

BUSINESS DEVELOPMENT STRATEGIES FOR SAGO PROCESSING IN MERAUKE REGENCY: A BUSINESS MODEL CANVAS AND SWOT ANALYSIS

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Abstract

This study aims to identify and analyze business development strategies for sago processing in Merauke Regency to enhance competitiveness and sustainability. Utilizing the Business Model Canvas method and SWOT analysis, the study reveals key challenges in production management, including limited processing technology, financial management issues, and marketing management constraints. To address these challenges, investment in advanced technology, managerial training, and effective marketing strategies are required. This research provides practical guidelines for sago processing business actors and contributes academically to the fields of sustainable marketing and SME development.

Keywords: Business development strategies, sago processing, Merauke regency.

INTRODUCTION

The sago processing business holds significant economic potential but has not been fully optimized. Sago serves not only as a staple food for local communities but also holds substantial economic value when properly processed and marketed (Yusuf et al., 2019). Sago products in Indonesia include wet sago, dry sago, and roasted sago. Wet sago has a short shelf life and is distributed through short distribution channels, while dry sago and roasted sago have longer shelf lives and are distributed through longer channels (Trisia et al., 2021). Trisia & Ehara (2021) show that most sago starch is sold in the domestic market, and dry sago is preferred in the international market. The government encourages the food industry to replace 10% of imported wheat flour with sago starch, which is expected to yield benefits of up to Rp2.6 trillion per year and increase the income of sago farmers in Indonesia (Trisia et al., 2021). With the growing need for food diversification and the increasing interest in local food products, sago development becomes highly relevant. According to Flach, as cited in Konuma (2018), sago is one of the most efficient carbohydrate-producing plants that can grow in underutilized wetlands in Southeast Asia and the Pacific.

Based on previous studies, the development of the sago processing business has enormous potential but faces several challenges. Simatupang et al. (2019) highlighted the importance of social and economic capital in the development of the sago processing business in Merauke Regency, including cooperation networks among business actors and access to financial resources. Yusuf et al. (2019) used the Rapid Appraisal method to assess the sustainability of the sago agroindustry in Papua, identifying that sustainability can be improved through enhancements in sensitive attributes such as raw material sustainability and product quality. Timisela et al. (2021) emphasized the importance of technological advancements in sago processing, effective marketing strategies, infrastructure improvements, and institutional system enhancements as key factors in the development of

the sago agroindustry in Maluku.

Additionally, Wardis (2014) highlighted the socio-economic factors affecting the decline in sago consumption on small islands in Maluku, showing that changes in food preferences, population migration, and access to modern markets play significant roles in the sustainability of the sago business. Saediman et al. (2021) added that the sago starch market structure in Southeast Sulawesi still faces various issues, including a lack of institutional support, inadequate infrastructure, and insufficient market information and marketing knowledge. Surni, Limi, et al. (2020) found that increasing the added value and marketing efficiency of sago starch could enhance the income of sago farmers in Konawe, Southeast Sulawesi, where marketing efficiency is indicated by the percentage of prices received by farmers, which can increase with the modernization of the sago industry. Purbaningsih et al. (2023) showed that the sago agroindustry development model in Southeast Sulawesi Province, which includes income analysis and strategies, can significantly improve local community incomes through the optimization of production factor allocation and partnership strategies. Entrepreneurial-oriented businesses can enhance the economic well-being of local communities (Saragih & Awal, 2024).

The agro-industry currently faces various challenges, ranging from climate change (Adiatma et al., 2024) to shifts in consumer demand (Parapaga et al., 2024). Although previous findings support the potential for developing the sago processing business, there remain several weaknesses and limitations. Firstly, access to sago processing technology. Timisela et al. (2021) indicated that the currently available processing technology is still limited and assistance for technology access is very restricted. Despite research such as that by Immawan et al. (2018), which developed technical solutions like more efficient slicer machines, the widespread implementation of these innovations remains limited. Secondly, access to capital and financial assistance. Simatupang et al. (2019) emphasized the importance of access to financial resources as a crucial factor in the sustainability of the sago processing business. However, many small entrepreneurs in this sector still face difficulties in accessing the necessary capital to develop their businesses.

Thirdly, marketing efficiency. Surni, Limi, et al. (2020) demonstrated that low marketing efficiency and the lack of modernization in the sago industry hinder the value-added improvements needed to increase farmers' income. Additionally, Saediman et al. (2021) revealed that the sago starch market structure in Southeast Sulawesi tends to be *oligopsonistic*, where a few large buyers have greater power in determining prices, which can disadvantage small sago producers. Fourthly, education and training, as also identified by Timisela et al. (2021). Adequate education and training are crucial to ensure that business actors in this sector can manage their businesses more effectively and efficiently.

Fifthly, policies and social perceptions. Wardis (2014) also pointed out that government policies biased towards rice and the social and cultural perception of sago as an inferior food are major obstacles. Sixthly, supply chain management. Trisia et al. (2021) highlighted that the efficiency of the sago supply chain is also heavily influenced by factors such as agricultural production management, logistics systems, agronomy, and limited knowledge and information among farmers, all of which need to be improved to achieve

higher efficiency and address existing challenges. Lastly, commercialization strategies. Trisia & Ehara (2021) emphasized that issues of quality and the low competitive advantage of Indonesian sago starch in international markets are major barriers to increasing export volumes. They stressed that improving sago starch quality and supply continuity is essential to gaining a better position in the global market.

Merauke Regency is one of the areas in Southern Papua with abundant natural resources, including sago as one of its main commodities. However, entrepreneurs still face various challenges that hinder the optimization of production and marketing of these products.



Figure 1. Sago Processing by Dwitrap Farmer Group in Merauke Regency

Source: Research Documentation (2025)

Several fundamental issues include limited access to more efficient processing technology, a lack of understanding of effective business management, and challenges in reaching broader markets. Additionally, the increasingly dynamic consumer preferences and behavior demand innovation in sago products to remain competitive in the market. As found by Jong (2018), the main challenges in developing the sago business are the lack of technical expertise, high infrastructure costs, and complicated land ownership issues. Sago farmers have weak bargaining positions due to inefficiencies in the sago supply chain and a lack of market information (Trisia et al., 2021). In general, there are various challenges in developing the sago processing business in Merauke Regency, including inadequate infrastructure, limited market access, difficulties in adopting new technology, and limited business capital (Simatupang et al., 2019). To address these challenges, appropriate and sustainable business development strategies are needed. These strategies must enhance production process efficiency, expand marketing networks, and strengthen the capacity and

competence of farmer groups in managing the sago processing business.

This study aims to identify and analyze business development strategies for sago processing in Merauke Regency to enhance competitiveness and sustainability. The importance of food marketing and economic policies in the agribusiness sector is emphasized. This includes analyzing consumer preferences, using digital technology and geospatial solutions to create knowledge networks, and promoting training programs and awareness campaigns to make food production and consumption patterns healthier and more sustainable (Timpanaro, 2023). The study is expected to provide practical guidelines for sago processing business actors in developing their businesses. Additionally, the research results can contribute academically to the fields of sustainable marketing and SME development. This study is limited to sago processing businesses in Merauke Regency and does not cover other regions. Moreover, it only examines marketing and business development strategies from the perspective of business actors, without involving consumers or other parties. Management frameworks (such as the *Business Model Canvas* or SWOT analysis) are combinations of interrelated items that support a particular approach to specific goals (Budler & Trkman, 2023).

LITERATURE REVIEW

Business Development

Business development is a process that encompasses various activities and strategies designed to expand and enhance business operations. This process involves identifying new opportunities, developing new products or services, market expansion, and improving operational efficiency. Research indicates that business development often requires different approaches depending on the size and type of company. For example, micro-firms are more likely to use non-formal methods in their business development, relying on the cognitive abilities of owner-managers to make strategic decisions (Achtenhagen et al., 2017). Additionally, business development also includes portfolio management, resource management, and market penetration strategies to ensure sustainable growth (Kohne, 2023).

Business planning remains an essential element despite debates about its effectiveness. Business planning involves gathering external data, writing business plans, and sharing these plans with stakeholders to receive feedback and funding (Welter et al., 2021). Furthermore, the lean startup approach popularized by Eric Ries also plays a significant role in modern business development. This approach focuses on hypothesis creation, customer development, and agile product development, aiming to minimize waste and accelerate market validation (Welter et al., 2021).

Business Model Canvas

In recent years, there has been much discussion about the best ways to assess business viability and how entrepreneurs should proceed. A business model is a company's plan for generating revenue and earning profit from its operations (Mariotti & Glackin, 2016, p. 64; Stenn, 2017, p. 55; Whittington et al., 2020, p. 221). Osterwalder & Pigneur (2010), along with hundreds of online collaborators, created a tool for generating business models called

the *Business Model Canvas* (BMC). The BMC is a visual representation of the critical components of a business. Several variations of the BMC have been developed and are available online.

SWOT Analysis

SWOT analysis is a simple yet widely used framework for comparing the strengths and weaknesses of a project, business, company, or industry with opportunities and threats in the relevant external environment. This framework helps organizations identify and explore internal factors (strengths and weaknesses) and external factors (opportunities and threats) that can influence their performance and strategy. SWOT was first introduced by Albert Humphrey in the 1960s at the Stanford Research Institute and has since become a crucial tool in strategic planning. Despite its usefulness, SWOT analysis is often criticized for its lack of guidance on what elements to include and the relative importance of each element. Therefore, to fully benefit from SWOT analysis, this method often needs to be combined with other approaches that can provide further guidance in information gathering and strategic interpretation (Ghazinoory et al., 2011; Teece, 2017).

METHOD

The research data used is primary data collected from business actors, as well as from locations involved in the production and marketing of sago in Merauke Regency. Primary data was obtained through observations and in-depth interviews to identify existing problems and serve as material for compiling the nine elements of the *Business Model Canvas*. This data was also used to determine internal and external factors for SWOT analysis.

The data analysis technique employs the *Business Model Canvas* (BMC) as a method to create alternative strategies in the form of new, more competitive businesses. The business model helps to understand, explain, and predict the activities needed to generate profits for the company or organization (Osterwalder & Pigneur, 2010). SWOT analysis, or categorizing issues into strengths, weaknesses, opportunities, and threats, is one of the most commonly used tools for strategic planning (Ghazinoory et al., 2011; Teece, 2017).

RESULTS AND DISCUSSION

Identification of Problems and Needs Analysis

The issues identified in production management include difficulties experienced due to fluctuating raw material supplies. According to Yusuf et al. (2019), this fluctuation is caused by reliance on sago forests and competition for raw materials from local sago farmers. Losses during harvest operations can reach up to 20% due to sago left in the tree trunks and further wastage occurs if the trunks are left to rot before the grating process is completed. Trisia et al. (2021) found that the traditional sago extraction methods used by farmers result in lower productivity and higher production costs. The use of production machines remains conventional and limited in quality control. The machines used in the sago-making process require better maintenance and upgrades with more modern technology. These findings are consistent with previous studies on the availability of technology and limited access to

technological assistance (Simatupang et al., 2019; Timisela et al., 2021). Additionally, product packaging still involves third parties, indicating a need for more efficient packaging machinery. To address these issues, investment in advanced production and packaging technology, as well as employee training in machine maintenance and operations, is required.

Human resource management faces challenges regarding the unclear organizational structure and the complementary nature of work being done. The lack of managerial training for personnel leads to difficulties in managing the company effectively. Therefore, there is an urgent need for managerial training to improve management skills and proper personnel placement, as well as the development of a clear and efficient organizational structure to support more structured and productive operations. The primary problem in financial management is the lack of ability among business actors to conduct adequate financial recording and reporting. The absence of proper business recording and financial reporting hinders financial monitoring and budget planning. Necessary measures include training to enhance skills in financial reporting, the use of more structured accounting systems, and guidance on access to and management of credit to support financial stability and company growth (Richard et al., 2024).

Marketing management is faced with the problem of underutilized market opportunities and low market access capabilities through online media. Additionally, there is no significant sales growth, indicating that the business strategies have not been effective in capturing market opportunities. The sago supply chain in Merauke Regency mainly operates in small-scale production in rural areas with limited access to logistics systems. Trisia et al. (2021) show that poor infrastructure such as roads and transportation networks increases production costs and affects farmers' incomes (Trisia et al., 2021). Therefore, appropriate and aggressive business strategies in marketing, training, and use of online media to expand market access, as well as enhancing the company profile to attract consumer interest and expand the marketing reach of sago products, are required.

Business Model Canvas

According to Wang et al. (2023), accurate determination and in-depth insights into customer segments are the starting points of a successful business model. Based on the research findings, Table 1 formulates the business model for sago processing in Merauke Regency.

Table 1. Business Model Canvas of Sago Agroindustry in Merauke Regency

Key Partners	Key Activities	Value Propositions	Customer Relationships	Customer Segments
- Local government - Educational institutions - Farmer communities	- Sago cultivation - Production and processing - Distribution and logistics	- Natural & healthy products - Sustainability - Unique taste	- Discounts and special offers	- Households - Restaurants & catering - Processed food industry

- Retailers and distributors	- Marketing and promotion			
	Key Resources - Land and sago plants - Machinery and equipment - Human resources - Distribution network			
Cost Structure - Production costs - Distribution costs - Marketing costs - Labor costs			Revenue Streams - Product sales - Derivative products	

Source: Research Findings (2025)

Key partners in the sago processing business are crucial for ensuring sustainability and success. Local governments act as key partners by supporting local economic empowerment programs and improving the necessary infrastructure for sago production and distribution. Collaboration with educational institutions such as universities aids in product innovation and the development of more effective and efficient cultivation techniques. Farmer communities are also strategic partners to ensure a stable and quality supply of sago raw materials by establishing mutually beneficial relationships. Additionally, partnerships with retailers and distributors ensure that sago products can reach consumers widely through various distribution channels, both traditional and modern markets, thus expanding market share and increasing sales. These findings align with previous studies on the importance of cooperative networks in the development of the sago processing business (Purbaningsih et al., 2023; Simatupang et al., 2019).

Key activities in the sago processing business in Merauke include several crucial steps to ensure smooth and efficient production processes. Sago cultivation is the initial stage involving the planting and maintenance of sago plants to produce high-quality raw materials. After harvest, production and processing activities are carried out, where sago trunks are processed into sago flour and other derivative products such as sago noodles and sago cakes. Distribution and logistics are also vital, ensuring that products can be delivered to various distribution channels in a timely manner and in good condition. Additionally, marketing and promotional activities are essential to raise consumer awareness about sago products and

drive sales through effective marketing campaigns.

Key resources supporting the sago processing business include land and sago plants as vital assets for production. Efficient machinery and equipment are also crucial elements in the process of converting sago into flour and other derivative products. Additionally, skilled labor in sago cultivation and processing plays a critical role in ensuring production quality and quantity. An extensive and effective distribution network is needed to reach a broader market, ensuring the availability of products in various distribution channels, both traditional and modern.

Value propositions of the sago processing business offer natural and healthy products that are gluten-free, making them an ideal choice for a healthy diet. Sago production supports sustainable agricultural practices and local economic empowerment, providing positive impacts on the environment and local communities. Furthermore, sago offers a unique taste different from other staple foods like rice and wheat, adding variety to consumers' menus.

Customer relationships are built through loyalty programs offering discounts and special offers for loyal customers. This aims to enhance customer satisfaction and build long-term relationships. Through these programs, companies can maintain customer engagement and increase repeat purchases, thereby supporting sales growth and brand loyalty.

Channels used include direct distribution through sales in traditional and modern markets, ensuring products are easily accessible to various consumer segments. Additionally, partnerships with retailers such as supermarkets and grocery stores help expand market reach and increase product availability in various locations, making it easier for consumers to obtain sago products.

Customer segments for the sago processing business include households that use sago as a staple food, restaurants and caterers that process sago for various traditional and modern dishes, and the processed food industry that uses sago as a raw material for products such as sago noodles, cakes, and snacks. This segmentation allows the company to target various consumer groups with different needs and preferences.

Cost structure in the sago processing business includes production costs such as planting, maintenance, and processing of sago. Distribution costs are also significant, including transportation and logistics for product delivery to various distribution channels. Expenditures for marketing and promotional campaigns are necessary to increase product awareness and sales. Additionally, labor costs for various stages of production and distribution are an essential part of the cost structure.

Revenue streams come from the sale of sago products in various packaging sold in traditional and modern markets. Additionally, derivative products such as fiber-rich sago residue that still contains some nutrients can be used as animal feed, providing additional revenue sources for the company. This product diversification helps the company maximize revenue and reduce the risk of dependency on a single product type.

SWOT Analysis

Consumer behavior has undergone significant changes with the advancement of technology and information, influencing how businesses need to adjust their marketing

strategies (Parapaga et al., 2024). The results of this study formulate a SWOT analysis of the sago processing business in Merauke Regency in Table 2.

Table 2. SWOT Analysis Result

Strengths - Advantages of local food products - Contains healthy ingredients	Weaknesses - Maintenance issues with production equipment - Inadequate human resources - Limited market reach
Opportunities - Growth in the local market - Regional market expansion - Increased demand for organic products	Threats - Competition with local producers - Limited distribution access - Changes in consumer preferences

Source: Research Findings (2025)

- The main strengths of the sago business are its status as a local product with special added value in South Papua, and its role as a primary carbohydrate source for the local community. Sago is used in various traditional foods such as papeda, sago porridge, and various types of cakes. Sago flour contains high carbohydrates and is gluten-free, making it an excellent alternative for those with celiac disease or gluten intolerance. Moreover, attractive packaging enhances the product's image and consumer interest, providing higher competitiveness in the market. These findings support Yusuf et al. (2019) that sustainability can be improved through enhancements in sensitive attributes such as raw material sustainability and product quality.
- Opportunities in the sago processing business include increasing local market share in Merauke and surrounding areas, as well as leveraging local demand for sago products. Sago has significant economic and social roles for the people of Papua, where sago production and sales can be a source of income for local farmers. Additionally, there is potential for regional market expansion in Papua and other areas in Indonesia. The rising demand for organic products also presents an opportunity to boost sago sales as a natural product. The labor-intensive and time-consuming traditional sago production process can be made more efficient with the aid of machines and modern technology through the *Local Food Industry Development Program*. These findings align with previous studies on the potential for technological advancements in sago processing, as well as effective marketing strategies, infrastructure improvements, and institutional system enhancements as key factors for the development of the sago agroindustry (Surni, Limi, et al., 2020; Timisela et al., 2021).
- The main weaknesses faced by the sago business development in Merauke include maintenance issues of production tools, which can lead to quality uncertainties in operations. The lack of adequate infrastructure, such as poor road access and limited transportation, makes sago distribution challenging. A shortage of employees also negatively impacts productivity and operational efficiency. Limited market reach beyond

- the Merauke area is another barrier to business growth. Saediman et al. (2021) highlighted that some of the issues faced by the sago business include a lack of institutional support, inadequate infrastructure, and insufficient market information and marketing knowledge.
- d. The threats faced by the sago processing business in Merauke include competition from other local producers outside South Papua, which can reduce market share. Distribution access limitations due to inadequate infrastructure in Merauke are also a significant challenge. Expanding the sago market requires more aggressive promotional efforts. Sago products need to be introduced to a broader market, both domestically and internationally. The government and related institutions can assist in promoting and finding new markets for sago products. Additionally, changes in consumer food preferences can affect the demand for sago flour, requiring quick and appropriate adaptation. Wardis (2014) found that changes in food preferences, population migration, and access to modern markets play crucial roles in the sustainability of the sago business.

Based on the SWOT analysis results, the following strategies are formulated:

- a. Strengths-Opportunities (S-O) Strategy: Utilize the local product image and attractive packaging to expand local and regional market share. By doing so, the business can increase awareness and demand for sago products, leveraging the growing demand for organic products in various regions.
- b. Weaknesses-Opportunities (W-O) Strategy: Focus on increasing the number and quality of employees and improving the maintenance of production equipment to support local and regional market expansion. Additionally, the company can develop training and development programs to enhance operational efficiency and employee productivity.
- c. Strengths-Threats (S-T) Strategy: Use attractive packaging and maintained product quality to face competition from other local producers. Strengthening relationships with distributors and retailers can also help overcome distribution access limitations, making it easier for products to reach a broader market.
- d. Weaknesses-Threats (W-T) Strategy: Address production equipment maintenance issues and employee shortages to ensure operational stability. Moreover, develop more efficient distribution strategies to overcome infrastructure limitations and actively monitor changes in consumer preferences to quickly adapt to market trends.

CONCLUSION

To improve the efficiency of the sago supply chain in Merauke Regency, better agricultural production management, enhanced logistics systems, and improved access to information for farmers are essential. The government needs to invest in road construction and facilities to support improved logistics performance. Additionally, enhancing human resource capacity through managerial training and the adoption of advanced technology is crucial for achieving better sustainability and competitiveness in both local and international markets.

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