Business development strategy of sago for food security

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Business development strategy of sago for food security

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Abstract. One of the local-based food ingredients of Indonesia is sago palm. Sago palm is widely grown in several regions such as Papua, Maluku, Sumatra, Riau and Sulawesi. Sago food is one of the main foods of the community in South Sulawesi. Although sago is recognised as an important alternative food ingredient, the facts on the ground show that sago management, from raw material sources, production process, to marketing process is still conventionally managed. The main objective of this study is to analyse the real business model of sago to define the characteristics of each part of their business model, i.e., customer segment, proportion, channels, revenue streams, customer relationships, key activities, key resources, key partnerships, and develop a new strategy. The paper presents an application of Business Model Canvas, SWOT Analysis and IFE-EFE matrix to create a strategy for business development of sago product. The results shows that the business model is still simple, not managed as an integrated business unit. To deal with unfavourable situations, these efforts need to harness the power it has to deal with external threats by applying turn-around strategy. The model is suitable strategy to be applied to the sago business are increasing the quantity and product quality, diversification, promotion, and establish partnerships with the government to gain access to technology and capital.

Keywords: Business model canvas, IFE-EFE Matrix, sago, strategy, SWOT Analysis.

1. Introduction

Sago palm is one of the local-based food ingredients that are widely grown in several regions in Indonesia, such as Papua, Maluku, Sumatra, Riau and Sulawesi. Sago palm and related species that can store a large amount of starch in the trunk and can grow under severe environmental conditions are considered to be potential starch resources for not only food production but also ethanol production [1]. The sago flour has a traditional food potentially application in huge quantity as a food stock to contribute in a food security program [2] [3]. Thus, support for the strengthening of local food [4] not only to increase the utilization of the food itself, but also to boost the local economy [5].

Local use adds affordability and sustainability to the food and health systems in a sago-consuming culture, so contributing to food security [6]. The community has long known utilization of the sago. Prior to the efforts to uniform main food ingredients in the form of rice in the New Order era, some communities have used sago as a staple food. Even today, the habit still persists, especially in the eastern Indonesia. That is why, food made from sago until now remains a food that is very well known by the community, but it has not yet been chosen as a priority crop [7] or no utilized [8].

The utilization of sago has also been known for a very long time in Luwu, South Sulawesi and it’s one of the main foods of the community. The experiences of local people in consuming sago have proven that sago has wider utilization [9]. However, although sago is acknowledged as an important
alternative food ingredient, the facts on the ground show that sago management, from raw material sources, production process, to marketing process is still conventional. This very traditional sago management model is in contrast to its potential development. Utilization of sago as instant flour, raw material for making soup, or even making a healthier liquid sugar than sugar cane is actually wide open. However, traditional management phenomenon with very wide utilization potential seems to be running in unison. With such a phenomenon, management intervention is required in running its business so that the management of sago leads to the optimization of sago utilization in accordance with its potential. Appropriate marketing strategies and business development strategy efforts are absolutely necessary in order to support national food security. This paper describes an application of Business Model Canvas (BMC), SWOT analysis (Strengths, Weaknesses, Opportunities, and Threats) and Internal Factor Evaluation (IFE) – External Factor Evaluation (EFE) Matrix or IFE-EFE Matrix to find out the best strategy for sago business development to strengthening Indonesian Food Security Program.

2. Methodology
2.1. Study site and data collection
This study was conducted in West Malangke Sub-District, North Luwu District, South Sulawesi. The data collection technique was performed by using Participatory Action Research (social mapping, resource mapping and in-depth interviews). In-depth interviews method was select to assign an each comparison using the scale. The leaders of farmer groups in Sago Business, collecting and intermediate traders, and people involved in the marketing of sago were select to assign score of internal and external factor evaluation.

2.2. Data analysis
Existing model of sago business identified by using BMC on the nine building blocks [10] such as customer segment, proportion, channels, revenue streams, customer relationships, key activities, key resources, and key partnerships. An effective way to find the best business of sago business is to combine classic SWOT analysis, IFE-EFE matrix and BMC.

3. Results and discussion
3.1. The business model of sago
Sago business needs it in order to know to delivered product, service, understand what product and value, with another competitor, what it needs to change so customer will be willing to buy products provided by sago business in North Luwu.

3.1.1. Key Partners. The first block represents the key partners of business model, and it is crucial to define the partners is connected with the business. As sago business, the main partners and supplies, which are helping this business to develop and produce sago is sago farmer’s as source of raw material to produce sago.

This business still relies on raw materials from sago tree that exist in this region. The sources of raw materials not only from farmers sago but also comes from their own land. Another partner is an intermediary trader who is the main consumer of this business.

3.1.2. Key activities. The main activity undertaken by this business is the processing of sago into sago flour (wet sago). The extraction of sago produced by traditional method. Sago is extracted from sago trunks by splitting the stem lengthwise and removing the pith that is then crushed and kneaded to release the starch before being washed and strained to extract the starch from the fibrous residue. The raw starch suspension in water is then collected in a settling container. To obtain refined flour extract is filtered and precipitation. Sago flour that has been sediment removed and then put into the container (tumang) and then ready to be sold in the form of wet powder.
3.1.3. **Value proposition.** The heart of business is value proposition. This segment describes the bundle of products that create value for customer segment. The value proposition is the reason way customer turn to one company over another [10]. The proportion of the value offered from sago processing business is cost reduction where the customer does not spend a lot of money and effort to obtain the sago product.

3.1.4. **Consumer relationship.** In order to survive in running a business, the businessman must maintain a strong relationship with his customers. Customer relations applied by sago business are personal assistance, which is based on human interaction. The business unit has strong ties with the customers. To access the product, the customer may contact the employer either directly by visiting the place of production or through a telephone call. Trust relationships have been going on for a long time. However, no effort was made to keep customers loyal.

3.1.5. **Customer segments.** The customer is the core of a company, the company can live and grow because it has customers who provide benefits for the company, and the existing competition situation and limited resources of the company to make the company must choose the type of customer that must be served. The segment of this business is mass market. A mass market focuses on a large group of customers without really distinguishing between different types of customers, and aims to satisfy a set of broadly similar needs and problems.

3.1.6. **Key resources.** This segment describing the most important assets needed to make a business model work. Human resources play the major role in key resources, because the management of this business has been done for a long time. They have not received any training related to the production process but only based on the experience they have had for a long time. They produce sago with a very simple method although some of them already have simple equipment.

3.1.7. **Channels.** Channel is how to reach customers. Not limited to distribution, but also other things that cause the business and customers to touch. Channel is used for value supplying. The channels are divided into two type are direct and indirect. The most frequently used type in Sago business is indirect (95%) by using middleman and whole seller as channel to distribute the product. The advantage of this type is the lower of cost to market the product. However, businessman has no control over the sales process and the absence of direct interaction with customer. The direct channel is less used (5%), such as retailer and end user can access the product. The main advantages of this channel are control over the wholesale process and having direct feedback from the customer.

3.1.8. **Cost structure.** The cost structure is all expenses incurred from the business to run the business model. The cost structure is cost-driven that focuses on cost minimization on each component cost incurred. The cost spent on this business is relatively small because the business model is still simple with simple equipment as well. Costs incurred are fixed costs and variable costs. Fixed costs are the same fixed costs even though the volume of goods produced rises or falls including equipment rental, gasoline for water machines and scarves, salaries and other equipment purchases while the variable cost is the cost that varies proportionally with sago production, such as the cost of purchasing raw materials (sago palm).

3.1.9. **Revenue streams.** Revenue streams are revenues received by the business units of each market segment it implements. Revenue streams instead of presenting the income earned but rather to what added value can be given to the consumer. Revenue streams are obtained through the sale of wet sago flour (asset sale). Sales are calculated on the basis of purchased volume, usually packed in the form of a tang and packed in a sack (20 kg). The price is determined based on the number of products produced with a certain calculation.
Table 1. BMC of sago business.

| Key partner  | Key activities     | Value proportion | Customer relationship          | Customer segment     |
|--------------|--------------------|------------------|--------------------------------|----------------------|
| Sago farmers | Production process | Cost reduction    | Good relationship with customer| Mass market:         |
| Middleman    |                     |                  |                                 |                      |

- **Key resources**: Human resources

- **Channels**: Direct marketing; Intermediary of collectors and retailers

3.2. *Internal and external factor evaluation*

The identification of internal factors is needed to determine the strengths and weaknesses of the sago business by identifying the nine elements of the business model canvas. Internal analysis is done to get the strength factor to be used and the weakness factor to be anticipated. To evaluate these factors, Internal Factor Evaluation matrix is used.

Table 2. Internal factor evaluation of sago business.

| Internal factor evaluation | weight | rating | score |
|---------------------------|--------|--------|-------|
| Strengths (S)             |        |        |       |
| S1                        | 0.12    | 2.00   | 0.24  |
| S2                        | 0.15    | 1.00   | 0.15  |
| S3                        | 0.10    | 2.00   | 0.21  |
| S4                        | 0.14    | 2.00   | 0.28  |
| S5                        | 0.07    | 4.00   | 0.28  |
| S6                        | 0.07    | 4.00   | 0.28  |
| S7                        | 0.13    | 3.00   | 0.40  |
| S8                        | 0.15    | 2.00   | 0.29  |
| S9                        | 0.07    | 4.00   | 0.28  |
| **Sub total**             | 1.00    |        | 2.41  |
Table 2. Internal factor evaluation of sago business (continued..).

| Internal factor evaluation | weight | rating | score |
|---------------------------|--------|--------|-------|
| Weaknesses (W)            |        |        |       |
| W1                        | 0.13   | 2.00   | 0.25  |
| W2                        | 0.09   | 3.00   | 0.27  |
| W3                        | 0.15   | 2.00   | 0.29  |
| W4                        | 0.10   | 4.00   | 0.42  |
| W5                        | 0.11   | 3.00   | 0.33  |
| W6                        | 0.10   | 3.00   | 0.31  |
| W7                        | 0.10   | 3.00   | 0.29  |
| W8                        | 0.12   | 2.00   | 0.24  |
| W9                        | 0.10   | 3.00   | 0.31  |
| Sub total                 |        |        | 2.72  |

External factor evaluation matrix is used to know whether the sago business is able to effectively take advantage of existing opportunities along minimizing the external threats. Some of the important opportunities that can be included in sago business are increasing demand of sago product. External factor evaluation of sago business can be seen in table 2.

Table 3. External factor evaluation of sago business.

| External factor evaluation | Weight | rating | weighted score |
|----------------------------|--------|--------|----------------|
| Opportunities (O)          |        |        |                |
| O1                         | 0.10   | 4.00   | 0.39           |
| O2                         | 0.13   | 4.00   | 0.50           |
| O3                         | 0.12   | 3.00   | 0.35           |
| O4                         | 0.15   | 2.00   | 0.31           |
| O5                         | 0.07   | 4.00   | 0.28           |
| O6                         | 0.11   | 3.00   | 0.33           |
| O7                         | 0.11   | 4.00   | 0.44           |
| O8                         | 0.12   | 3.00   | 0.35           |
| O9                         | 0.10   | 4.00   | 0.39           |
| Sub Total                  | 1.00   | 3.35   |                |
| Threats (T)                |        |        |                |
| T1                         | 0.13   | 3.00   | 0.40           |
| T2                         | 0.09   | 3.00   | 0.27           |
| T3                         | 0.13   | 3.00   | 0.40           |
| T4                         | 0.13   | 2.00   | 0.26           |
| T5                         | 0.09   | 2.00   | 0.18           |
| T6                         | 0.15   | 2.00   | 0.29           |
| T7                         | 0.10   | 1.00   | 0.10           |
| T8                         | 0.08   | 1.00   | 0.08           |
| T9                         | 0.10   | 2.00   | 0.21           |
| Sub Total                  | 1.00   | 2.18   |                |
Based on the IFE-EFE Matrix, it can be illustrated a diagram that can see the position of the company is in quadrant condition 3 (Q3) where the value of total strength score is 2.41 with the total score of weakness is 2.72, the value of X-axis equal with -0.31. While the value of the total score of opportunities is 3.35 with a total threat score of 2.18, then the value of Y-axis equal to 1.17. The Positioning Quadrant SWOT for sago can be seen in figure 2.

![Positioning Quadrant SWOT for Sago Business](image)

**Figure 1.** The positioning quadrant of sago business.

Sago business faces a huge market opportunity, but on the other hand, this business faces some internal constraints / weaknesses, so the strategy used is to change the strategy (turn around strategy).

Based on the analysis of IFE-EFE and Positioning Quadrant SWOT as well as several alternative strategies derived from the SWOT matrix, then the model is suitable strategy to be applied to the sago business are increasing the quantity and product quality, diversification, promotion, and establish partnerships with the government to gain access to technology and capital. However, effective governance and more attention is needed to implement policies which promote food availability, food accessibility and individual food utilization based on local resources [11].
Conclusion
Sago business needs to see their own strategy management in an easy accessible way in order to see situation of this business in a rationale way. In order to make sago business work more efficient, BMC is used to help to get deeper into structures of this business, and applying turn around strategy, the further development of sago business should be significantly improved to support food security

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