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BUSINESS ANALYSIS OF ROBUSTA GROUND COFFEE PROCESSING: STUDY IN "SINTARO" GROUND COFFEE BUSINESS IN KABAWETAN SUB-DISTRICT, KEPAHIANG REGENCY

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ABSTRACT

One of the ground coffee businesses in Kepahiang Regency is "Sintaro" operated from 2008 – Today and produces ground coffee through two material selection systems using all ground and red bean. The purpose of the present study was to estimate and analyze the revenue, value-added and marketing of the ground coffee processing which uses red bead and all grade bean. Value added was analysed using Hayami approach while revenue and marketing were analysed decriptively. Based on the research result, the revenue of ground coffee processing which uses red bean was Rp2,512,351/month or profitability level of 87,1 % while the revenue of ground coffee processing used all grade bean was Rp3,340,409 month profitability level of 226 %. The value-added of processing red bean was Rp 9,676/Kg with value added ratio of 62% in a single production. The value-added of processing all grade bean was Rp2,834/Kg with value added ratio of 46% in a single production. Red bean ground coffee marketing covered Bengkulu, Palembang, and Jakarta, with distribution percentages of 62 %, 26 %, and 12%, respectively. Meanwhile, all grade ground coffee covered Kepahiang Regency, Bengkulu, Lubuk Linggau and Lampung, with distribution percentages of 35 %, 28 %, 24 %, and 12 %, respectively.

INTRODUCTION

Based on the result of physical quality test from the Center of Coffee and Cocoa Research (PUSLITKOKA) of Indonesia, Kepahiang Robusta coffee has grade 1 to 3 of SNI with big to small beans and its final score of flavor profile test is 81.33 – 84.42, which is categorized as excellent. Moreover, Kepahiang Robusta coffee has several flavors, i.e. chocolaty, sweet, caramelly, flowery, fruity (salak), black tea, and woody. The test is performed on red bean coffee instead of all grade coffee. The drying process also meets the required Standard Operating Procedure (SOP), i.e. using *para-para*, Drying house, and some farmers solar dryer. These coffee beans did not dry on the ground, floor, tarp or road. For that reasons, Kepahyang Robusta Coffee has received Geographic Indication Certificate (SIG).

Geographic Indication Certificate (SIG) for Kepahiang Robusta coffee is issued by the Directorate General of Intellectual Property of the Ministry of Law and Human Rights on November 2018 with number: IDG000000072 as a legal recognition that Kepahiang robusta coffee has met the required standards to get the geographic indication certificate. The Geographic Indication produced by Kabawetan Sub-district geographic area is coffee in the forms of dried coffee, roasted coffee, and ground coffee made of healthy and fresh red bean (BMSS).

The area of Kepahiang Regency is 66,500 Ha while the cultivation area is 48,393.69 Ha and dominated by smallholder coffee plantation (24,686 Ha) owned by 69,180 households (BPS Kepahiang in figures 2018). Kepahiang Regency has the largest coffee plantation area in Bengkulu Province. The plantation statistical data of the Department of Agriculture in 2018 showed that robusta coffee production was 19,098 tons/year. Robusta ground beef processing in Kepahiang Regency was 13.705 tons/month (Source: Department of Industry and Manpower of Kepahiang Regency, 2018).

Coffee bean picking patterns in Kepahiang Regency are red bean and all grade bean picking (rainbow picking) of red, yellow, and green beans. Presently, Kepahiang Regency government through related departments launch red bean picking program for coffee harvest. Red bean is assumed to have higher selling price than all grade coffee. Red bean has better quality coffee product and better flavor.

One of the ways to get value added for coffee product is advanced processing. Coffee processing is a promising business opportunity due to the society's love for coffee for its unique flavor and aroma. Robusta red coffee bean processed into ground coffee known as premium ground coffee, which is expected to contribute revenue and value-added to farmers who process ground coffee. The present study also aimed to compared the value added of Robusta red bean and all grade bean coffees managed by farmers in Kabawetan Sub-district.

Huge coffee potential in Kepahiang are considered promising business opportunities.. The ground coffee uses material from local farmers, thus facilitating local economy to develop. The question that must be answered is whether the processing of ground coffee is profitable or not? Therefore, measuring business

performance is very important to do. This is intended to help management to estimate the company's economic performance going forward as well as information whether or not the company needs to make operational changes (Nanni, et al 1992; Simons, 2000). Blokland (2003) explains that there are four categories of analysis that can be used to analyze financial performance, two of which are Profitability and Efficiency. Another measurement is the added value according to Hayami et al. (1987), value added is the added value of a commodity caused by the treatment of the commodity, such as processing, transportation or storage.. To get revenue efficiency, marketing is important. Departing from these arguments, it is significant to study the Business Analysis of "Sintaro" Ground Coffee Processing Business in Kepahiang Regency.

RESEARCH METHODS

Research location and period determination method

The present study was performed on "Sintaro" ground coffee processing business in Bukit Sari Village, Kabawetan Sub-district Kepahiang Regency. The research location was determined purposively. It was by considering that the ground coffee processing company is one of the ground coffee processing company which uses red bean and all grade bean. The research period was August 2019.

Data collection method

The data types were quantitative and qualitative data. Based on the source, they were primary and secondary data. Quantitative data is data in the form of numbers (Sugiyono, 2013). Data secondary data was obtained from the Central Bureau of Statistics of Kepahiang Regency, Department of Agriculture of Kepahiang Regency, Office of Kabawetan Sub-district, and other publications related with red bean coffee processing. Primary data was obtained from respondents by direct observation and direct interview with the producer using a list of questions (Questionaire).

Data Analysis Method

The analysis method in the present study processing and descriptively analyzing data from respondents. In the present study, the business analyses to analyze the revenue of red bean and all grade bean ground coffee processing are:

Business Revenue Analysis

Revenue is calculated by subtracting total production cost from total sales revenue (Prayitno & Arsyad, 1997). Soekartawi (1995) states that revenue report is obtained from multiplying total sold production with the selling price of the product. The revenue of Sintaro ground coffee company was found by calculating total cost,

total income and revenue. The mathematic formulation is formulated by Manalu, A. S, *et al*. (2018).

TC = TFC + TVC

Note : TC = Total Cost; TFC = Total Fixed Cost; TVC = Total Variable Cost)

$$TFC = \sum \left(\frac{HBi}{Uei}\right) + rent + Cost\ with\ fixed\ payment\ in\ a\ single\ production\ process$$

Where : TFC = Total Fixed Cost (Rp/Month); HB = Purchase price of equipment of the business ; Ue = Economic age of every equipment in the business, i = Total types of equipment used for the business

Total variable cost is the total of all costs caused by using production factors after being multiplied by the prices of the production factors. It's mathematically formulated into:

$$TVC = \sum_{n=1}^{\infty} (XiPxi)$$

Where : TVC = Total Variable Cost (Rp/Month); Xi = Production factors used for the business ; Pxi = Price of production factors used for the business

The Joint Cost calculation method is physical unit method. In this method, the joint cost is allocated to product based on physical coefficient of quantity of material in each product. The requirement in this approach is the quantity unit must be the same, e.g. ton, kilogram, meter, etc. (Mulkyadi, 2010).

Revenue of red bean/all grade bean ground coffee company was determined by multiplying the product with the selling price. The calculation method (Warsana, 2007):

$$TR = Q \times P$$

Where: TR (*Total Revenue*) = Revenue of red bean/all grade bean ground coffee company (rupiah)

Q (*Quantity*) = Total product (Kg)

P (*Price*) = Selling price of coffee (rupiah/Kg)

Profit is defined as total revenue subtracted by total cost. In defining profit, all revenues and costs, both tangible and intangible, must be calculated. Producer's profit is total revenues (TR) subtracted by total cost (TC). It could be mathematically formulated into:

$$\pi = TR - TC$$
$$= (P \times Q) - (TFC + TVC)$$

Note: π = Profit; TR (*total revenues*) = Total revenue; TC (*total cost*) = Total industry cost; P (*Price*) = Product selling price; Q (*Quantity*) = Total produced products; TFC (*Total Fixed Cost*) = Total fixed cost ; TVC(*Total Variable Cost)* = Total variable cost

a. Profitability

The method to calculate the profitability of each coffee product was Downey and Erickson's method (1992) which was formulated into:

Profitability used ratio of profit to cost in percentage:

$$\pi = \frac{Pd}{TR} \times 100\%$$

Note : π = Profitability (%); Pd = Profit (Rp/Month); TC = Total Cost (Rp/Month)

Decision criteria (Downey and Erickson, 1992).:

Profitability > 0 means the business is profitable

Profitability ≤ 0 means the business isn't profitable

b. Value Added Analysis

To determine the value added of the ground coffee company, Hayami's method was used. The format of value added analysis (Rp/Kg) was:

Table 1. Hayami's Method of Value Added Calculation

No	Variable (Output Input, Price)	Notation
1	Outcome/production (Kg/process)	A
2	Material (Kg/process)	b
3	Labor (Jko/process)	c
4	Conversion factor (1/2)	a/b=m
5	Labor coefficient (3/2)	c/b=n
6	Average product price (Rp/kg)	d
7	Average wage (Rp/kg)	e
	Revenue and Profit	
8	Price of material (Rp/kg)	f
9	Other inputs (Rp/kg)*	g
10	Product value (Rp/kg) (4x6)	m x d= h
11	a. Value-added (Rp/kg) (10-8-9)	h – f – g = i
	b. Value-added ratio (%) (11a/10)	i/h%= j%
12	a. Labor wage (Rp/jko) (5 x 7)	n x e = k
	b. Labor portion (%) (12a/11a)	k/i% = l %
13	a. Profit (Rp) (11a – 12a)**	i – k =
	b. Profit level (%) (13a/11a)	r/1% = 0 %

Source : Hayami, *et al*, (1987)

According to Hubeis (1997), there are three indicators of value-added ratio:

If NT ratio < 15%, the value-added is low.
If NT ratio 15%-40%, the value-added is moderate.
If NT ratio > 40%, the value-added is high.

c. Analysis of Marketing and Sales Distribution Channels

The marketing channel of "Sintaro" ground coffee could be determined using descriptive analysis by following the low of "Sintaro" ground coffee sales from the producer to the customers. The present study was restricted to customers who performed direct transaction with the producer to see the amount of "Sintaro" ground coffee which was distributed from the producer to the customers.

RESULTS AND DISCUSSION

Revenue

The revenue of "Sintaro" ground coffee processing company was the difference between revenue and cost, so that the role of ground coffee processing on the revenue of "Sintaro" ground coffee company owner could be found. The detailed revenue of "Sintaro" ground coffee processing company is presented in Table 2.

Table 2. The revenue of "Sintaro" all grade and red bean ground coffee processing company on August 2019

Description	Income (Rp/Month)	TotalCost (Rp/Month)	Revenue (Rp/Month)
All Grade Ground Coffee	12,000,000	8,659,591	3,340,409
Red Bean Ground Coffee	5,000,000	2,487,649	2,512,351
Total	17,000,000	11,147,240	5,852,760

Source : Processed Primary Data (2019).

Revenue is the difference between income and cost. Table 8 shows that the revenues of all grade ground coffee and red bean ground coffee are Rp 3,340,409/month and Rp 2,512,351/month, respectively. It showed that the revenue from all grade ground coffee is higher than the revenue from red bean ground coffee. It was because total production and marketed products using all grade ground coffee are higher red bean ground coffee. Although the cost for processing all grade ground coffee was higher than red bean ground coffee, the income was also higher, so the revenue was bigger.

Analysis of Level of Profitability

Profitability describes a business' capability to gain net revenue from expended operational capita or operation/production cost. Business profitability is measured using total revenue and total cost. The detailed level of profitability of "Sintaro" ground coffee processing company is shown in Table 3.

Table 3. Level of Profitability of "Sintaro" Ground Coffee Processing Company o August 2019

No	Description	Total Revenue (Rp/Month)	Total Cost (Rp/Month)	Profitability (%)
1	All grade ground coffee	2,613	6,154	42
2	Red bean ground coffee	9,071	15,625	58

Source : Processed Primary Data (2019).

The level of profitability is shown in Table 3. All grade ground coffee and red bean ground coffee had profitability levels of 42 percent/month and 58 percent/month, respectively. The profitability of "Sintaro" red bean ground coffee was higher than all grade ground coffee. It meant for every Rp. 100 of investment, Rp. 48 of revenue would be obtained for all grade coffee and dan Rp 52 for red bean coffee. The total revenue of all grade ground coffee was bigger than red bean ground coffee, but the profitability of red bean ground coffee was higher. It was because the selling price of red bean ground coffee was twice the selling price of all grade ground coffee. So, both ground coffees produced by "Sintaro" were profitable. The higher the profitability, the better it is for the business because it shows the percentage of revenue produced by the businessperson.

Value-Added Analysis

Value-added is the difference between product value and accumulated input cost (material) and contribution of other inputs (additional material and supporting material). The detailed analysis of the value-added of "Sintaro" "Sintaro" ground coffee processing company is shown in Table 4.

The values of outputs or all grade and red bean ground coffee products were Rp. 6,154 and Rp 15,625 per kg, respectively. Product value is obtained from converting the selling price per kilogram. The value of red bean ground coffee was higher than all grade ground coffee because the selling price of red bean ground coffee was higher than all grade ground coffee.

The value-added of processing 1950 kg all grade dried coffee was Rp 2,834/Kg and the value-added of processing 320 kg red coffee bean into ground coffee was Rp 9,676/Kg. Value-added is the difference between product value and accumulated input cost (material) and contribution of other inputs (additional material and supporting material). The contribution of other inputs was a supporting component

of processing. The value-added ration of all grade ground coffee was 46% and the value-added ratio of red bean ground coffee was 62%. It showed that the processing of all grade coffee bean and red coffee bean had value-added of 46% and 62% of product value, respectively. The value-added was gross value-added for "SINTARO" ground coffee home industry because it wasn't subtracted by labor contribution. Labor wages for all grade ground coffee processing was Rp 10,421,- and red bean ground coffee was Rp 17.021,- in one production month. The wage for all grade ground coffee was Rp 221,- and red bean ground coffee was Rp 605,- from multiplying labor coefficient with labor wage.

Table 4. Analysis of Value-Added of "Sintaro" All Grade Ground Coffee and Red Bean Ground Coffee Processing Company

Variable	All Grade Coffee	Red Bean Coffee
I. Output Input and Price		
Output/total product (Kg/Month)	300	50
Material input (Kg/Month)	1950	320
Labor input (HOK/Month)	41.38	11.38
Conversion Factor (Kg of output/1 Kg of material)	0.153846154	0.16
Labor Coefficient (HOK/Kg of material)	0.021217949	0.04
Output Price (Rp/Kg)	40,000	100,000
Average Wage of Labor (Rp/Kg)	10,421	17,021
II. Revenue and Profit		
Input Price of Material (Rp/Kg)	3,000	4,000
Contribution of Other Inputs (Rp/Kg)	320	1.949
Output Value (Rp/Kg)	6.154	15.625
Value-added (Rp/Kg)	2.834	9.676
Value-added Ratio (%)	46%	62%
Wage of Labor (Rp/Kg)	221	605
Share of Labor (%)	8%	6%
Profit (Rp/Kg)	2,613	9,071
Profit Level (%)	42%	58%
III. Remuneration for production factor		
Margin	3,154	11,625
a. Wage of Labor (%)	7%	5%
b. Contribution of Other Inputs (%)	10%	17%
c. Business Profit (%)	87,1%	226%

Source : Processed Primary Data (2019)

Based on theory, value-added theory which was 15%-40% meant that all grade and red bean ground coffee processing had **high** value-added ratio. In other words,, the effort to optimize or increase the value-added was worthy . The business owner should expand the market to increase production which is in turn it will increase profit.

The percentages of labor remuneration to value-added for all grade ground coffee and red bean ground coffee were 8% and 6%, respectively. The revenues of Pendapatan all grade ground coffee and red bean ground coffee were Rp 221 per kg and Rp 605 per kg or 8 percent and 6 percent of product value, respectively. The revenue was net value-added because it was subtracted by labor remuneration.

The margins of processing all grade coffee bean and red coffee bean into ground coffee were Rp 3,154 and Rp11,625 which were distributed for labor wage (7 % and 5 %) and contribution of other inputs (10% and 17%). The high contribution of other inputs spent by the business owner on red coffee bean processing reduced the revenue percentage because the fixed cost was high and the production was low, and the company revenues were 87,1 % and 226 %.

Marketing Analysis

There are several forms of marketing channels for "Sintaro" ground coffee in and outside of Bengkulu province. The marketing agency involved in marketing the products was small retailers who distributed the products to the end customers, so the marketed products reached the end customers quickly.

4.1 All Grade Ground Coffee Marketing Channel

The marketing channel of all grade ground coffee was presented by Figure 1.

Channel 1

Channel 2

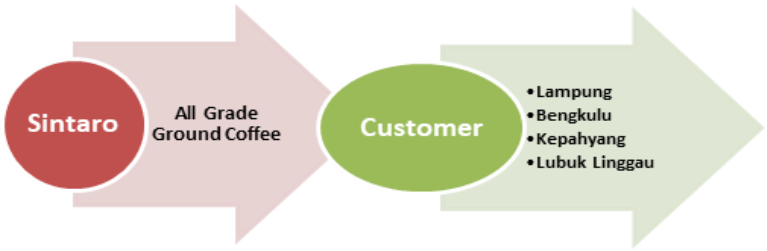

Figure 1
Marketing Channel of All grade ground coffee

4.2 Red Bean Ground Coffee Marketing Channel

The marketing channel of red bean ground coffee was shown by Figure 2.

Channel 1

Channel 2

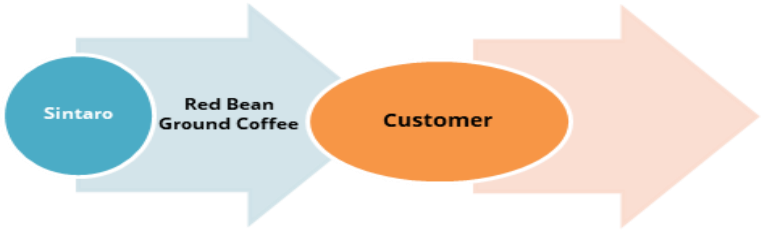

Figure 2
Marketing Channel of All grade ground coffee

There were two types of marketing channels for “Sintaro” red bean ground coffee. Some products were sold by the producer to retailers based on order. They would

be produced after retailer made an order. Other products were directly sold to customers around the production area.

4.3 All Grade Ground Coffee Marketing Distribution

The study on all grade ground coffee distribution started from producer to customer who bought "Sintaro" all grade ground coffee. The distribution chain of "Sintaro" all grade ground coffee from producer to customer is presented in Figure 3.

Figure 6 shows that the biggest marketing distribution was around Kepahiang Regency, i.e. 106 Kg or 35 %. The smallest marketing was in Lampung, i.e. 37 Kg or 18%. "Sintaro" all grade ground coffee distributed in and out of Bengkulu province didn't have any marketing cost because the merchants picked it up at the location or the buyers paid for it to be delivered to them.

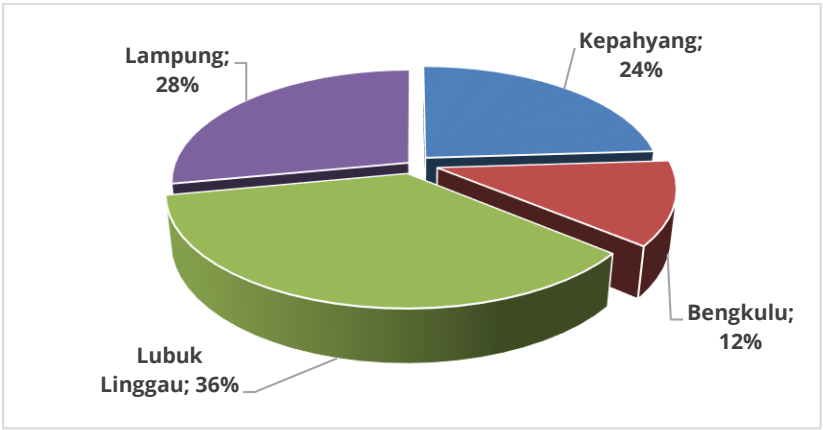

Figure 3.
Distribution Channel of "Sintaro" All Grade Ground Coffee

4.4 Red Bean Ground Coffee Marketing Distribution

The study on red bean ground coffee distribution started from producer to customer who bought "Sintaro" all grade ground coffee. The distribution chain of "Sintaro" red bean ground coffee from producer to customer is presented in Figure 4.

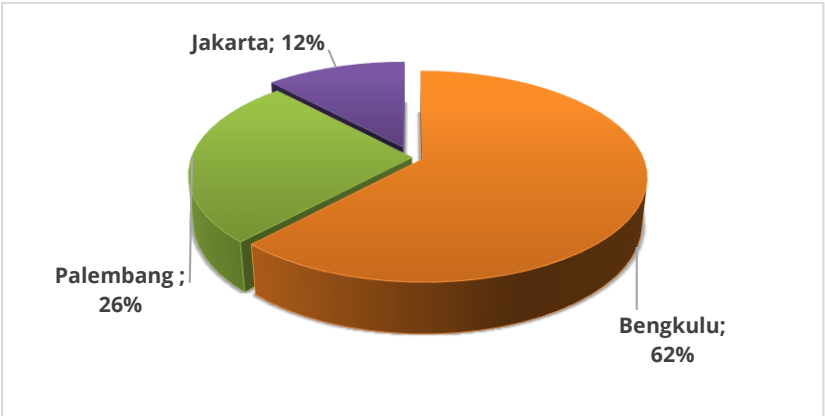

Figure 4.
Distribution Channel of "Sintaro" Red Bean Ground Coffee

Figure 7 shows that the biggest marketing distribution was around Bengkulu City, i.e. 31 Kg or 62 %. The smallest marketing was in Jakarta, i.e. 6 Kg or 12%. "Sintaro" red bean ground coffee was distributed in and out of Bengkulu province didn't have any marketing cost because the merchants picked it up at the location or the buyers paid for it to be delivered to them.

CONCLUSION AND RECOMEDATION

Conclusion

Based on the research result, it's concluded that:

1. The revenue of ground coffee processing which uses red bean is Rp 2,512,351/month or 58 % profitability level, so that every Rp. 100 invested will yield Rp. 58 of profit. The revenue of ground coffee processing which uses all grade bean is Rp 3,340,409/month or 42 % profitability level, so that every Rp. 100 invested will yield Rp. 42 of profit.
2. The value-added of ground coffee processing which uses red bean is Rp 9,676/Kg with value-added ratio of 62% in one production. The value-added of ground coffee processing which uses all grade bean is Rp 2,834/Kg with value-added ratio of 46% in one production. It means the value added of red bean ground coffee (62%) and all grade ground coffee (46%) are high or has reached optimum value added.
3. Red bean ground coffee marketing covers Bengkulu, Palembang, and Jakarta with distribution percentages of 62 %, 26 %, and 12%, respectively. All grade ground coffee marketing covers Kepahiang Regency, Bengkulu, Lubuk Linggau and Lampung with distribution percentages of 35 %, 28 %, 24 %, and 12 %, respectively.

Suggestion

1) Sintaro red bean ground coffee processing has higher profitability and value-added than all grade ground coffee, so the business owner should increase the production volume of red bean ground coffee.
2) The value-added of Sintaro ground coffee company can be increased for red bean and all grade ground coffees by minimizing increased selling price through attractive and innovative packaging.
3) Low ground coffee production which uses red bean is caused by limited red bean ground coffee marketing. This is because of lack of promotion, which is only mouth-to-mouth promotion. The business owner of Sintaro ground coffee company should promote the business through printed media and social media.
4) The local government through related departments should continue providing coaching and helping marketing through promotion activities outside of the region e.g. exhibitions, expos and bazars.

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