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# Business Development Strategy of Lumindai Palm Sugar Home Industry with BMC and SWOT Approach

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## ABSTRACT

This study aims to analyze and develop a business strategy of the lumindai palm sugar industry in Sawahlunto City, Indonesia by combining BMC and SWOT approaches. To identify the industry, a BMC mapping is initially performed. The results from the BMC serve as inputs for categorizing business development elements. These elements are then divided into four SWOT categories: Strengths, Weaknesses, Opportunities, and Threats. Each factor within these categories is evaluated and assigned a value, followed by an analysis using IFE and EFE. The IFE analysis yields a score of 3.045, indicating strong internal capital for industry development. Conversely, the EFE score of 2.636 suggests that the industry's external conditions are moderate. The IFE and EFE results then serve as a basis for formulating relevant strategies using the IE matrix. According to the IE matrix, the industry falls into cell IV, placing it in the Grow and Build position. This position is used to develop detailed strategic specifications in the SWOT matrix, which provides actionable insights for industry growth.

## 1. INTRODUCTION

### 1.1 Research Background

Sawahlunto City has palm as a commodity with data collection starting in 2019 with a land area of 8.72 hectares, in 2020 a land area of 8.72 hectares with a production of 0.34 tons, in 2021 a land area of 8.39 hectares with a production of 0.66 tonnes. tons, in 2022 the land area will be 8.51 hectares with a production of 1 ton and in 2023 the land area will be 7.89 hectares with a production of 1.01 tons. [1] (Dinas Ketahanan Pangan Pertanian dan Perikanan, 2024). The development of palm oil (aren) commodity production has increased quite significantly despite the limited land available. The sugar palm plantation area is 7.89 hectares, consisting of 7.59 hectares of productive crops and 0.30 hectares of non-productive crops because the plants are old. The plpalms which produce approximately 7.59 hectares have not all been processed by the community so the sugar palm production produced is still far from what it should be. This potential is being developed by the community, especially home industries, into processed brown sugar.

Home industry plays a very important role in the economic movement of the people of Sawahlunto City. Based on data from the Central Statistics Agency (BPS) of Sawahlunto City, the number of home industries engaged in the food processing industry for 2023 is 536 home industries spread across 4 (four) sub-districts in Sawahlunto City. Most home industries are not able to manage their businesses well so they cannot survive and develop in the long term. The basic problems of this home industry are business capital, business management and not being able to compete with other products. Based on this, an appropriate strategy is needed for the development of home industry businesses in Sawahlunto City.

Lumindai Palm Oil Sugar is a home industry located in Sawahlunto City which was established in 2021. The home industry produces an average of 80 to 100 kg of palm sugar in one month, which depends on consumer demand. The raw material is from palm tree sap that grows around the palm sugar production site. This palm sugar is without coloring, preservatives, and artificial sweeteners.

The palm sugar product produced by this home industry has been running for 2 (two) years but does not yet have a permanent market because it is still in the product introduction stage. Palm



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sugar production is still based on consumer demand or is not continuous, so it is very difficult to develop marketing. The Lumindai Palm Sugar Semut home industry produces two (2) times a week, but there is no target for customer segments in its production. The problem with palm sugar marketing is not fulfilling the value proposition of palm sugar itself and there is no clear financial management of this business. Based on these constraints, a development strategy is needed so that it can compete optimally and continue to maintain and increase its existence in the market.

Business development strategy efforts can be carried out by analyzing existing business potential and problems. The application of the BMC (Business Model Canvas) and SWOT (Strength, Weakness, Opportunity, Threat) methods are two approaches that are often used to evaluate businesses and create business development strategies. In this research, a canvas business model will be prepared for the Lumindai Palm Sugar home industry business which focuses on business strategies that have a big impact on the growth of the Lumindai Palm Sugar industry business. These visual characteristics of industrial businesses can help to better understand industrial businesses by looking at the overall business situation.

The Business Model Canvas can provide alternative new business model designs to face competitors and maximize revenue. To follow up on the business mapping of the palm sugar industry, a SWOT analysis was carried out to evaluate the company's external and internal environment and maximize strengths and opportunities to minimize the weaknesses and threats that exist in the business. SWOT analysis is a support for the business model canvas in evaluating the company's business model.

## 1.2 Literature Review

Palm sugar, which is obtained from palm tree sap, is known for its unique taste and health benefits. According to Kurniawan et al.. (2020) [2] palm sugar has a higher mineral content compared to ordinary granulated sugar, including potassium, magnesium, and iron, which are beneficial for health. The production process involves heating the sap at around 70-80 degrees Celsius, which is useful for maintaining its nutritional content and providing a distinctive sweet taste without a bitter taste. Huzaifah et al.. (2017) emphasized the importance of understanding the characteristics of palm sugar fiber, which influence the quality and final texture of palm sugar. The fiber contained in palm sugar not only adds natural texture but also contributes to the health profile of palm sugar.

The palm sugar production process traditionally involves several steps, starting from extracting sap from the tree to the heating process to produce quality sugar. Simamora et al.. (2021) explained that the balance of palm sugar production is very dependent on the availability of palm trees and understanding of traditional processes that influence sugar quality. This research emphasizes the importance of local knowledge in maintaining the sustainability of natural resources used in the production of palm sugar. Saputro et al.. (2019) reviewed in more depth the composition of sap and the factors that influence the quality of palm sugar. This study highlights that a controlled fermentation process and optimal heating temperatures are key to maintaining the taste quality and nutritional content of palm sugar. Sumarni (2016) discusses the traditional knowledge of the local Central

Java community in palm sugar production and then this knowledge can be integrated with scientific methods to increase production efficiency.

BMC is considered an effective tool because it provides a comprehensive yet simple picture of how a business operates and generates value. The visualization of BMC can be depicted in 9 element blocks which can be seen in Figure 1. BMC has been used widely in various industries and business contexts, from startups to large companies, and has also been adapted for special applications such as social enterprises. One study by Qastharin (2016) explored the use of BMC in social enterprises, the results show how BMC can be adapted to meet the specific needs and challenges faced by social enterprises.

The SWOT analysis process involves brainstorming to identify and categorize important factors, followed by strategies to use strengths and opportunities to overcome weaknesses and threats (Korff et al., 2013). The use of the SWOT method is very broad, including in strategic management, product planning, marketing, and personal assessment in career development.

The SWOT Matrix is an instrument used to evaluate the strategy to be adopted by a company, based on current internal and external evaluations of the industry (Astika and Suharyo, 2021). The matrix integrates the two main aspects of SWOT analysis, by connecting strengths and opportunities in the SO element, weaknesses and opportunities in the WO element, strengths and threats in the ST element, and weaknesses and threats in the WT element.

## 1.3 Research Objective

This research aims to provide information regarding relevant business development strategies by first getting to know the conditions of the business.

## 2. METHODS

### 2.1 Sources and Types of Data

In this research, two types of data were used, namely primary data and secondary data. Primary data refers to information collected and compiled specifically for this research. Primary data collection was carried out through interviews with producers, professionals, product experts, and consumers of palm sugar as respondents, as well as distributing questionnaires.

Secondary data was obtained through literature studies related to BMC, SWOT, and several other aspects related to palm sugar, obtained from various sources such as books, journals, theses, and previous research.

### 2.2 Sampling Method

Researchers use a non-probability sampling method as a sampling technique, where each member of the population does not have the same probability of being selected as a sample. The non-probability sampling technique used is purposive sampling. This approach was chosen because it is considered practical and economical, and is commonly used in this type of research. The determination of the sample was based on special considerations, namely that respondents must have knowledge about palm sugar products and have made purchases. Data collection for assessing

SWOT factors was carried out using a Likert scale through a questionnaire.

### 2.3 Problem Solving Stages

BMC elements are operational variables that guide BMC mapping. Operational variables refer to the varying objects, properties, and characteristics that researchers set out to study and from which conclusions can be drawn. The operational variables determined to map the business model canvas in this research were obtained through observation and interviews.

Data obtained from observations and interviews are then grouped into a business framework known as BMC. This data is used to identify internal and external factors and analyzed using the SWOT method approach. Internal factors are factors that influence the product from a perspective within the business, while external factors come from the environment outside the product. The results of identifying internal and external factors using the BMC approach can be found in Table 1.

Table. 1 Identify Internal and External Factors

BMC Elements	Strengths	Weaknesses	Opportunities	Threats
Customer Segment				
Value Propositions				
Channels				
Customer Relationships				
Revenue Streams				
Key Resources				
Key Activities				
Key Partnerships				
Cost Structure				

The data listed based on the results of identifying internal and external factors becomes new input at the strategic determination stage. According to Ben-Abdallah (2022), this strategic planning stage consists of 3 stages:

- 1) Input Stage, which involves analyzing internal and external factors of the industry. This stage uses data resulting from identifying internal and external factors from BMC mapping.
- 2) Analysis of internal and external factors using the IFE matrix and EFE matrix. Data was collected using a questionnaire to obtain an assessment of internal and external factors. Table 2 and Table 3 are IFE and EFE calculation tables.
- 3) Strategy determination is carried out using the IE matrix and SWOT matrix. The results of the IFE and EFE calculations become input for the internal-external matrix (IE matrix) to determine the position of the product. After the position is determined, a SWOT matrix is then formulated to obtain an appropriate strategy for future product development.

Table. 2 IFE Calculation

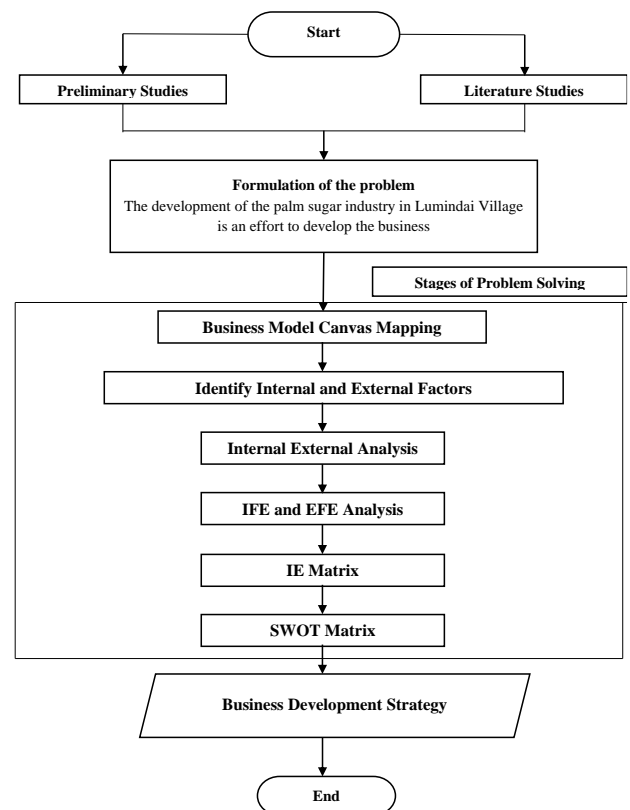
Strategic Factors	Weight	Rating	Score
Strength Factor	SB (0,0 – 1,0)	SR (1-4)	SB x SR
Weaknesses Factor	WB (0,0 – 1,0)	WR (1-4)	WB x WR
Total	1,0		

Table. 3 EFE Calculation

Strategic Factors	Weight	Rating	Score
Opportunities Factor	OB (0,0 – 1,0)	OR (1-4)	OB x OR
Threats Factor	TB (0,0 – 1,0)	TR (1-4)	TB x TR
Total	1,0		

Next, to make the research flow clearer, it is shown in Figure 1

Fig. 1 Research Flow Diagram



## 3 RESULT AND DISCUSSION

### 3.1 Business Model Canvas Mapping

#### 1) Customer Segments

The Lumindai Palm Sugar Industry is grouped into segmented customer segments. Segmented means that several business models differentiate market segments with slightly different

needs and problems (Osterwalder and Pigneur, 2017). The identification of segmented consumers is described as follows:

- **Consumer Collectors/Wholesale**  
Shops and minimarkets inside or outside the Sawahlunto area can become target markets to expand sales of palm sugar. Various regular minimarkets in the city of Sawahlunto (Anda Mart, NZ Muaro Kalaban, Kadai Mak Pili) have ordering specifications, namely a packaging size of 1/4 kg with a requirement of 10-12 kg per month depending on monthly sales. Lumindai's palm sugar product also has regular customers in Jambi and Karawang whose average orders per month can reach 30 kg in sizes 1/4 kg and 1/2 kg.
- **Individual Consumers/Retail Buyers**  
The stereotype of palm sugar is that it is healthier than granulated sugar. According to Lempang (2012), palm sugar is also used in traditional medicine and is believed to have medicinal properties for fever and stomach ache (Lutony, 1993).
- **Food and Beverage Business Consumers**  
Traders in traditional markets who need palm sugar as the main or additional ingredient in the food and beverage products they sell, such as drinks, cakes or specialty foods.

## 2) Value Propositions

Lumindai palm sugar industry has value offerings in several attributes, namely novelty, design, brand, ability to access, and convenience. The new thing that makes Lumindai palm sugar unique is that it has no preservatives. Lumindai palm sugar is still pure without using any preservatives with a shelf life of approximately 1.5 years.

Lumindai palm sugar already has its own brand and packaging design which provides brand value. Sales access is done through word of mouth and social media with the best service to consumers.

## 3) Channels

Channels implemented by the industry are direct purchases (direct selling) with consumers and indirect purchases (indirect selling) via social media (Whatsapp, Instagram, Facebook, and so on). Social media channels were chosen because they are faster in promotional activities for Lumindai palm sugar.

### Customer Relationships

The relationship created by the Lumindai palm sugar industry is personal assistance. Personal assistance or personal assistance means that the industry communicates with customers through direct interaction between both parties throughout the transaction process and after transaction activities. In general, transaction activities are carried out in the form of customer search by directing consumers to the advantages of the product, one of which is explaining that palm sugar is a preservative product and is processed naturally in a traditional manner.

### Key Resources

The resources owned by the industry are physical, intellectual, human and financial attributes. Physical resources are a form of tangible investment owned by industry. The Lumindai palm sugar industry uses traditional equipment for production such as pans, molds, basins, filters, stirrers, furnaces, stoves, gas cylinders, bamboo nira containers, and machetes. The intellectual resources owned are in the form of its brand, namely Lumindai palm sugar, accompanied by a home industry food production certificate with P.IRT and a halal certificate from the Badan Penyelenggara Jaminan Produk Halal.

The human resources consist of the business owner, namely Mr. Ilham, and 2-4 workers starting from the process of tapping nira to the process of printing sugar products and palm sugar. All workers are part of Mr. Ilham's extended family. The quality of workers' human resources is with an educational level of elementary school graduates/non-graduates aged 20-40 years who can process products. Furthermore, financially, the industry uses personal capital in managing its business.

## 4) Key Activities

Key activities in the palm sugar industry include Lumindai palm sugar production activities. The following is a description of the production activities carried out:

- **Tapping Nira** (Oktaviani and Erfahmi, 2022)  
The tapping stage begins with selecting palm trees that are mature and healthy enough. The tools needed include a sharp knife or machete, a bamboo storage container, and rope to tie the container. Tapping is done by slicing the flower stalk using a machete so that the nira can flow out. The nira holding container is installed under the cut flower stem and tied tightly so that it does not fall or leak. The nira collection process lasts several hours to a full day and is carried out in the morning with nira collection in the afternoon or evening. The male flower stalks that have been cut need to be looked after every few days to keep the nira flowing smoothly and keep them clean. The quality of the nira produced greatly influences the final result of palm sugar.
- **Nira Filtering** (Setiawan, 2020)  
The nira filtration stage ensures that the nira used in the subsequent process is free from impurities and contaminants. Filtering is done using a filter tool that can catch dirt, bamboo chips and other foreign objects.
- **Nira Cooking** (Adda, 2023)

The nira cooking stage is a process where the strained nira is then cooked until it turns into caramel. The clean nira is put into a frying pan placed on the stove. The cooking process begins by lighting a fire and heating a cauldron filled with about 20 liters of nira. The nira is cooked over medium to high heat and during the nira process it must be stirred periodically to spread the cooking evenly. The cooking process takes approximately 9 hours. During the cooking time, the water in the nira will evaporate and the nira will begin to thicken and turn golden brown in color.

### Crystallization (Ramadhani et al., 2023)

The crystallization stage is the process of cooling the caramel that has been cooked until it turns into palm sugar. The cooling process is carried out by leaving the caramel at room temperature for some time until the temperature drops and begins to thicken. Once the caramel is cool enough, continuous stirring is required using a wooden spoon. Stirring aims to accelerate the crystallization process, which is the change of liquid caramel into palm sugar granules. Stirring is done with a consistent rhythm so that the sugar crystals form evenly.

- **Palm Sugar Filtering** (Pardi et al., 2019)

This stage aims to separate the coarse grains from the fine ones. After palm sugar is formed through the crystallization process, it is then taken and placed on a manual sieve. The palm sugar is rubbed or shaken over the sieve to separate the finer grains from the coarser ones.

- **Packaging** (Tang and Jumarding, 2021)

After going through the screening stage, the fine and coarse sugar is placed in specially designed packaging with the product brand "Lumindai Aren Ant Sugar". The packaging is available in

two sizes, 1/4 kg and 1/2 kg, to give consumers a choice according to their needs.

The packaging used is equipped with a ziplock feature, which makes it easy for consumers to open and close the packaging without damaging the contents. This feature helps maintain the quality of the ant sugar so that it stays fresh longer after the packaging is opened. In addition, the packaging is designed to be visually appealing, informative, and comply with hygiene and food safety standards.

#### 5) Key Partnerships

Partnership relationships do not yet exist in the industry. Partnerships have not been built between landowners and others because the provision of raw materials in the form of palm sap is carried out independently where the palm plants have no owner. In marketing activities, there is also no partnership with BUMDES or the government for its development.

Osterwalder and Pigneur (2017) stated that the acquisition of certain resources and activities in key partnerships can minimize the risks faced by the industry. Awareness of partnerships can be a great opportunity for the industry to grow. Government or institutional assistance can be a space for mutualism so that the industry can be more successful in achieving its vision and mission.

#### Revenue Streams

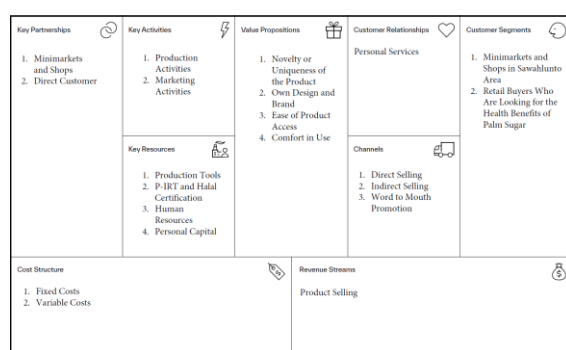
Lumindai Aren Ant Sugar home industry gets its profit from the sale of assets. The income is in the form of revenue from buying and selling transactions with consumers. Revenue is calculated based on the price of each kilogram of palm sugar product sold. The distributor price is Rp60,000, while for direct consumers it is sold at Rp80,000 for each kilogram of product. In addition, there is also printed palm sugar which is priced at Rp35,000 for each kilogram of product.

#### Cost Structure

The costs incurred include variable costs and fixed costs. Fixed costs are classified as costs that do not depend on production capacity, while variable costs are costs that are affected according to the amount of production capacity. The costs incurred by the lumindai palm sugar home industry will affect the selling price. Affordable and suitable product prices will influence purchasing interest which will intersect with the acquisition of recurring income (Prasetyo, 2019).

The results of BMC mapping can be seen in Figure 2.

Fig. 2 BMC Mapping



### 3.1 Identify SWOT with BMC

SWOT identification is carried out using the output from BMC to classify business conditions into 4 elements. SWOT can describe the state of a business by looking at the perspective of

strengths, weaknesses, opportunities, and threats (Puyt et al., 2023). Identification is carried out by transforming information from each BMC element into 4 SWOT elements.

#### 1) Strengths

- The results of the analysis of the strengths of the Lumindai palm sugar household industry BMC show that several internal forces are driving the development of the Lumindai palm sugar household industry. The strengths are as follows:
- There are regular customers
- Lumindai palm sugar does not use preservatives
- Has its own brand "Lumindai Palm Sugar Ants"
- The packaging uses a zipper lock, making it easy for consumers to open and close the product
- provide the best service for consumers to provide comfort for consumers in ordering/purchasing products
- Access offered by the palm sugar home industry is by ordering products through word of mouth, social media (WhatsApp, Instagram, Facebook and so on) and certain mini markets in the city area
- The sales channels carried out by the palm sugar home industry are through direct purchases from consumers and indirect purchases through social media (Whatsapp, Instagram, Facebook, etc.) so that marketing costs are low
- good personal relationships with consumers
- The sales process for palm sugar is running smoothly
- Fixed product prices
- The Lumindai palm sugar home industry has a home industry food production certificate with P.IRT number 6091373590019-26 dated December 3 2021 and a halal certificate from the Halal Product Guarantee Organizing Agency ID number 13110004279170023 dated June 21 2023
- The lumindai palm sugar household industry uses its own capital for its business
- The palm sugar processing process is carried out sustainably
- good personal relationships with the community regarding the availability of raw materials
- Expenditures used in the production process of Lumindai palm sugar are very minimal because for raw materials we still use or utilize raw materials (palm sap) that are available at the production location
- total sales are greater than total costs / the business benefits from economies of scale

#### 2) Weaknesses

The weaknesses of the Lumindai palm ant sugar home industry include internal weaknesses which greatly disrupt the development of the Lumindai palm ant sugar home industry. These weaknesses include:

- Has not met consumer demand appropriately
- The lumindai palm ant sugar household industry cannot maintain the quality of the palm ant sugar, such as the water content of this palm ant sugar because there has been no testing for each product produced so the water content is not adjusted to SNI
- The packaging used does not provide information about the quality of palm sugar
- There is no product diversification
- Marketing channels are not optimal

- Relationships with consumers are not optimal because current relationships are only limited to direct and indirect transactions with consumers
- The Lumindai palm sugar household industry earns income through the sale of palm ant sugar products
- independent and small initial capital
- Expenditures of large costs upfront before sales
- The Lumindai Palm Sugar home industry uses traditional equipment for production
- Lumindai palm sugar home industry spends capital first to get income
- The quality of human resources is still lacking
- The process of processing palm sugar is still very simple
- There is no partnership with BUMDES and the government regarding the availability of raw materials and marketing of Lumindai palm sugar
- The raw material (palm sap) that is processed is only palm sap that is available at the production location
- Financial planning is not yet organized

### 3) Opportunities

Opportunities utilized by the Lumindai palm sugar home industry in developing its business include:

- The level of public consumption of palm sugar is increasing
- People like palm sugar products without preservatives
- It is a typical food of the city of Sawahlunto
- Development of communication technology that makes it easier to form partnerships and communicate with customers
- Customer satisfaction with Lumindai palm sugar will attract more consumers
- Development of consumer appeal
- Consumer demand for lumindai palm sugar is increasing
- Government support for capacity building for the palm sugar home industry
- There is already palm ant sugar processing technology
- Government support to increase partnerships with home industry groups and farmer groups
- The use of technology will reduce processing costs with good product quality/use of technology to reduce the cost structure

### 4) Threats

Threats are external factors from the Lumindai palm sugar household industry which can influence the business development of this industry. These threats include:

- There are other home industries to process palm sugar
- There is palm sugar which is better and has quality standards
- Customers can choose other and better quality palm sugar due to the development of communication technology
- Customer dissatisfaction with the services and products produced
- Many consumers do not make repeat purchases
- Many competitors appear with the same product
- Income does not cover capital (loss)
- There is no rejuvenation of sugar palm plants (farmers only depend on sugar palm plants that grow naturally)
- Production activities can experience failure
- There is no partnership with the government
- With the latest equipment technology, expenses will increase

## 3.2 SWOT Analysis

### 1) IFE Analysis

IFE analysis assesses each internal SWOT factor originating from the Strengths and Weaknesses elements based on the perspective of the expert who filled out the questionnaire. Respondents fill in the weight section which is the level of importance of a factor on its influence on internal industrial development. Furthermore, the rating is an assessment of each factor regarding the industrial object being observed. The results of the IFE analysis calculations can be seen in Table 4.

Table. 4 IFE Matrix

No.	Internal Factors	Results		Weight Scores
		Weight	Rating	
Strengths				
1	There are regular customers	0.034	3.333	0.113
2	Lumindai Palm Sugar Ants does not use preservatives	0.037	3.667	0.137
3	Has its own brand "Lumindai Palm Sugar Ants"	0.034	3.333	0.113
4	The packaging uses a zipper lock, making it easy for consumers to open and close the product	0.037	3.333	0.125
5	Providing the best service for consumers so as to provide comfort for consumers in ordering/purchasing products	0.031	3.000	0.092
6	The access offered by the palm sugar home industry is by ordering products through word of mouth, social media (Whatsapp, Instagram, Facebook and so on) and certain mini markets in the city area.	0.027	2.667	0.073
7	The sales channels carried out by the palm sugar home industry are through direct purchases from consumers and indirect purchases through social media (Whatsapp, Instagram, Facebook, etc.) so that marketing costs are low.	0.031	3.000	0.092
8	Good personal relationship with consumers	0.034	3.333	0.113

9	The palm sugar sales process went smoothly	0.027	2.667	0.073
10	Fixed product prices	0.034	3.000	0.102
11	The Lumindai Palm Sugar home industry has a production certificate and a halal certificate from the halal product guarantee administration body	0.037	3.667	0.137
12	Lumindai Palm Sugar home industry uses its own capital for its business	0.034	3.333	0.113
13	The palm ant sugar processing process is carried out sustainably	0.031	3.000	0.092
14	Good personal relationships with the community in terms of availability of raw materials	0.034	3.000	0.102
15	The expenses used in the Lumindai Palm Sugar production process are very minimal because for raw materials we still use or utilize raw materials (sugar palm sap) that are available at the production location.	0.024	2.333	0.056
16	Total sales are greater than total costs / businesses benefit from economies of scale	0.031	2.667	0.082
<b>Strengths Total Score</b>				<b>1.615</b>
<b>Weaknesses</b>				
1	Has not met consumer demand appropriately	0.031	3.000	0.092
2	The Lumindai Palm Ant Sugar home industry cannot maintain the quality of the palm ant sugar	0.031	2.667	0.082
3	The packaging used does not provide any information about the quality of palm sugar	0.027	2.667	0.073
4	There is no product diversification	0.027	2.667	0.073
5	Marketing channels are not optimal	0.034	3.333	0.113
6	Relationships with consumers are not optimal because current relationships	0.031	3.000	0.092

	are only limited to direct and indirect transactions with consumers			
7	The Lumindai Palm Sugar home industry generates income through the sale of palm sugar products	0.031	3.000	0.092
8	Independent and small initial capital	0.031	3.000	0.092
9	Expenditures of large costs upfront before the sale	0.027	2.667	0.073
10	Lumindai Palm Sugar home industry uses traditional equipment for production	0.024	2.333	0.056
11	Lumindai Palm Sugar home industry spends capital first to get income	0.034	3.333	0.113
12	The quality of human resources is still lacking	0.034	3.333	0.113
13	The process of processing palm sugar is still very simple	0.031	3.000	0.092
14	There is no partnership with BUMDES and the government regarding the availability of raw materials and marketing of Lumindai Palm Sugar	0.031	3.333	0.102
15	The raw material (palm sap) that is processed is only palm sap that is available at the production location	0.027	2.667	0.073
16	Financial planning is not yet organized	0.034	3.000	0.102
<b>Weaknesses Total Score</b>				<b>1.431</b>
<b>Weight Total Score</b>		<b>1</b>		<b>3.045</b>

A value of 3,045 indicates that the industry has a strong internal position in the value range of 3.0 – 4.0. It can be concluded that the industry can take advantage of its strengths and suppress its weaknesses.

The factor that is main strength of the industry is obtained based on obtaining the highest rating weight, namely that Lumindai Palm Sugar Semut products do not use preservatives and the industry has a production certificate and halal certificate from the body that administers halal product guarantees. These strengths can be support in overcoming the industry's most significant weaknesses, namely marketing channels that are not optimal, spending capital first to get income, and low-quality human resources.

## 2) EFE Analysis

EFE analysis assesses each SWOT external factor originating from the Opportunities and Threats elements based on the perspective of the expert who filled out the questionnaire. Respondents fill in the weight section which is the level of importance of a factor on its influence on external industrial development. Furthermore, the rating is an assessment of each factor regarding the industrial object being observed. The results of the EFE analysis calculations can be seen in Table 5.

Tabel 31. Matriks EFE

No.	External Factors	Results		Weight Scores
		Weight	Rating	
Opportunities				
1	The level of public consumption of palm sugar is increasing	0.038	2.333	0.090
2	People like palm sugar products that are without preservatives	0.055	3.000	0.165
3	It is a typical food of the city of Sawahlunto	0.044	2.667	0.117
4	The development of communication technology makes it easier to partner and communicate with customers	0.038	2.333	0.090
5	Customer satisfaction with Lumindai Palm Sugar Ants will attract more consumers	0.044	3.000	0.132
6	Development of consumer appeal	0.038	2.333	0.090
7	Consumer demand for Lumindai Palm Sugar is increasingly high	0.044	2.333	0.103
8	Government support for increasing capacity for the palm sugar home industry	0.049	2.667	0.132
9	There is already technology for processing palm sugar	0.038	2.333	0.090
10	Government support by increasing partnerships with home industry groups and farmer groups	0.044	2.667	0.117
11	The use of technology will reduce processing	0.049	2.667	0.132

	costs with good product quality/use of technology to reduce the cost structure			
<b>Opportunities Total Score</b>				<b>1.256</b>
<b>Threats</b>				
1	There are other home industries to process palm sugar	0.038	2.333	0.090
2	There is palm ant sugar that is better and has quality standards	0.049	2.667	0.132
3	Customers can choose other and better quality palm sugar due to the development of communication technology	0.055	3.000	0.165
4	Customer dissatisfaction with the services and products produced	0.044	2.667	0.117
5	Many consumers do not make repeat purchases	0.044	2.333	0.103
6	Many competitors appear with the same product	0.033	2.333	0.077
7	Income does not cover capital (loss)	0.033	2.333	0.077
8	There is no rejuvenation of sugar palm plants (farmers only depend on sugar palm plants that grow naturally)	0.049	3.000	0.148
9	Revocation of distribution permit due to lack of BPOM permission	0.038	2.333	0.090
10	Production activities can experience failure	0.044	3.000	0.132
11	There is no partnership with the government	0.044	3.000	0.132
12	With the latest equipment technology, expenses will increase	0.044	2.667	0.117
<b>Threats</b>				<b>1.379</b>
<b>Weight Total Score</b>		<b>1</b>		<b>2.636</b>

The value of 2,636 states that the industry has a moderate external position in the value range of 2.0 – 3.0. It can be

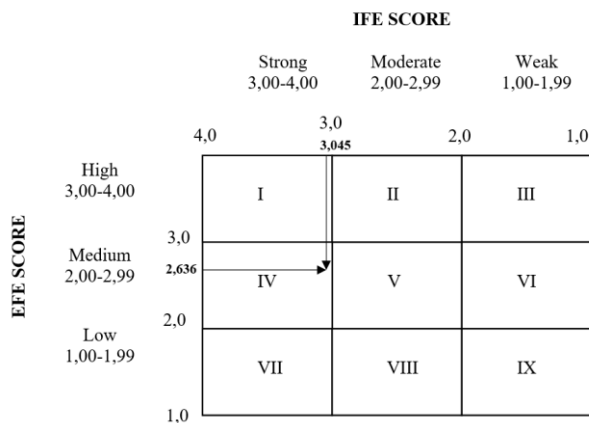


concluded that the industry has almost equal value in responding to external factors.

The factor that is the main opportunity for the industry is obtained based on obtaining the highest rating weight, namely that people like palm sugar products that are without preservatives. This opportunity can be compared with the most significant threat to the industry, namely that customers can choose other and better quality palm sugar due to the development of communication technology.

### 3) IE Matrix

Fig. 3 IE Martrix



The Internal-External (IE) Matrix is a strategic analysis tool used to determine the strategic position of an industry based on the evaluation of internal factors (IFE) and external factors (EFE). The IE matrix is used to identify the most appropriate strategy based on the internal and external conditions faced by the industry (Puspitasari et al., 2013). The matrix is broken down into 9 cells, where each cell represents an industry position. Horizontally, the IFE matrix value determines the position and vertically the EFE matrix value determines the position. Based on the data obtained in the IFE and EFE analysis, the IFE (3,045) and EFE (2,636) values are projected into the IE matrix in Figure 3.

Based on the IE matrix which has been visualized in Figure 6, the position of the Lumindai Palm Sugar industry is in cell IV. Cell IV provides knowledge that the industry is in a Grow and Build position (Tyas and Chriswahyudi, 2017). In this position, the most significant strategy for the industry to implement is the intensive strategy. An intensive strategy that includes market penetration, market development, and product development is the most relevant strategy and must be implemented by the industry in accordance with its internal and external conditions (Pangau et al., 2022). The conclusions obtained from the IE matrix can become the foundation for designing specific strategies which will then be projected in the SWOT matrix.

### 4) SWOT Matrix

Based on all factors of strengths, weaknesses, opportunities, and threats, business development strategies are formulated and classified into 4 parts of the SWOT matrix, namely SO strategy, ST strategy, WO strategy, and WT strategy.

- SO Strategy
  - a. Maintaining and improving the quality of palm sugar
  - b. Improving service to consumers through technology by maximizing online marketing

- ST Strategy
  - a. Increasing promotions via social media
  - b. Establishing a partnership relationship with the government in marketing Lumindai Palm Sugar
- WO Strategy
  - a. Developing product diversification while maintaining the uniqueness of Lumindai Palm Sugar
  - b. Improvement of palm sugar production facilities and equipment with technology
  - c. Improving the quality of human resources in the Lumindai Palm Sugar home industry
  - d. Improving financial management
  - e. Increasing marketed products to meet consumer demand
- WT Strategy
  - a. Looking for more partners to increase capital for the Lumindai Palm Sugar home industry
  - b. Increase supervision of the Lumindai Palm Sugar production process

The strategy formulated by SWOT can be a guide in developing the industry. The relevance of the SWOT strategy to the internal and external conditions of the business can be a great opportunity for the business to be successful in implementing the strategy.

## 4 CONCLUSION

Lumindai Palm Sugar Industry is a small or micro-scale business that is still around 3 years old. Through initial observations, the industry has promising opportunities in developing its business. Industry has various internal and external conditions which can be factors in determining the stages of business development. To identify the industry, BMC mapping is first carried out. The results of the BMC become input in grouping business development elements. These results are divided into 4 SWOT sections, namely Strengths, Weaknesses, Opportunities, and Threats. Each factor of the elements is evaluated by giving a value and then analyzed using IFE and EFE. The results of the IFE analysis are a score of 3,045 which states that the industry has strong internal capital as capital to develop. Meanwhile, the EFE score of 2,636 indicates that the external conditions of the industry are in a moderate position. Furthermore, the results of the IFE and EFE become capital in formulating relevant strategies for the industry through the IE matrix. The IE matrix classifies the industry's position as being in cell IV, which means the industry is in the Grow and Build position. Based on the IE matrix, detailed specifications of the strategy are then formulated in the SWOT matrix. The SWOT matrix provides concrete input that can become the basis for industry to be able to develop its business.

The results of the research provide conclusions in the form of strategies that can be implemented by the industry. For future research, it is hoped that the strategy can be implemented so that the results of the research can be evaluated and the industry can be more advanced.

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