



Analysis of Agribusiness Development of Brown Sugar in Supporting Food Diversification in Mapilli Sub-District Lampa Village Polewali Mandar District

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Abstract: *Brown sugar product is a food material used as sweetener made from sap water originated from sap plant. Sap plant is a kind of palm which can be grown in tropical area. This research aims to analyze the internal factor (strength and weakness) and the external factor (opportunity and threat) owned by the industry, to know the alternative strategy which can be used by industry in product business development in the future. The method used in this research is a case study, the case chosen is the industrial business of Brown sugar which is in Lampa village Mapilli Sub-District Polewali Mandar District, in the process of data collection conducted by observation, interview and filling the questionnaire, meanwhile the data analysis used IFE/EFE, SWOT analysis and Cartesian analysis of SWOT. The data obtained, based on the analysis result that has been conducted is industrial business of Brown sugar has very good prospect to be developed, this business is able to rely on the strength and opportunity to solve the threat and weakness owned by the industry. Based on the IFE analysis, the main strength of this product is it doesn't contain preservative with the value score is 3.84, while the main weakness is the processing is quite complicated with the score is 1.35. EFE analysis shows that the main opportunity of Brown sugar business is as the alternative in minimizing the blood sugar with the score is 2.53, while the main threat is the industry is lack for establishing cooperation with several industries, the score obtained based on the questionnaire is 1.90. meanwhile, based on the analysis used by cartesian SWOT diagram, shows that this business is on aggressive position which includes in secure position and really profitable. The things that should be done is increasing the production and strengthen the product promotion.*

Keywords: *Brown sugar, SWOT Analysis, IFE/EFE*

1. INTRODUCTION

Brown sugar is one of the products made from agricultural commodity, namely palm plant or commonly called enau or nipah (*nypa frutican*) which is a type of palm that grows in mangrove forest or tidal area near the seafloor. Nipah plant has an important role in the ecological life of river where the chain of river ecosystem can be maintained and protected (Heriyanto, 2011). This plant grows well in tropical area such as in Indonesia. Brown sugar has a high economic value, and currently has a very good opportunity to be developed, regarding the export and domestic need of this product are still not optimally met. The largest need for Brown sugar is from the food and drug industry, and before the fasting month of Ramadan the demand for this product is also increasing, while export demand is currently dominated from Germany, Switzerland and Japan (Atmoko, A.D. 2017).

Small business of the Brown sugar producer is a community livelihood in Mapilli Sub-District, in a day the local community can produce Brown sugar which is 15 liter per day. The Brown sugar processing is still made in traditional way. The potency enhancement of the agribusiness of agricultural commodities product depends on the community's wish to develop the commodity to increase their income. Currently the community's role in the world market competition is still less, therefore the community's effort and the will from the individual is really needed in agribusiness development, therefore it can be effective and efficient if it is supported with the other subsystem development, such as processing and marketing.

The competitiveness of small businesses of Brown sugar producer in Mapilli Sub-District is still relatively weak and it is estimated still difficult to develop, this is due to several factors, such as low productivity, market competition with white cane sugar, and other Brown sugar products outside the Sulawesi Island, this case is also influenced by the power of technology which is still lack and the

market that has not been formed. The placement of location from small businesses is very influential on the development or sustainability of the industrial activity process, in the effort to minimize production cost and increase the profits, the business actors are expected to be able to choose the right location (Prasetyo & Bambang, 2010)

Small industry which is in rural area is an additional income of farming family and as well as supporting agricultural activity, which is the main livelihood for most people living in rural area, small rural industry has important meaning in the case of minimizing the poverty level in the rural area, and this small business is expected to be able to improve the welfare of people's lives, therefore the effort is needed to improve rural small business and one of the efforts is the industry of Brown sugar processing. The first stage is analyzing environmental problem around the industry, so that it provides information related to the right strategy to improve product competitiveness in local, domestic, and international market.

The brown sugar product is currently not so well known by the public and the sale is still relatively low, therefore in this research the author try to analyze the factors both coming from the internal and external product, to clearly know about the things that affect the slowness of this product develops in terms of sales, and also to know what strategy can be done by the industry to be able to increase the sale and how far the competitiveness from the brown sugar compared with other sweetened products.

2. METHOD

This research was conducted on March to August 2021. Taken place in Mapilli village, Mapilli Sub-District Polewali Mandar District and natural science laboratory of Agricultural Science Faculty of Al Asyariat Mandar University. The material used in this research is questionnaire, note book and people around the environmental business as the sample in this research, meanwhile the tools used is stationery, camera and voice recorder.

The method used in this research is case study methos, by taking the case in brown sugar business industry which is found in Mapili Sub-District, the data retrieval is done by survey approach in the form of field observation. The analysis in this research used literature study technique, direct observation, interview and filling questionnaire. the case study method is used due to it is able to give clear information toward the object researched, and this is in line with Nazir's (2011) statement that case study method in research tends to be really deep in the object research's characteristic.

The data analysis is conducted by descriptive way, IFE and EFE, SWOT analysis (Strength, Weakness, Opportunity, dan Treatment), this analysis is used to find out the agricultural position of brown sugar product. Internal and external factor influence the development strategy of brown sugar product business and measure how far the competitiveness of this product with the other sugar product is.

- Table IFE (Internal Factor Evaluation)

This analysis aims to formulate the internal factor which is strategic based on the strength and the weakness of brown sugar product business in Mapilli sub-district.

- Table EFE (Eksternal Factor Evaluation)

This analysis aims to formulate the internal factor which is strategic based on the opportunity and the threat of brown sugar product business in Mapilli sub-district.

3. SWOT ANALYSIS.

The process of taking decision of strategy always relate to the mission, goal, strategy and company policy development. Therefore, the strategic planning should analyze the factors of company's strategy (strength, weakness, opportunity and threat) in current condition. This case can be called as situation analysis. The most popular to analyze this kind of situation is SWOT analysis (Irmawati et al, 2015)

One of the methods in formulating a marketing strategy is SWOT analysis. This analysis is an evaluation toward the strength, weakness, opportunity and threat. Clearly, SWOT analysis is an analysis of internal and external condition of an organization which will be used as a basic to design the strategy. Internal analysis includes the assessment toward the strength and weakness factor.

Meanwhile the external analysis includes the opportunity and threat factor. SWOT analysis can be developed to be four strategies, such as S-O strategy, W-O strategy, S-T strategy and W-T strategy (Eka, 2016).

Internal	Strengths	Weakness
External	SO Strategy	WO Strategy
Opportunities	SO Strategy	WO Strategy
Threats	ST Strategy	WT Strategy

The determination of strategy with the equation, as follow:

$$\left(\frac{S - W}{2}\right); \left(\frac{O - T}{2}\right) \dots \dots \dots (1)$$

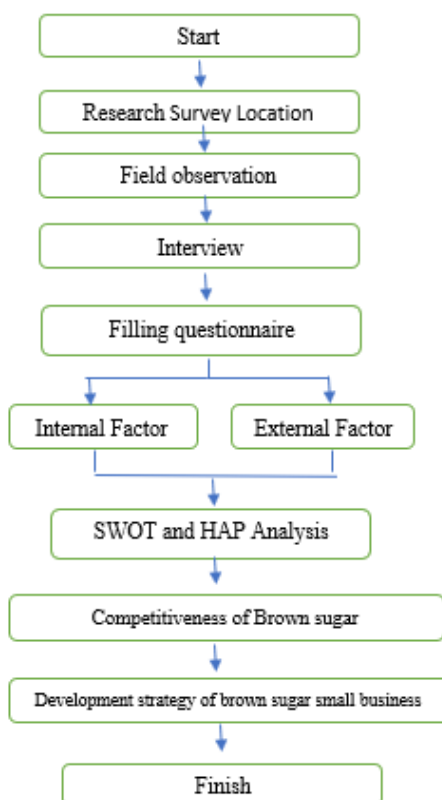


Figure1. SWOT analysis flow

4. RESULT

Identification Internal Factor

Table1. Internal Factor Evaluation of Brown Sugar

No	Variable	Rating	Weight	Score
STRENGTH				
1	Brown sugar doesn't contain preservatives	4	0,98	3,84
2	The product is not easily broken/ long shelf life	3	0,835	2,79
3	Brown sugar has special characteristic which is different with other products	3	0,77	2,37
4	The availability of brown sugar raw material is abundant	3	0,67	1,80
5	As the replacement alternative of cane sugar	3	0,82	2,69
6	Supporting the body health	3	0,81	2,62

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	SUB TOTAL			16,11
	WEAKNESSES			
1	The price is relatively more expensive	2	0,51	1,04
2	The processing is more complicated	2	0,58	1,35
3	The product produced has been not stable yet in the term of quantity	2	0,555	1,23
	SUB TOTAL			3,62
TOTAL		19,73		

The value obtained in matrix IFE of brown sugar product is presented on table 1, the total value of matrix IFE is 19.73, the value position is the average value weighted which shows that the internal position of brown sugar agribusiness is quite good in utilizing the strength in the term of solving the weakness, this case is in line with the statement of (Afni, 2017), the total value of matrix IFE is bigger than 2.5, so the value is secure which shows that the industrial position is quite good.

Based on the data analysis that has been conducted, the main strength of this industry is brown sugar doesn't contain preservatives with the highest value is 3.84 on the strength analysis, while the main weakness is the processing is complicated with the highest value on the weakness matrix is 1.35.

Identification External Factor

Table2. External Factor Evaluation of the Brown Sugar

No	Variable	Rating	Weight	Score
Opportunity				
1	Technology and Science Development which support the product agribusiness	3,16	0,79	2,50
2	The increasing of organic sugar demand	3,14	0,79	2,46
3	As the solution to minimize high blood sugar	3,18	0,80	2,53
4	The availability of institution that has a role to develop the brown sugar	3,06	0,77	2,34
5	Adequate Human Resource in the term of quantity	2,56	0,64	1,64
	SUB TOTAL			11,47
THREAT				
1	There is rival product from brown and cane sugar from the outside Province	2,26	0,57	1,28
2	The farmer is careless in palm sugar processing	2,18	0,55	1,19
3	The processing is still conventional	2,58	0,65	1,66
4	The lack of Human Resource in the term of quality of knowledge	2,1	0,53	1,10
5	The lack of cooperation from café company or processed food stall	2,76	0,69	1,90
	SUB TOTAL			7,14
TOTAL		18,60		

The value obtained in matrix EFE of brown sugar product is presented on table 2, the total value of matrix IFE is 18.60, the value shows that the brown sugar industrial business is on secure position, it is able to solve the threat by utilizing existing opportunity. (Yani, 2018) the value is bigger than 2.8 in SWOT matrix. So, it can be concluded that the business has the ability in utilizing the strength in solving the weakness.

The main opportunity of brown sugar product industry based on the data analysis that has been conducted is become the alternative in minimalizing the blood sugar, with the value of EFE matrix is 2.53, meanwhile for the main threat is the lack of cooperation of the industry with the company which

engaged in food processing, café, with the value is 1.90, followed with the next threat which is the product processing which still used conventional way with the value is 1.66.

Based on the identification of internal and external factors that have been conducted, shows the marketing constraints faced by brown sugar products is the lack of access to market information, especially at market prices, besides that, the wider community is still less familiar with this product, some people assume that this product is only an industrial need, not on individual consumption, while if it is analysed deeper this product has a great opportunity as a creator of sweetness for processed Food or drink.

5. ALTERNATIVE STRATEGY BASED ON IFE/EFE ANALYSIS

The data that has been obtained from the result of the research is then analyzed to determine the alternatives strategy determined by using SWOT intrigues, with this SWOT matrix combining the strengths and weaknesses of the product, as well as the opportunities and threats faced by the industry during this business runs, SWOT analysis is used since this analysis is able to describe the strategies based on internal and external data, this case is line with the statement of Rangkuti (2009), Matric SWOT is able to clearly explain how the opportunities and threats faced by the industry can be adjusted to the strengths and weaknesses owned by the product.

Table3. *Alternative Strategy of SWOT Matrix*

Strategy SO	Strategy WO
Improvement of product processing/manufacturing facilities and infrastructure	Increasing the capacity of Human Resource in managing industry, both processing and managerial capability
Strategi ST	Strategi WT
Diversification of product to be more desirable to consumers Collaborate with social forestry to industrialize palm plants	Expanding cooperation with several industries and cafes or restaurants

Based on observation conducted in brown sugar industry, the equipment used is still quite simple, so it is not effective on time and energy, the manufacture of products is done in conventional or traditional ways, so that the number of products produced per day is only 20- 30 packs, so based on this problem SO strategy that need to be done by this industry is improvement in facility and infrastructure from the industry, Because without good facility and infrastructure, it can also cause the quality of products does not meet the export standard. According to Evalia, (2015) The strategy of improving facility and infrastructure is a strategy that is really important for the continuity and standardization to get good quality product, with simple facility will be an obstacle in the process of making product, and specially, it will affect the quality of products that cannot compete with other competitors' products.

WO strategy in the brown sugar industry is to increase the capacity of Human Resource knowledge both in processing and managerial, because with limited capability can also affect the running of industrial business, this ability is crucial for members or business owners, in order to be able to support the development of the industry in the future, according to Irmawati, et al (2015) improving the quality of human resources is needed for business owner and their workforce related to financial management as well as product manufacture training, so that in the future can run the brown sugar industry properly and correctly.

ST strategy that needs to be done by the industry is the need for product diversity, for instance by making new variants with added flavors, to make the product is more attractive and desirable by consumers. This strategy needs to be done, considering the additional value that will be obtained from products manufacture will be higher, diversifying in this case is to achieve consumer targets, including restaurants, hotels, café, and other food industries. In addition, this process can also be done by diversification of packaging that can support the increasing of selling products (Evalia, 2015).

WT strategy that needs to be done by the brown sugar industry is expanding the good cooperation with the food industry, coffee shops or with restaurants and hospitality, in supporting the increasing

demand of brown sugar products, cooperation is quite needed, due to with the extent of this cooperation, product enthusiast company will also increase and it effect the increasing of sales. The right strategy is carried out in the brown sugar industry which is currently still unknown by the public and still relatively low in terms of sales, namely establishing cooperation with business partners (Ima et al. 2018).

- Strength
- Weakness
- Opportunity
- Threat

External Factor (O – T)

Internal Factor (W –T)

Table3. Diagram of SWOT Analysis

Description	IFAS		EFAS	
	Strenght	Weakness	Opportunity	Threat
Marketing Strategy	16,11	3,62	11,47	7,14
Quadrant	$16,11 - 3,62 = 12,49 / 2 = 6,25$		$11,47 - 7,14 = 4,33 / 2 = 2,16$	

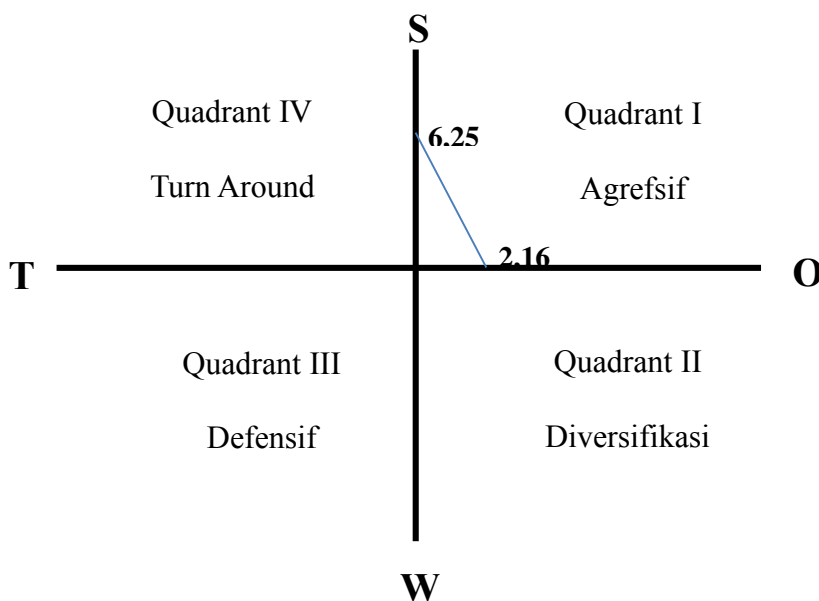


Figure2. Diagram of SWOT Analysis

Based on the SWOT diagram, the data shows that the position of the brown sugar product strategy is in quadrant I, which is an aggressive strategy, this aggressive strategy shows that the product has internal strength that is utilized to take opportunity that is able to support the increasing of product sales. In the SWOT Analysis diagram, quadrant I position is a safe position, since this position includes in a very profitable situation, the product has many opportunities and strengths, therefore it can take advantage of the opportunities owned (Albertus, 2020).

Quadrant I position is an aggressive strategy, on this position, the brown sugar industry has the opportunity and strength to support the development of the brown sugar product industry business, the things need to be done, is still making strengthen the sale and promotion of wider market products. This case is in line with Dwi (2014) that argues that in quadrant I situation, the industry is in a very

profitable position, which means that the company has opportunities and strengths, and the strategy that needs to be taken in this condition is to support aggressive growth policy or growth oriented strategy by utilizing opportunities and strengths which owned.

6. CONCLUSION

Based on the research that has been conducted, it can be concluded that the brown sugar industry business has excellent prospects to be developed, although it has weaknesses and threats, but this business still has considerable opportunities and strengths that can be used as a tool to cover all these weaknesses and threats, alternative strategy that can be done by this industry is the improvement in terms of facilities and infrastructure to support the effectiveness of the company, product development, increasing knowledge of workers and business owners, diversifying products so that there are various flavor variants of the product and also need a broad cooperation with various other industries to support the increasing in sales. In addition, the industrial marketing strategy based on cartesius diagram of SWOT analysis obtained, is in an aggressive position which means it is on the most profitable position, so that the brown sugar products have great potential to be developed.

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