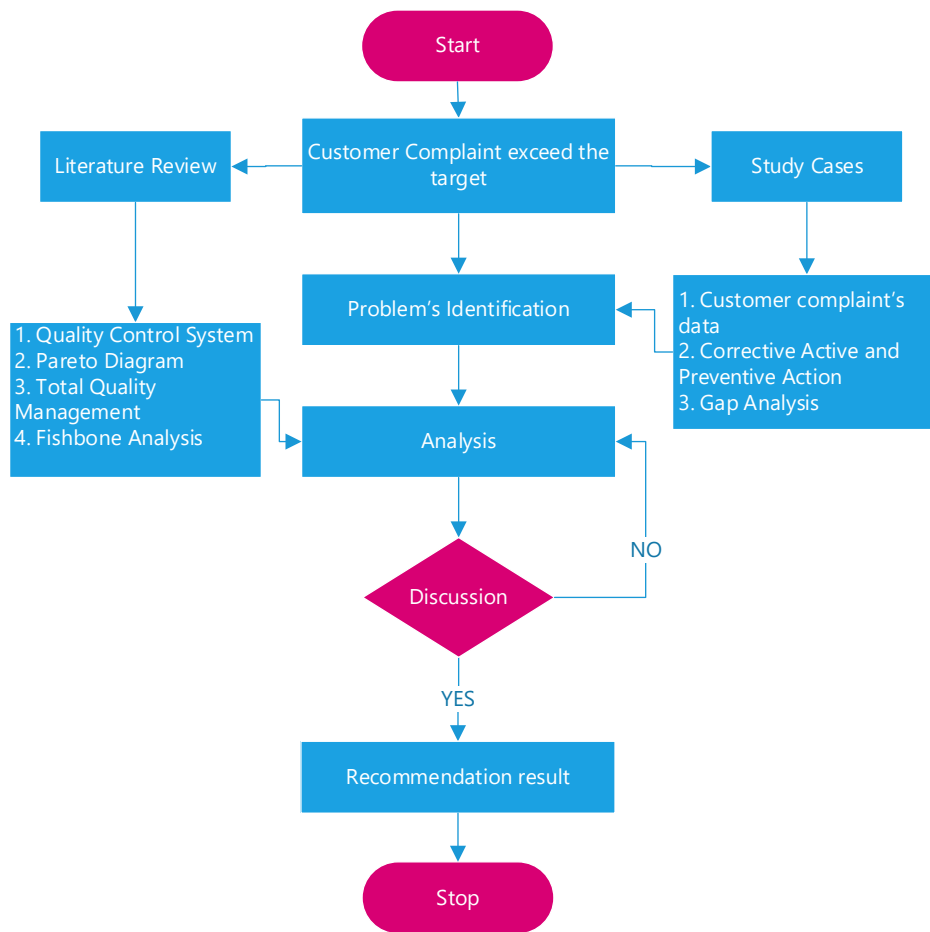
## 1. Introduction

The food processing industry is a sector that is experiencing period to increasing global demand of food safety and consumer demand for a wide range of options for higher quality and sustainability. With a rapidly growing population and many consumers living fast lifestyles, the food and beverage industry must continue to adapt to be more energy efficient, globally sustainable, cost effective, and health conscious. This is make business actors increase their mutual advantage so that they can compete competitively in national and international markets. A quality product at a competitive price will be able to maintain its position in the business market. Quality is the basic factors that influence consumer choice in consuming this type of product.

With customer complaints received, consumer feel dissatisfied with the quality of the products, which can lead to a decline in the company's image and losses. One of the methods use to control quality with customer satisfaction oriented is Total Quality Management. In reviewing the implementation of TQM which is can maximize the company's competitiveness with continuous improvement. The author focuses on the implementation process and the influence of TQM implementation in the customer complaint improvement program and the established manufacturing targets.

## 2. Research Methodology

The research methodology used in this study is shown in Figure 1.



**Figure 1.** Study Framework

Total Quality Management method is implemented in several sectors of the manufacturing and service industry. The results obtained are that the application of TQM can improve quality and reduce waste

**Table 1:** Existing literature review of Total Quality Management (TQM)

No	Researcher (Year)	Method	Purpose	Result
1	(Mambanda, Maibvisira, & Murangwa, 2017)	TQM	Knowing the impact of implementing TQM on the food and beverage industry in Zimbabwe	Application of TQM has a positive impact on the performance of the food and beverage sector in Zimbabwe
2	(Pozo, França Barcelos, & Kazue Akabane, 2018)	QMS, Food Safety Management System	Knowing the success factors of the company	Based on 14 critical success factors, the company can prioritize activities and focus on the most important foundation of the strategy according to market competition

3	(Strotmann et al., 2017)	TQM, PDCA	Knowing the description of the participatory approach taken by employees	The participatory approach can reduce food waste and increase resource efficiency
4	(Sutrisno, 2019)	TQM	Explore the relationship between TQM's element and their influence on the performance of the food industry	To improve operational performance is influenced by the elements of TQM and organizational performance
5	(Dasmasele, Morasa, & Rondonuwu, 2020)	TQM	Knowing the application of TQM at PT Sinar Pure Foods	Quality is an important factor in the company, TQM has been applied effectively to PT Sinar Pure Foods.

Quality must be considered to ensure the sustainability of the company (Dasmasele et al., 2020). Implementation of TQM can improve the excellence and sustainability of the company, by achieving operational performance and customer satisfaction that requires internal processes with guidance and commitment to top management as well as employee participation in quality (Sutrisno, 2019). Then the implementation of total quality management has a positive impact on the performance of the food and beverage sector in Zimbabwe. The strategy is to seek support and commitment from top management and training for employees (Mambanda et al., 2017). Total Quality Management and the 10 Primary Elements of TQM can be summarized as a management system for a customer-focused organization that involves all employees in continual improvement. It uses strategy, data, and effective communications to integrate the quality discipline into the culture and activities of the organization (Purbosani, 2011), the 10 Primary Elements of TQM are:

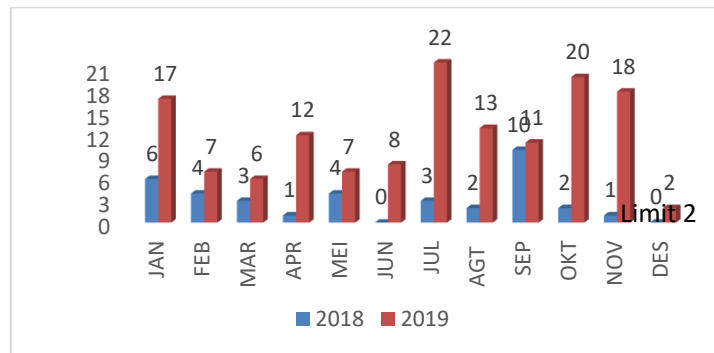
1. Customer focused, in TQM both internal and external consumer are drivers. External consumers determine the quality of products or services delivered to them, while internal consumers play a big role in determining the quality of human beings, processes, and environments related to products or services. At Journal (Bigliardi & Galati, 2014) explained that the role of customers is very influential to the company, but only a few companies will implement it.
2. Obsession with quality, in organizations that implement TQM, internal and external consumers determine quality. With these defined qualities, organizations must be obsessed with fulfilling or exceeding what is specified. This means that all employees at every level strive to carry out every aspect of their work based on the perspective of "How can we do it better?" if an organization is obsessed with quality, then the principle applies '*good enough is never good enough*'. Quality levels are updated daily and some departments need improvements in the quality update system (Kaur, Singh, & Ahuja, 2013)
3. Scientific Approach, Scientific approach is very necessary in the application of TQM especially for designing work and in the process of decision making and problem solving related to the designed work. Thus, data is needed and used in compiling benchmarks, monitoring achievements, and carrying out improvements.
4. Long term commitment, TQM is a new paradigm in conducting business. Therefore, a new corporate culture and long-term commitment are needed

to make cultural changes so that the implementation of TQM can run. The commitment of top management will be an obstacle if it participates less in quality management activities and encourages employee (Arshida & Agil, 2013)

5. Teamwork, in traditionally managed organizations are often created competition between departments in the organization so that its competitiveness is boosted. However, such internal competition tends to only use and spend energy that should be focused on quality improvement efforts, which in turn to improve the company's competitiveness in the external environment. Good teamwork between managers and subordinates will support the implementation of Total Quality Management (Dasmasele, Morasa, & Rondonuwu, 2020).
6. Continuous Improvement, every product and or service is produced by utilizing certain processes in a system / environment. Therefore, the existing system needs to be improved continuously so that the resulting quality can be improved. Then technology and customer preferences are constantly changing so organizations should always evaluate performance to take improved steps. Continuous improvement can use a Plan-Do-Check-Action (PDCA) cycle or benchmarking approach (Mambanda, Maibvisira, & Murangwa, 2017).
7. Training for all employee, in the organization that implements TQM, education and training are fundamental factors. Everyone is expected and encouraged to continue learning. In this case there is a principle that learning is a process that is not valid and does not know the age limit. By learning, everyone in the company can improve their technical skills and professional skills, provide employees with knowledge about industry and organization, increase employee loyalty, improve performance and improve customer satisfaction (Dasmasele et al., 2020)
8. Total Employee involvement, employee and empowerment in decision making and problem solving is a very important element to be able to improve the race of employees and responsibility for decisions that have been made. In this case, it is the employees who standardize the process and those who are looking for ways to convince everyone to be willing to follow the standard procedure.
9. Process centered, for TQM to be implemented properly, the company must have a unity of purpose. Thus, every effort can be directed to the same goal. However, the unity of this goal does not mean that there must always be an agreement between management and employees, for example regarding wages and working conditions.
10. Integrated system, is an important in the implementation of TQM. Empowerment not only involves employees, but also involves them by giving meaningful influence. Efforts to employees bring two main benefits, namely to improve planning and decision making, as well as to increase the sense of owning and responsibility for decisions by involving the people who have to carry them out.

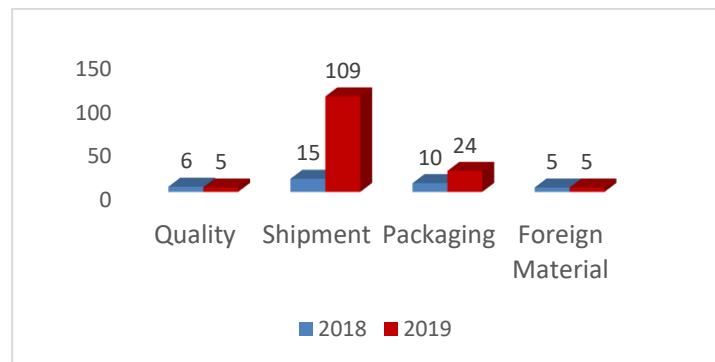
### **3. Result and discussion**

Research results and discussion in this paper regarding the number of customer complaints received, corrective actions taken to reduce the number of customer complaints, and the implementation of TQM implementation. The following are the number of customer complaints received during the period from January 2018 until December 2019



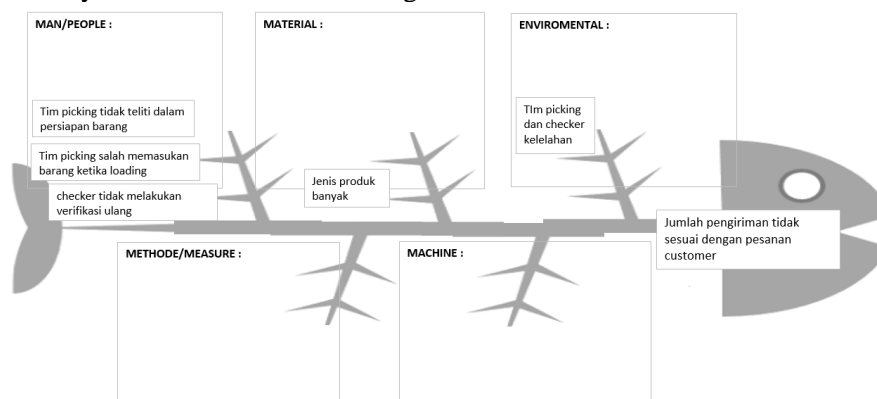
**Figure 2.** Total Customer complaint period 2018 until 2019

From the data above, it can be seen that the number of customer complaints during the period January 2018 to December 2019 exceeds the tolerance limit set by the company. To see the dominant problem compared to the overall data so that it is known the priority of solving the problem shown in the following figure:



**Figure 3.** Types of Customer Complaints period 2018 - 2019

From the data above, it can be seen that customer complaints received are dominated by mismatches during the delivery process. So it is necessary to identify the root of the problem for quality improvement. Identify the main problems that occur by surveying the field and interviewing the parties related to the delivery and obtained the following results:



**Figure 4.** Cause and Effect Diagram main cause customer complaint

From the cause and effect diagram above shows that the main problem of the number of shipments is not in accordance with customer orders dominated by human factors. The biggest role when loading into a truck or container are picker and checker team ensure that the product are transported in

accordance with the customer's order. Gap incompatibility based on the results of interviews with parties involved with the following results:

**Table 2.** Gap analysis of the implementation TQM

No	Parameter	Application	Activity
1.	Customer focused	Customer satisfaction feedback	Already applied to customers horeka, feedback from traditional and modern markets is not yet available
2.	Obsession with quality	a. Quality target monitoring b. Quality system audit	1. Quality target monitoring has been done but the company's target has not been achieved to the maximum 2. Quality system audit has been implemented, but found indiscipline in Warehouse personnel related to the placement of product, administration
3.	Scientific approach	a. KPI Assesment b. Corrective and preventive action's form monitoring	1. KPI assessment are included in quality target monitoring 2. Inconsistent in filling out the incompatibility form when there is a discrepancy in the Warehouse area
4.	Long term commitment	a. Company's vision and mision b. Management review	1. Vision and mission are available but not yet communicated to all employees 2. Management reviews are routinely carried out every month, the discussion of customer complaints becomes the main topic
5.	Teamwork	a. Manufactured policy b. Planning strategies c. Resource needs	1. Manufactured policy is available in the company's mission vision 2. Planning strategies available in review management 3. The need for resources becomes the responsibility of each department
6.	Continous improvement	Quality system audit	It has been implemented but there are continuous system improvements that need to be monitored
7.	Training employee	a. employee training b. Feedback after training	Employee training programs and schedules are available, but are hampered by high employee turn overs so that it has not been done to the maximum to personnel involved in delivery
8.	Total employee involvment	a. Program GKM (Quality control Group) b. Program SOR (Shift operational review)	1. There is no means for employees to convey ideas / ideas new ideas / new ideas 2. SOR program is effectively arried out every harri, so that the transfer of information can run well
9.	Process centered	Implementation of the company's vision and mission	The company's vision and mission have not been communicated to all employees

10	Integrated system	Employee involvement in the quality control group	Employees have not been fully involved with the improvement or the idea
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Sumber: Data perusahaan yang diolah

Gap analysis above show that the implementation of Total Quality Management has been effectively applied to the company but there needs to be regular monitoring so that customer complaints with the type of delivery amount is not in accordance with customer orders are not repeated.

#### 4. Conclusion

From the above exposure or explanation, the author may conclude that in accordance with the paper " Improvement analysis of customer complaints with Total Quality Management method in the food manufacturing industry " concludes that cause of the high number of customer complaints received because the number of shipments does not match the number of customer orders. The main problem of this discrepancy is the human factor that is the picker incorrectly inserts the goods when loading into the container and checker does not ensure the return of the number, lot number, and suitability of the goods with the customer's order. Through an approach by means of training for employees is expected to reduce the number of customer complaints received.

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