

Conference Paper

Competitive Advantages and Strategies of the Brown Sugar Industry in Purbalingga

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Abstract

The objectives of this study were a) to determine the competitive advantage of the brown sugar industry based in the sub-district Mrebet, Purbalingga; b) to identify internal factors of the environment (strengths-weaknesses) and external factors (opportunities–threats) that affect the industry’s empowerment and competitive advantage; and c) to find the best strategy for its empowerment and competitive advantage. This research was conducted in the sub-district of Mrebet, which was chosen using purposive sampling because of its potency of local resources and the presence of the brown sugar industry within it. This was descriptive quantitative and qualitative research. The research sample was determined purposively, and consisted of 20 households who were considered to be representative. The formulation of strategies for empowerment and competitive advantage of the brown sugar industry were analyzed using SWOT analysis. The results showed that the average unit cost of competitiveness measured by the indicator of domestic price was 0.46. This means, to produce 1 kg of brown sugar, the farmer spends 46% of its selling price. The strategy to be applied for the brown sugar industry in the sub-district is the Aggressive Strategy.

Keywords: advantage, brown sugar, competitive, strategy

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1. Introduction

Purbalingga is recognized as producer of brown sugar made of coconut sap. This regency is the second biggest producer after Banyumas, totaling 52,648.92 tons, while the latter reaches 53,130.80 tons. The brown sugar from Purbalingga is not only marketed for the local or domestic consumption but also widely distributed to other provinces and outer islands, and even is exported to other countries, like Japan. In general, each home industry there can produce around 5 kg daily.

One of the brown sugar centers in the regency is Mrebet Subdistrict. From the initial survey, most of the population (> 75%) there works in brown sugar industry. This is a

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leading commodity based on local resources with coconut plantation areas spreading across the district. Its plantation area is 13,367.76 hectares with a production of 51,663.39 tons [1]. Among the villages in the region, Tangkisan and Bojong villages are known as the biggest producers of the brown sugar. The production from Bojong has been regularly exported to various countries. Based on data from the Department of Industry and Trade of Purbalingga Regency [2], these two villages have 3,831 coconut trees belonging to 335 households with an average production of 115,050 kg. The existence of Joint Business Group so called Kelompok Usaha Bersama (KUB), which has been there since 2001 in Bojong, has made them to get its marketing channel to CV Pondok Daya and CV Hardin with total order of 700 kg per day, which is then exported to Asia, Europe, America and Australia.

Nowadays, the sugar industry has become a generator for family income of the households. A research [3] shows that each production contributes an average of 11 kg with selling price around IDR.14,000 to IDR.15,000. This gives an average income of IDR.156,200 per production. In a month, they have around 26 productions. The households have internal and external obstacles in the brown sugar production. Most of them do not have a good bargaining position in determining the selling price [4]. This is related to several economic and non-economic problems. The price is decided entirely by the wholesalers, 20 respondents (100%) stated that the price of coconut sugar depends on the wholesalers who are from outside of the village [5].

The brown sugar home industry in these two villages need a comprehensive policy from raw material supply to marketing as well as human resource support, technology, infrastructure, and partnership relations to large or medium scale industries. Therefore, this research is important to be carried out to a.) Determine the competitive advantage of brown sugar industry based on local resources in Mrebet, Purbalingga; b.) Identify the environmental factors both internal (strengths-weaknesses) and external (opportunities-threats) that affect the empowerment and competitive advantage of brown sugar industry based on local resources in Mrebet, Purbalingga; and c.) Discover the priority for strategic empowerment and competitive advantage of local resource-based brown sugar small industry in Mrebet, Purbalingga.

2. Research Method

The research was located in Tangkisan and Bojongsari Village, Mrebet, Purbalingga. This study was descriptive quantitative and qualitative research and it was conducted from September 2019 to April 2020. The population in this study included all households

running a brown sugar processing industry with local resource based, i.e. coconut trees sap, and it becomes their main income source to fulfill their daily needs. Tangkisan and Bojong Villages are parts of Mrebet Subdistrict; they are well-known for their brown sugar products, with total 3,831 productive coconut trees managed by 335 households with average production reaching 115,050 kg. The number of samples was determined by purposive sampling and gave 20 households who are considered to be representative, with two general criteria of being in this industry for more than 3 years and of having this economic activity as their main daily livelihood for generations.

The collected data were then analyzed using qualitative descriptive analysis techniques, using an Interactive Model of Analysis [6]. The approach taken in the Focus Group Discussion (FGD) research involves all relevant parties in actively researching the current actions (which they experience as problematic) in order to change and improve them [7]. The formulation of empowerment strategies and competitive advantages of the brown sugar home industry were analyzed using SWOT analysis (Strengths, Weaknesses, Opportunities, Threat) [8].

3. Result and Discussion

3.1. Competitive Advantage of Brown Sugar Home Industry

The competitiveness of brown sugar in this case is analyzed using the economic unit cost approach, which is an indicator to measure the competitiveness of product and defined as ratio between total production costs and the output value. The competitive advantage shows the efficient use of domestic production factors in providing added value to products in the domestic market as measured by the value of PCR (Private Resources Cost Ratio). It indicates an efficient use of domestic production factors in providing added value to products in the domestic market as measured by the value of the PCR (Private Resources Cost Ratio)[9].

PCR analysis is a financial analysis calculated based on private prices; this is the real prices received by the farmers. It is affected by government policies in the form of subsidies, protection, imposition / exemption of import duties, taxes and other policies. The calculation of competitive advantage analysis is presented in Table 1.

Table 1 shows the average unit cost value on competitiveness measured by the Domestic price indicator in Mrebet District is 0.46 which means smaller than 1. This means, to produce 1 kg of sugar, the farmer should spend 46% of the selling price.

TABLE 1: Analysis of the average production, price, revenue, total cost and competitiveness

No	Details	Each Production
1	Production (Kg)	5.32
2	Price	19,420.00
3	Revenue	103,314.40
4	Variable Cost:	
	a. Labor / Man Power	53,500.00
	a. Wood Husk	3,585.00
	b. Plastic Bag 5 Kg	2,019.23
	c. Mangoesteen Skin	471.15
	d. Lime Betel	201.92
	Total of Variabel Cost	59,777.30
5	Fixed Cost:	
	a. Rent the tree	3,923.07
	b. Equipment depreciation:	
	- The furnace	198.15
	- Wooden spatula	596.46
	- Pan	746.07
	- Tub	843.80
	- Bucket	870.14
	- Handsome	860.54
	- Coconut shell	660.86
	- Sieve	379.20
	Total Fixed Cost	7,178.29
6	Total Cost	66,955.59
7	Profit	36,358.81
8	Competitiveness	0.46

3.2. Identification of Environmental Factors both Internal and External

3.2.1. Internal environmental analysis

Before the SWOT analysis was carried out, the data from the interviews were first explored by analyzing internal factors and external factors that affect the brown sugar industry in the area. From the data analysis of the brown sugar farmers, there are seven aspects identified as internal factors influencing the home industries in the area, they are: human resources, natural resources, capital, productivity, marketing, stakeholders and business management.

3.2.2. External environmental analysis

It was identified three aspects as external factors for the brown sugar industry in Mrebet, Purbalingga. They include natural resources, marketing and stakeholder. The results of

TABLE 2: Analysis internal factors

No	Internal factors	Integrity	Rate	Integrity x rating
STRENGTH				
1	The availability of skilled Human Resource to produce brown sugar	0.1003	3.450	0.3460
	The farmers' experience	0.1062	3.550	0.7445
	The high enthusiasm of farmers in producing brown sugar for more profitable	0.1510	3.050	0.0334
2	Brown sugar production tends to increase production from time to time	0.0575	3.350	0.3266
3	Brown sugar production runs continuously so that it generates profits	0.0974	3.250	0.3487
4	The farmers have a partnership relationship with the sugar collectors	0.0959	3.200	0.3403
WEAKNESS				
1	Formally, the human resources of the sugar farmers are still low	0.0683	2.350	0.1605
2.	The limited ownership of coconut tree	0.0660	2.200	0.1416
3.	The technology for processing farmers's brown sugar products is still simple	0.0654	2.250	0.1564
4	The activity of managing the sugar farmers's business is not optimal	0.0683	1.750	0.1006
5	The low bargaining power between ant farmers and collectors in determining price	0.0660	2.268	0.1598
6.	There is price competition among the brown sugar farmers from outside the village area	0.0654	1.950	0.1196
7.	Farmers has not optimally used various promotional media such as websites or the internet	0.0625	1.750	0.0918
TOTAL SCORE		1.0000		3.0698

the subsequent analysis are then used as a reference to determine some strategies used to solve the problems faced by the farmers.

Based on the result of analysis with IFAS (*Internal Factors Analysis Summary*), it shows score of 3.0698 and EFAS (*External Factors Analysis Summary*), it shows score of 3.7198. The result of internal factors (Table 2) and external factors (Table 3) are used to determine the strategies for empowerment and competitive advantage to solve the

TABLE 3: Analysis of external factors

No	External Factors	Integrity	Rating	Integrity x Rating
OPPORTUNITIES				
1.	The availability of sap raw materials for processing sugar ant products	0.1325	3.200	0.4240
2.	The existence of business opportunities with the continuous demand for sugar ant products in the domestic and international markets	0.1571	3.660	0.6415
3.	The existence of the growth product market of sugar ant on social media/on line	0.1328	3.050	0.4050
4.	Support from local government and related agencies on sugar ant product around farmers	0.1298	3.000	0.4419
THREATS				
1	The barriers of weather affect the quality of raw material for sugar ant production	0.1213	2.800	0.3932
2	The existence of product from sugar ant processing on the market from other regions	0.0821	2.225	0.2049
3	Competitors location (other farmers) who sell the products in farmers' area	0.0819	2.150	0.1997
4	The collectors as the price decision for sugar ant product	0.0823	2.700	0.2222
5	Guidance from the local government and related agencies is incidental	0.0815	2.922	0.8874
TOTAL SCORE		1.0000		3.7198

problems. Starting with the creation of *Matrix Space Analysis*, it was then used as the basis for compiling the SWOT Matrix as shown on the Table 4.

$$S + T = 3,308 + (-3,227) = 0,081$$

$$W + O = -2,546 + 2,559 = 0,013$$

Although the farmers are lack of formal education, they increase their experience and enthusiasm through non-formal education (through training) and supported by the potential of local natural resources as strength in realizing processed sugar products. Increasing the role of the organization / group of brown sugar farmers is important, so that they can carry out their management functions better, accompanied by continuous guidance from the local government, related agencies and NGO. Hence, improving the quality of human resources is also vital to improve production management optimally and continuously to meet the demands of the domestic and foreign markets. In addition,

TABLE 4: Matrik Space Analysis

Position of Internal Strategy Factors	Rating	Position of External Strategy Factors	Rating
TRENGTHS (S)		THREATS (T)	
The availability of experts' human resources to produce this sugar.	3.450	The availability of sap raw material for processing brown sugar product.	-3.200
The farmers' experience in this industry.	3.550	The availability of business opportunities because of continuous demand for this product both domestic and international markets.	-3.660
The farmers' enthusiasm in producing brown sugar to get the more advantages.	3.050	The development of brown sugar market through social media / on line.	-3.050
The potential of increasing brown sugar production by the time	3.350	The support from local government and related agencies, on brown sugar products in farmers communities	-3.000
The advantages from brown sugar production if it runs continuously	3.250		
The farmers have a partnership relationship with the sugar collectors	3.200		
19.85	-12.91		

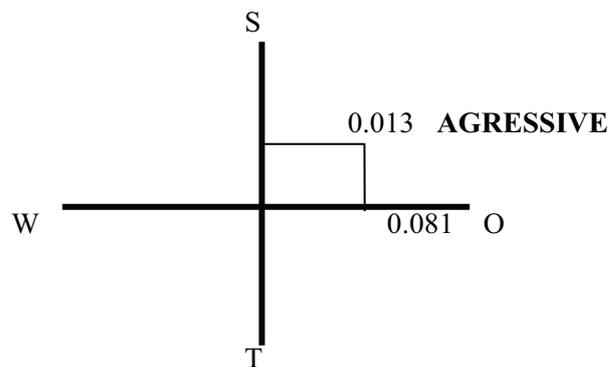


Figure 1: The position of brown sugar home industry in sub-district Mrebet, Purbalingga

the sugar farmers are expected to increase their knowledge and skills related to product marketing online or through social media.

4. Conclusion

The experience and enthusiasm of the farmers as well as the support for the potential of local resources are the strength in realizing the production of brown sugar to run sustainably. The potential for brown sugar production has increased especially since there is a partnership relationship between farmers and the Sari Bumi Joint Business Group (KUB) in marketing their products. Their business opportunities should be easily wide open with continuous and sustainable guidance from the local government and

TABLE 5

Position of Internal Strategy Factors	Rating	Position of External Strategy Factors	Rating
WEAKNESSES (W)		OPPORTUNITIES (O)	
The human resources of the brown sugar farmers are still low.	-2.350	Weather barriers affect the quality of sap raw material in brown sugar production.	2.800
The limited ownership of coconut tree of craftsmen.	-2.200	The availability of this processing sugar product in others region.	2.225
The simple technology in producing sugar product.	-2.250	Competitors location (other farmers) who sell the products in farmers' area.	2.150
The un optimal managing farmers' activity in producing brown sugar.	-1.750	The collectors as the price decision for sugar ant product.	2.700
The low bargaining position between sugar farmers and collectors in determining price.	-2.268	Incidental coaching from the local government and related agencies.	2.922
The price competition among the outside farmers.	-1.950		
The less capable of farmers to use all promotional media, such as websites or internet.	-1.750		
	-14,518		12,795
S: 19,850 /6 = 3,308		T: -12,910 /4 = - 3,227	
W: -14,518 /7 = -2,546		O: 12,795 /5 = 2,559	

TABLE 6: SWOT matrix for small industry respondents of brown sugar farmers

STRATEGY SO	STRATEGY WO
The availability of farmers human resource that are skilled, passionate and experienced from generation to generation and supported by the availability of sap raw materials	In order for farmers can utilize of various promotional media, it needs to held training conducted through social media / on line
The production acivity of brown sugar continuously run in line with the growth of brown sugar market by means of social media or online.	The management of the sugar craftsman business activities is not optimal, so it needs training from the local government / related agencies
STRATEGY ST	STRATEGY WT
The production activity of brown sugar continuously run in line with the growth, although weather barriers can be a threat The farmers have a partnership relationship between sugar collectors and KUB Sari Bumi	The human resources of brown sugar farmers are considerably low, because of farmers ownership of coconut trees tends to be low
The farmers have a partnership relationship between sugar collectors and KUB Sari Bumi	There is price competition among the sugar farmers from outside the village

related agencies. It is hoped that the formulation of this empowerment strategy and competitive advantage can provide an overview of the empowerment model for the

home industry of brown sugar farmers. Thus, their business opportunities can be optimized, and provide more adequate income for the farmers' family.

The home industry of the brown sugar made from local resources in Mrebet District, Purbalingga has a varied market share. The market includes local, regional, national and even international (exports). Therefore, it is recommended that the brown sugar farmers always improve the quality and quantity of their products. It is also suggested to the farmers to learn more about the development of online-based marketing, by participating in various trainings offered by the relevant agencies.

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