

# The Strategy of Product Quality Improvement on Small Business Coffee Sales Performance

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**Abstract**— Product quality is considered significant in improving sales performance. East Java is the second largest coffee producing province in Indonesia after Sumatra. Most are small businesses coffee farmers who are able to produce quite good quality coffee although on a small scale. However, the product quality of small businesses is still unable to compete with the larger coffee industry. The constraints faced by small coffee businesses in East Java are the lack of knowledge about marketing management, especially about building product quality so that it is attractive to be widely marketed and increasing sales performance. This research is a qualitative study conducted on coffee farming groups in East Java with samples of coffee farmers in Pasuruan, East Java. This study aims to find the right strategy to improve product quality to increase sales performance. This study has implemented the PDCA cycle method (Plan, Do, Check, and Action) in which, focus group discussions (FGD) were carried out in the process. The results showed that after the implementation of the PDCA method, it was known that the improvement in the production process could improve product quality, thus increasing the sales performance by 15 percent.

**Keywords**—*Product Quality Improvement, Sales Performance, Small Business, Coffee, PDCA*

## I. INTRODUCTION

Coffee is one of the world's commodities that carry the name of Indonesia, especially Java. In world coffee, a cup of coffee has termed a cup of java. Indonesia (especially Java) since the Dutch era is known as the best-flavored coffee producer in the world. [1] Coffee farming in East Java Province, Indonesia, contributes quite well to supplying coffee needs in East Java particularly and in Indonesia generally. Besides, coffee is also one of Indonesia's export commodities. In addition, there is currently an increase in coffee demand due to the growth of cafes in Indonesia, especially in big cities whose markets are quite wide. The Association of Indonesian Coffee Exporters and Industries (AEKI) said the growth of national coffee consumption increased from 0.8 kilograms per capita to 1.3 kilograms per capita. [2]

Broadly speaking, the Indonesian coffee industry is classified into three business scales, i.e. small-scale processed coffee industry (smallholders), medium-scale processed coffee industry and large-scale processed coffee industry (estates/government-owned plantation). [3] At present, about 95% of the coffee area & production in Indonesia is coffee from small businesses (smallholders coffee), while the rest is from large-scale coffee plantations (estates coffee). East Java is the second largest coffee producing province in Indonesia after Sumatra. Most are small businesses coffee farmers who are able to produce good quality coffee although on a small scale. However, due

to the small scale production capability, these small business farmers are only able to supply the needs of local markets in the nearby area, both in the form of whole green coffee bean, roasted bean and ground coffee. Nevertheless, the coffee produced by small businesses has advantages, which is, the coffee is pure and without a mixture of other ingredients, so this is enough to attract the cafe businessman to get a supply of pure coffee from these small coffee businesses. Thus, there is a considerable opportunity for small coffee businesses to supply coffee demand that continues to increase.

However, this considerable opportunity is not matched by the ability to produce quality coffee products, so that coffee produced by small businesses is still unable to compete with large-scale factory-produced coffee products. The constraints faced by small coffee businesses in East Java are the lack of knowledge about marketing management, especially about building product quality so that it is attractive to be widely marketed. From observations on small coffee businesses in East Java, the results showed that their coffee products were still of lesser good quality. For this reason, assistance from experts is needed to help the farmers of the small coffee business to improve the quality of their products so that sales performance increases so as to improve the welfare of the farmers. Departing from the background of the above problems, the purpose of this study was to develop product quality improvements to improve the performance of coffee sales in small coffee businesses in East Java.

## II. LITERATURE REVIEW

### A. The Importance of Improving Product Quality

In the coffee business, there are many attributes that underlie consumers in choosing coffee products, including aroma, flavor, availability, price, packaging material, packaging design, packaging size, shelf life, label design, and so on. Attributes that are the main priority of consumers in general, outside the urban elite, in deciding on purchases are price and product availability. Another important attribute, especially for urban elites is the quality of the coffee by looking into its taste and aroma. [4]

Quality can be defined broadly as superiority or excellence. In terms of objective quality, it can be defined as measurable and verifiable superiority on some predetermined ideal standard or standards. [5] The Government has imposed mandatory Indonesian National Standards (SNI) for instant coffee products. The rule applies to instant coffee circulating in the Indonesian market, both imported and locally produced. Compulsory SNI applies to coffee or granulated or flake products obtained from the process of separating coffee beans, roasted without being

mixed with other ingredients, ground, extracted with water, dried by spray drying (with or without agglomeration).

According to the government's quality standard policy, regardless of the type of coffee (Robusta or Arabica) and wet or dry processing methods, Indonesian coffee is classified into 6 different classes, depending on the individual value of coffee defects. This quality standard is based on a defective system, which has been adopted nationally since 1984/85 to replace the triage system and was last updated with SNI 01-2907-2008. [6]

The aroma and taste of coffee can be maintained by maintaining the quality of coffee beans throughout the production process from the garden to finished goods. By maintaining the taste, aroma, and quality of products consistently, manufacturers maintain consumer loyalty. The image on these attributes will also add attraction to other consumers.

To enjoy a cup of high-flavored coffee, it takes quite a long process and attempts to maintain the quality of the coffee, starting from the harvesting process in the coffee plantation and the post-harvest process to produce green beans. In the next coffee processing, efforts were also made to maintain the quality of coffee to remain excellent, starting from roasting, grinding, to being ground coffee, which is ready to be packaged and sold.

#### *B. Coffee Production Process (Post-Harvest)*

Post-harvest coffee production processes, starting from the selection of optimal mature coffee beans (colored red) and separate them from the green ones which can cause damage to the quality of processed coffee. After the green bean is collected, roasting is done using the machine. The roasting stage is one of the most important stages to maintain the quality of coffee beans. This process is the stage of forming the aroma and distinctive flavor of the coffee beans with heat treatment. For roasting needs, there are now a variety of automatic roasting machines using electric power accompanied by a variety of advantages, both in terms of appearance, speed in roasting and many sold on the market. Roasted coffee, it is recommended not to come into direct contact with the hand. Processes should be carried out using tools, such as spoons. This is to avoid bacterial contamination from the hands which can result in a decrease in the quality of roasted beans. The next step is the grinding process. This process will produce ground coffee ready to be packaged and then marketed to consumers.

#### *C. Packaging Coffee Products*

Indonesian consumers generally do not question the packaging material, packaging design, label design, packaging size or shelf-life / product expiration date. However, coffee as a specialty product is commonly marketed in attractive packaging. The design of powdered coffee packaging is important in maintaining the quality of ground coffee to remain excellent, where the freshness, aroma, and taste of ground coffee is well maintained, as well as providing a product image. For the types of coffee that want to be given a premium position, powder coffee processing entrepreneurs consider the durability of the taste of their coffee products. Coupled with consideration of other factors such as environmental impacts, costs and the appearance of the packaging that will contribute to determining the selection of powdered coffee.

Small and medium business entrepreneurs can use simple packaging materials for roasted coffee products and ground coffee. The condition is that the packaging is not transparent (not easily exposed to sunlight and light), and there is not much exposure to the outside air. So that the quality of the coffee in it can be maintained longer.

To facilitate marketing and distribution to consumers, powdered coffee packaging is grouped based on the type of quality, packaging size and packaging form. Materials commonly used for packaging coffee powder include packaging from paper, polypropylene plastic, aluminum foil or a combination of paper with plastic. Each type of packaging material has its own weaknesses and strengths. Paper packaging has a low price, easy to obtain, and extensive use. The weakness of paper packaging is its water-sensitive nature and is easily influenced by the humidity of the environment.

Polypropylene plastic packaging is stronger and lighter with low vapor penetration, good resistance to fat, stable to high temperatures and quite shiny. While the aluminum foil packaging has the advantage of being lightweight, easy to form, odorless, can withstand the entry of gas, and not translucent. The weakness of packaging from aluminum foil, which is more expensive when compared to another packaging. [1] The packaged coffee is then put and loaded in a cardboard box. The next, the cardboard is given a clear company name, trademark, and product label. Cardboard piles are then stored in a warehouse with adequate sanitation, lighting, and ventilation.

### III. METHODOLOGY

The study was conducted on coffee farming groups in East Java with samples of coffee farmers in Pasuruan, East Java. Coffee farmers, in this case, are coffee plantation owners who process coffee beans to be marketed in the processed form, where the capacity is still on a small scale. The study was conducted on three small coffee farmers.

This study has implemented the PDCA cycle method (Plan, Do, Check, and Action) in which, focus group discussions (FGD) were carried out in the process. PDCA is a well-known method for continuous process improvement. This method teaches action planning, trial implementation, several checks to see how it fits the plan and acts on what has been tried. The PDCA enables the permanent improvement action by doing the investigation and elimination of the root problems, thus creates a sustainable improved process. [7] The PDCA method consists of four stages for improvement or change. are as follows [8]:

#### *A. Stage 1: Plan (Problem identification, problem analysis, and change planning)*

At this stage, the needs, the goals and the root problems that hinder the achievement of the goals are identified to then, plan the seemingly-working and possible solutions. In this research, the problem identification carried out by a focus group discussion (FGD) between the farmers and researchers.

#### *B. Stage 2: Do (Develop and implement the trial solutions)*

At this stage, the planned methods are tried out. Ensuring that the methods are implemented systematically in all applicable areas to the full extent. Check that the right

tools exist to measure the effectiveness and the planned benefits of the implemented methods. [7]

#### *C. Stage 3: Check (Trial evaluation and result analysis)*

At this stage, the application of the methods is evaluated. The efficiency of the methods is checked and their implementations are regularly measured. Ensure that the improvement of the methods is based on learning activity and performance measurements. Check if the desired outcome has been achieved.

#### *D. Stage 4: Action (The solutions standardization and implementation)*

At this stage, the action is taken based on what was found in the Check stage. If the methods are successful, the changes from the trial are developed to a wider change for greater improvement. If not, those steps have to be carried out again with a different plan. The solutions are then being standardized and implemented for sustainable improvement.

In this research, coffee farmers apply methods that have been successfully tested and are considered feasible to apply. The expected result is an increase in sales performance.

### IV. RESULT

#### *A. The Plan Stage*

The researchers conduct an FGD with coffee farmers to identify the problems, related to business development constraints. The expected results obtained from this FGD are the identification of problems. Problem identification is limited to the process of processed coffee production, not in the process of coffee cultivation. This is due to the results of previous identification, it is known that the process of coffee cultivation has been done well and is done organically so that the harvested coffee is of good quality.

Coffee farmers and researchers conducted discussions (FGD) to find the problems faced by these farmers. From the FGD, the results of problem identification were as follows: first, coffee processing was still not professional and the equipment used was still simple. The process of coffee roasting was done using a regular skillet and human power, so the coffee produced was not as good because of the reduced aroma of coffee. Second, on product packaging. Farmers have provided a decent brand and packaging design, but, because they used traditional equipment, especially in the process of sealing the packaging that was using candle flame, the durability of coffee in the packaging was not long, thus reducing the quality of coffee flavor due to the incoming air in the packaging.

From the results of the identification, we together planned as follows: for the first problem, the improvement was sought through the improvement of the coffee roasting process by providing an automatic coffee roasting machine. For the second problem, it was carried out by improving product packaging in the form of packaging seal equipment using press machines to make the packaging process better and maintain the quality of the coffee.

#### *B. The Do Stage*

At this stage, coffee farmers try the tools provided. The first problem-solving results obtained better-roasted coffee results because in the process using an automatic roaster. In one process, the automatic roaster is able to roast five

kilograms of coffee in nine minutes with evenly roasted results, so the aroma of the coffee beans does not change. To solve the second problem, coffee farmers are provided with packaging equipment for the sealing process so that the packaging becomes standard and the quality of the coffee is not damaged. At this stage, the results obtained are good.

#### *C. The Check Stage*

After testing the tools, the results obtained are: The quality of roasted coffee is better than before because the aroma and taste of coffee are still strong; the quality of the packaging is better because of a more standard seal so it does not reduce the quality of coffee flavor.

#### *D. The Action Stage*

After testing the roasting technique using an automatic roasting machine and packaging using a better seal machine, the product quality has improved. At this stage, the coffee farmers began marketing again with a new look. After one month of trying to do sales through social media as previously done, obtained positive responses from customers as indicated by an increase in the number of product demands. There was an increase in sales of 15% from previous sales. The increase is still quite low considering that the sales test period is still relatively short, which is one month. However, this has provided a good opportunity for coffee farmers to be more active in marketing their products. There is also an increase in sales coming from cafe businesses in big cities in East Java. These results indicate that the coffee market is still very potential, especially the demand for pure coffee.

### V. DISCUSSION

The results showed that after the implementation of the PDCA method through FGD and practice, it was known that the improvement in the production process could improve product quality. With the use of a better roasting machine, coffee roasting results become better, which is characterized by the aroma of coffee that is still maintained and a more even level of coffee beans doneness, in the sense that there are no charred or undercooked beans. And with the use of a better packaging sealer machine, the quality of the packaging is better because of a more standard packaging seal so it does not reduce the quality of coffee flavor. In this case, a good and standard coffee roasting and packaging process will maintain the quality of the aroma and taste of coffee, thus improving the overall quality of the product.

Prior studies reveal two observations regarding the quality of the product in line with the marketing strategy that is important. First, the positive influence of product quality on sales performance was stressed more in studies conducted in Europe. Second, the empirical data indicated a strong association between product quality and customer performance. [9] Another study also found that product quality has a positive influence on sales performance. [10] [11] These improvements in product quality create an increase in sales of 15% from previous sales in one month. The aroma, taste, and flavor are parameters commonly used to determine the quality of the coffee. [12] Given that coffee is a beverage product that prioritizes flavor and aroma, so for consumers, the quality of taste and aroma is very important.

## VI. CONCLUSION, IMPLICATION, AND SUGGESTION

Product quality is considered significant in improving sales performance. From observations on small coffee businesses in East Java, the results showed that their coffee products were still of lesser good quality. For this reason, assistance from experts is needed to help the farmers of the small coffee business to improve the quality of their products so that sales performance increases so as to improve the welfare of the farmers. This study which was conducted on coffee farmers in Pasuruan has implemented the PDCA cycle method (Plan, Do, Check, and Action) in which, focus group discussions (FGD) were carried out in the process.

In the Plan stage, an FGD is conducted with coffee farmers to identify the problems, related to business development constraints. The first problem, coffee processing was still not professional and the equipment used was still simple, and the plan of improvement was sought through the improvement of the coffee roasting process by providing an automatic coffee roasting machine. The second problem is product packaging, and the plan was carried out by improving product packaging in the form of packaging seal equipment using press machines to make the packaging process better and maintain the quality of the coffee. At the Do stage, coffee farmers try the tools provided, and the results obtained are good. At the Check stage, the quality of roasted coffee and the packaging are found better than before. At the Action stage, the coffee farmers began marketing again with a new look. The overall result of the PDCA method was the coffee obtained positive responses from customers as indicated by an increase in the number of product demands. There was an increase in sales of 15% from previous month sales.

The implication of this research is it can be used as a recommendation to improve coffee product quality by utilizing better machines and equipment. By improving the product quality it is expected that the sales performance will also increase. This research suggests that the next research is to observe the improvement of product quality and its influence on sales performance in a longer period.

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