



A Palm Sap-Based Brown Sugar Business Development Strategy Based on the Business Model Canvas

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Abstract

Through the nine elements of the business model canvas, this study seeks to identify or develop a strategy for the development of a palm sap-based brown sugar business at CV. Ritawati Silau Rakyat Brown Palm Sugar, Serdang Bedagai, Indonesia. The goal is to establish partnerships to work together to increase revenue and market share. A qualitative approach combined with phenomenological analysis was used to investigate the phenomenon that arises in the field connected to the growth of a brown sugar enterprise based on palm sap in Silau Rakyat Village. Results of the Business Model Canvas Analysis at CV. Ritawati Palm Brown Sugar is a customer segment, local consumers who are looking for natural sweeteners. It has a distinctive taste and authentic aroma. Its distribution is carried out through collectors for the local market. Building customer relationships and communication directly and through social media. Revenue streams: The main source of income is the sale of palm sap brown sugar. Key Resources: The main resource includes palm sap water as a raw material. Key activities, including procurement of raw materials. Key Partnership: Partnership with oil palm farmers. Cost structure, including production, distribution, taxes, and packaging. However, challenges, such as seasonal dependence and raw material availability, remain. The solution to these challenges is to implement key partnerships in the form of procuring palm sap from surrounding areas to address declining palm sap production in Silau Rakyat Village.

Keywords: *Palm Oil Brown Sugar, Business Model Canvas, Business Development Strategy, Silau Rakyat Village*

INTRODUCTION

The agricultural activities undertaken by Indonesians to meet their daily needs are generally closely linked to the economy of the country. The plantation industry is a crucial agricultural sector for the country's growth. Palm oil is one such commodity that is widely preserved by the community. The plantation commodity oil palm (*Elaeis guineensis* Jacq) significantly contributes to Indonesia's foreign exchange earnings from the non-oil and gas industry (Purwasih, 2021). One of the raw materials for brown sugar that is currently under development is palm sap produced from oil palm trees.

Business development is conducted to increase income because it can minimize the occurrence of an economic crisis (Nurwayakkuba & Hasni, 2023). Farmers' incomes will not only increase but also add value to a previously underutilized product by developing this brown sugar business. Business development, such as brown sugar production from palm sap, offers the opportunity to participate (Georgescu et al., 2022). By optimally utilizing existing resources, village economies can strengthen competitiveness and ensure sustainability (Zhang et al., 2023). A business model canvas is one of the most strategic and successful business development techniques for expanding a company's potential (Putri et al., 2023). In the process of achieving the desired profitability, business actors must implement strategies in every company activity (Batubara &

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Harahap, 2022). For a business to compete with other industries, assessing the strategies that have been implemented is important (Nufikha et al., 2023). Through an evaluation of the business model currently being implemented, one of the business models can be assessed using the business model canvas (BMC) (Suryawan et al., 2022). A strategic tool for evaluating a company's future is the business model canvas (BMC), sometimes referred to as business modeling (Maftahah et al., 2022).

One of the brown sugar production centers, Silau Rakyat Village, is located in Sei Rampah District, Serdang Bedagai Regency (Setiawan, 2023) and has significant potential for processing palm sap into brown sugar. This potential presents an opportunity to create a palm sap-based brown sugar business model that can boost the local economy and encourage product diversification from oil palm plantations. As a component of the food industry, brown sugar is used in small-, medium-, and large-scale household businesses (Syarif et al., 2024). Oil palms often need to be revitalized after their productive life of about 25 years. Brown sugar can be prepared by extracting palm oil from the sap before revitalization. The sap used to make brown sugar is obtained from unproductive oil palms (TTM). The oil palm plantation in Silau Rakyat Village continues to grow. The following table illustrates this:

Table 1. Land Area and Palm Oil Production of Smallholder Plantations

Year	Area of Oil Palm Plantation (ha)	Palm sap production in Silau Rakyat Village (ton)	Palm oil production from surrounding villages/partners (ton)	Production of Palm Oil Brown Sugar (Tons)
2021	500	1,500	-	150
2022	520	1,350	-	195
2023	550	950	1,660	295
2024	580	927	1,710	310

Source: Interview Results

Table 1 shows the decline in palm sap production in Silau Rakyat Village. This poses a problem for Ritawati, a palm sap palm sugar entrepreneur. However, the presence of palm sap production in the area around Silau Rakyat Village indicates the potential for increased palm sap production. Despite the decline in palm sap production in Silau Rakyat Village, the quality of the sap produced in this village continues to perform at its best. This potential quality makes it an ideal raw material for palm sugar processing. Field data show that palm sap production has decreased significantly in the past three years, with a decrease of around 20-30% from the previous annual production volume. For example, in 2021, production reached around 1,000 liters per farmer per season, and in 2024, that volume dropped to around 700-800 liters. This decline is influenced by factors such as climate change, pest attacks, and suboptimal harvesting practices. However, more detailed quantitative data must be collected to strengthen these findings. Data were collected from the entire oil palm plantation community in Silau Rakyat Village, including independent farmers, plantation workers, cooperative managers, and companies operating in the area. This coverage provides a more representative picture of the village-level social, economic, and business practices of oil palm plantations.

Based on this phenomenon, the development of a palm sap brown sugar business can be carried out by obtaining palm sap from the area around Silau Rakyat Village. This is in accordance with the growth theory, which assumes the availability of relatively stable resources or raw materials that can be increased over time to achieve sustainable growth. However, this theory contradicts the existing reality due to the decline in production of the main raw material (palm sap) in the Silau Rakyat area. Based on this situation, a business development strategy is needed by producing palm sap from the surrounding area and having the same quality as the sap from Silau Rakyat Village. Both palm sap brown sugar and palm sugar come from the sugar palm tree, but the terms are often used with slight differences. Palm sap brown sugar is made directly from the sap or sweet sap taken from the flowers of the sugar palm tree, which is then boiled and cooked until it thickens and crystallizes into reddish brown sugar with a distinctive sweet, slightly caramel aroma. While palm sugar generally comes from the sugar palm tree, the term can refer to various forms of sugar produced from the palm tree, usually from its sap, but is sometimes used more broadly for a variety of sugar products, including those that may be processed using different methods. In other words, palm sugar is a specific type of palm sugar produced from the sap using a traditional process, while palm sugar can be a more general term for any sugar produced from the palm tree.

The canvas business model is attractive and provides solutions to solve problems (Awaluddin et al., 2021) and provides a fundamental overview of how businesses generate, provide, and capture value (Anter et al., 2022). One of the benefits of using a business model canvas is that it offers a clear and concise overview of a company's current state based on its cost structure, revenue streams, client base, and partnerships. All of this is explained using nine conceptual elements that show how the company makes money (Putri et al., 2023) Indonesia has begun using the business model canvas as a tool to identify company growth prospects. Because it comprehensively describes the elements of marketing, human resources, finance, and value proposition, business analysis using the canvas is considered effective. It helps entrepreneurs determine their company's direction and identify their current competitive advantages (Suwarni & Handayani, 2020).

The nine components that make up the canvas business model are interconnected, recognized as essential in developing a successful business plan, and demonstrate how a company operates to maximize profits. The canvas business model has nine elements to facilitate its users in implementing the model: customer segment, value proposition, channel, customer relationships, revenue stream, key resource, key activity, key partnership, and cost structure. The application of this model to the palm sugar industry will increase efficiency by opening new markets through the integration of all business operations. Employees and cooperative partners' involvement is crucial, especially in cultivation, as this influences the production of high-quality products (Syahfitri et al., 2022).

This research is expected to contribute concrete strategies such as improving the supply chain through the integration of palm sap farmers with processing businesses, developing branding that emphasizes the uniqueness and quality of palm sap brown sugar as a natural and traditional product, and product standardization to ensure quality consistency and increase competitiveness in national and international markets. In addition, cooperative marketing is expected to be one of the main strategies to strengthen farmers' and small producers' bargaining position in the palm sap brown sugar business ecosystem. Theoretically, this study contributes to the development of an adaptive and inclusive business model using the BMC framework adapted to the characteristics of traditional industries, thereby providing new insights into how local resource-based businesses can be optimized through integrated business model innovations between production, marketing, and governance aspects.

Palm sap is typically produced by family businesses. However, the market demand for palm sugar has increased over time, especially given its relatively lower price compared to palm sugar. This trend suggests that palm sap has excellent growth potential on a larger scale. This led to the establishment of a home-based palm sap palm sugar business, which has been operating since 2011. The owner, Mrs. Ritawati Napitupulu, currently employs seven people. The scarcity of palm sap palms is a problem for palm sugar entrepreneurs, and with many palm trees no longer productive, entrepreneurs have chosen a raw material other than palm sap, utilizing the palm sap from the non-productive trees. Farmers need not worry about poverty, as this approach can provide basic needs without overspending. However, many people still do not know that brown sugar can be produced using palm sap as the raw material. Therefore, a business strategy is needed to boost and increase the product's market competitiveness. The business model canvas (BMC) is a business strategy that has been widely applied in various industries, both small and large ([Wisnubroto et al., 2024](#)). The competitiveness of palm sap brown sugar is considered lower than that of the more popular palm sugar in the market, mainly due to price, distribution, and consumer preferences. Palm sap brown sugar commonly sold in the market is usually produced on a larger scale and has a wider distribution network, so the price tends to be more competitive and more accessible to consumers. In addition, the widely recognized palm sugar brand gives buyers more trust, while palm sap brown sugar often receives less attention in terms of branding and promotion. Consumer preferences also tend to lean toward palm sugar, which is considered more versatile and readily available, so palm sap brown sugar loses out in competition despite its unique taste and high natural quality.

Palm sap palm sugar faces different challenges and opportunities than palm sugar in general or cane sugar due to its more traditional production process, relatively small scale, and dependence on sap, which is seasonal and vulnerable to climate change. Furthermore, palm sap palm sugar offers added value in the form of a distinctive flavor and potential niche market that prioritizes natural and organic products, unlike mass-produced cane sugar with a more structured supply chain. Applying the BMC in this context can unlock new theoretical insights by helping entrepreneurs understand and manage key business aspects, such as customer segments, unique value propositions, revenue sources, and strategic partnerships more systematically. With the BMC, palm sap palm sugar entrepreneurs can design adaptive and innovative business models while identifying market development opportunities and operational efficiencies that have been underexplored in traditional sugar production.

Muhammad Adib et al. (2024) conducted research on business development strategies with their research entitled Training on Developing Business Strategies Based on the Business Model Canvas in the Palm Sugar Industry in Nagari Talang Anau, concluding that the palm sugar industry has not developed optimally and still uses conventional methods for its business management strategy. Therefore, the team conducted training activities on developing business strategies based on the BMC. Furthermore, [Makkarennu and Rahmadani \(2021\)](#) conducted research on the application of the business model canvas in Palm Sugar Business Development Implemented in Soppeng Regency, South Sulawesi. According to their research, this sector continues to rely solely on collectors and lacks marketing initiatives to attract new clients, maintaining the same market segmentation as it has been doing for a long time. [Syahfitri et al. \(2022\)](#) also conducted research on the business model canvas at PT. Candi Baru Sugar Factory, Sidoarjo, East Java, concluded that entering the food sector is one of two options for developing consumer groups and building additional market space in the business model canvas.

The analysis shows that the Glithi Manis MSME in Blitar Regency is well-suited to the Business Model Canvas framework, with diversification emerging as the primary strategy. The theory developed in this research differs from earlier approaches that focused mainly on industrial

management. Instead, this study emphasizes the application of the Business Model Canvas to help micro and small enterprises design their business models in a more detailed and easily understandable way.

Currently, palm sap brown sugar from Silau Rakyat Village is predominantly marketed domestically and regionally, but global trends that increasingly emphasize sustainable and value-added agricultural products create strategic opportunities for this product to expand its international market. The uniqueness of palm sap brown sugar, which is traditionally produced using environmentally friendly methods, makes it an ideal candidate to meet the growing demand of global consumers seeking natural, organic, and sustainable products. With more modern processing and quality standardization, palm sap brown sugar can be developed as a value-added product with a distinctive brand that appeals to niche export markets, such as organic markets in Europe and North America. This link between the local context and global market dynamics can be strengthened through strategies to strengthen sustainable supply chains, product certification, and collaboration with cooperatives or businesses with international market access, so that Silau Rakyat Village can directly benefit from these global demand trends.

This study chose to use the Business Model Canvas (BMC) because this framework can provide a comprehensive and systematic overview of various important aspects of the palm sap brown sugar business in Silau Rakyat Village, starting from customer segments, value propositions, distribution channels, to cost structures and revenue sources. BMC is very relevant in practice because it helps traditional business actors understand and organize their business models in a more structured and easy-to-implement way, so they can identify opportunities for innovation and efficiency in the value chain that have been under-explored. Theoretically, the use of BMC in the context of traditional agribusiness, such as palm sap brown sugar production, makes a significant contribution by expanding the application of modern business frameworks to the small- and medium-scale agricultural sector, which has received little attention in the agribusiness literature. Thus, BMC not only helps solve the practical problems faced by local farmers and producers but also generates new theoretical insights related to the development of adaptive and inclusive business models in the local RBAS. This study aims to analyze the development strategy of the palm sap brown sugar business based on the nine elements of the business model canvas. From the background above, the author is interested in discussing the "Strategy for Developing Palm Oil-Based Brown Sugar Business Based on the Business Model Canvas (BMC)."

LITERATURE REVIEW

Strategy

The words "strategic," meaning according to a plan or strategy, and "strategy," meaning the study of strategy, are the linguistic roots of the word "strategy." According to this definition, a strategy is a carefully considered plan of action to achieve a specific goal. In a book by Erni Tinawati and Kurniawan Saefullah, Griffin states that strategy is a well-thought-out plan to achieve an organization's goals. In addition to achieving goals, the strategy seeks to maintain the sustainability of the organization within the environment in which it operates. Strategy is a comprehensive approach to planning, implementing, and implementing a concept over a specific period of time (Imsar et al., 2021). Development is the process of using education and training to improve a person's theoretical, conceptual, and moral skills according to the demands of a job or position. Business is an activity undertaken by an individual or organization with the goal of making money. A company's business development plan outlines its assumptions about how various marketing tactics will affect demand for its product or product line in a specific target market. A company unit's marketing strategy is a plan for achieving its marketing objectives (Saifudin et al., 2023) Palm sap brown sugar is brown sugar that uses raw materials from sap produced by oil palm plants

([Rahmaini et al., 2023](#)) palm sap palm sugar has significant potential because it is much cheaper than palm sugar of the same quality. Furthermore, this industry is also a profitable alternative source of income for oil palm farmers.

Strategic management in small-scale agribusiness is often underutilized due to limited resources, knowledge, and adequate market information. Many small agribusinesses still operate with a traditional, reactive rather than proactive approach, focusing solely on production without long-term planning or comprehensive business management, such as marketing, product innovation, and partnership development. As a result, they struggle to compete in an increasingly complex and dynamic market, especially when facing pressure from large-scale agribusinesses or more standardized and differentiated imported products ([Saifudin et al., 2023](#)). This challenge is also very real in the context of the palm sap brown sugar business, where producers and farmers often do not apply strategic management principles such as market analysis, customer segmentation, efficient supply chain management, and systematic brand and value-added product development. This resulted in palm sap brown sugar products still being oriented toward the local market with relatively low sales value and limited competitiveness. Business actors can design more focused and adaptive strategies, improve operational efficiency, expand marketing networks, and develop products that better suit local and global market needs by integrating strategic management into the palm sap brown sugar business, for example, through the use of tools like the Business Model Canvas. This approach not only strengthens the business's position in the market but also improves business sustainability and farmer welfare, while making a significant contribution to the development of more modern and competitive small-scale agribusiness.

Several strategies for the development of palm sap sugar that have been successfully implemented in other regions include strengthening the supply chain through partnerships between farmers and processing businesses, implementing product standardization to ensure quality, and developing branding that emphasizes local uniqueness and cultural values. For example, farmer cooperatives have successfully optimized joint marketing and access to broader markets, including niche export segments, in several regions in Java and Bali. However, palm sap sugar has unique characteristics that set it apart, such as a production process that is highly dependent on the season and local environmental conditions, and a relatively small and traditional business scale. This creates unique challenges in terms of quality consistency and production capacity, which are difficult to quickly standardize. Current research gaps lie in the limited number of studies integrating modern business management approaches, such as the Business Model Canvas, with specific local conditions, and a lack of focus on how these strategies can be effectively adapted and implemented in the context of small communities, such as Silau Rakyat Village. Existing studies tend to emphasize the technical aspects of production or marketing without linking them to the development of a comprehensive and sustainable business model.

Business Development

Business development is a strategic process undertaken by a business entity to increase its market capacity, efficiency, and competitiveness. Business development generally encompasses a series of activities aimed at expanding the scale of operations, improving the quality of products or services, and strengthening the business's position through innovation, resource enhancement, and product diversification. This process encompasses not only production aspects but also management, marketing, finance, and human resource development improvements. The primary goal of business development is to create sustainable growth by increasing revenue, expanding market share, and ensuring long-term business continuity. In other words, business development aims to address the challenges of a changing business environment while simultaneously

capitalizing on new opportunities to achieve competitive advantage.

The benefits of business development are diverse, particularly in terms of improving operational efficiency and strengthening business competitiveness in an increasingly complex market. Businesses can improve product quality, expand distribution networks, and strengthen brands through business development, all of which contribute to increased customer satisfaction and market loyalty. Furthermore, business development plays a crucial role in creating innovations that can open new market segments and increase profitability. From a social and economic perspective, business development improves the well-being of businesses and workers, drives local economic growth, and strengthens business resilience to risks and market changes. In the context of small- and medium-sized enterprises, business development is key to business survival and growth in the middle of increasingly fierce competition and ever-changing market dynamics.

Business Model Canvas (BMC)

The use of the Business Model Canvas facilitates a dynamic approach to creating business models that considers the realities of the competitive business environment. This method is being used in Indonesia to identify company growth prospects. In 2009, Osterwalder and Pigneur proposed the Business Model Canvas, which constructs a business model with nine sections ([Suwarni & Handayani, 2020](#)). According to Osterwalder and Pigneur, the Business Model Canvas is a standard language for characterizing, illustrating, evaluating, and modifying business models. According to Osterwalder and Pigneur (2024), a business model consists of nine fundamental components that describe how an organization views revenue generation. ([Muharram & Alfannur, 2024](#)). The nine blocks are customer Segments are intended to identify groups of people or organizations that are the primary target market ([Makkarennu & Rahmadani, 2021](#)). In this case, a group of people will exhibit different needs and have unique characteristics based on their respective interests. A customer segment refers to a group of people who may act differently but share similar needs and desires that are served by a business or industry. The Value Proposition describes the product or service offered to customers and reflects its ability to attract them by providing meaningful value. It focuses on the solutions presented to meet customer needs or solve customer problems, giving them a strong reason to choose the product or service. Channels, on the other hand, explain how a company delivers its value proposition to customers, which may include distribution, communication, or sales pathways. Through these channels, businesses can effectively reach and interact with their customer segments while delivering the promised value.

The BMC is more suitable for use in the study of palm sap brown sugar business development than other models, such as SWOT, Porter's Five Forces, or Value Chain, because it offers a more holistic and practical framework in designing and managing a business model as a whole. Unlike SWOT, which only analyzes strengths, weaknesses, opportunities, and threats without providing concrete implementation guidelines, or Porter's Five Forces, which focus on macro-level analysis of industry competition, BMC directly maps the nine main blocks of the business—starting from customer segments, value propositions, distribution channels, customer relationships, revenue sources, key resources, key activities, partnerships, and cost structures—which are very relevant for small-scale businesses with complex challenges, such as palm sap brown sugar. Furthermore, although the value chain is useful for identifying value-added activities, this model is less effective in integrating marketing, customer, and revenue model aspects simultaneously like BMC. Specific issues, such as fragmented supply chains and weak customer targeting, can be better addressed with the BMC in the context of palm sap brown sugar because this model allows for a clear mapping of the entire business ecosystem, identifying weaknesses and opportunities in each block, and designing a cohesive and adaptive strategy. Thus, the BMC serves not only as an analytical tool but also as a practical guide for innovation and sustainable business model development. Cost

Structure: The final element of the BMC is the cost structure. This cost structure includes production, distribution, marketing, administration, and other business operations-related costs.

RESEARCH METHOD

This study was conducted in Silau Rakyat Village, Sei Rampah District, Serdang Bedagai Regency. The research method used a qualitative approach with phenomenological analysis to explore the development of palm sap-based brown sugar businesses in Silau Rakyat Village. This study uses the CV case. Ritawati Palm Brown Sugar because this company represents a small-scale palm sap-based brown sugar business that still uses traditional production processes while also seeking to more systematically develop its business model. Ritawati has representative characteristics, such as dependence on local palm sap, supply chain limitations, and marketing and branding challenges, thus serving as a concrete example to understand the dynamics and obstacles faced by similar businesses in other areas. In addition, the existence of the CV. As a formally organized business actor, Ritawati facilitates data collection and the business model canvas framework's practical application. This study aims to explore and understand the business model canvas (BMC) development strategy in the palm sap brown sugar business founded by Mrs. Ritawati Napitupulu by examining how business actors feel and interpret their experiences. It also aims to understand how individuals in this business experience and give meaning to the development of the business model. In this study, customers, traders, and local officials were excluded because the study primarily aimed to explore the internal experiences of oil palm plantation business actors in Silau Rakyat Village, particularly regarding the daily production, management, and operational challenges they face. We used interview techniques with owners, partners, and workers as well as observations on the management of this palm sap brown sugar business to collect data.

Table 2. Palm Sap Brown Sugar Business to Collect Data

NAME	AGE	GENDER	ROLE	YEARS OF EXPERIENCE
Ritawati	56 years old	Woman	Owner of the CV. Ritawati palm brown sugar	2009-present
Riswandi	54 years old	Man	Business Partners	2015-present
Ahmad Maulana	32 years old	Man	Farmers of palm oil	2012-present
Fauzan Hilmi	43 years old	Man	Workers at CV Ritawati palm brown sugar	2014-present
Hartono	38 years old	Man	Agent/Collector	2013-present
Lisa	25 years	Woman	Workers at CV Ritawati palm brown sugar	2023-present
Ratih	42 years old	Woman	Workers at CV Ritawati palm brown sugar	2012-present

Source: Observation Results, 2025 data

In this study, the sample size was determined based on saturation, which was achieved through repeated interviews and observations until no additional data or new themes were discovered, thus ensuring sufficient data to produce valid and reliable findings. Interviews were recorded and transcribed verbatim. Customers, merchants, or local officials were excluded, usually

due to time constraints, access limitations, or the focus of the research on the internal perspective of business actors. The research was conducted over a two-week period, using in-person visits. Ritawati Palm Brown Sugar (RBP) The exact number of interviews conducted per participant, no follow-up sessions included, the average duration of each interview was only 20 minutes, the observation was a participant observation, or the specific stage of the production process was the entire production process. Data obtained from interviews and observations will be mapped into the following nine stages of the business model canvas (BMC):

Table 3. Nine Stages of The Business Model Canvas (BMC)

Customer segment (Customer segment)	Talking about the people who use the goods and services provided.
Value propositions	Highlight the unique features of a product or service. In addition to solving problems and meeting customer needs, this uniqueness must differentiate it from competitors.
Channel (Speaker channel)	It is about how a business delivers its value proposition by communicating with various client groups. It includes tactics to increase visibility, facilitate consumer evaluation, and assist clients in purchasing its goods or services.
Customer relationship	Companies increase their connections with current and potential clients.
Revenue stream (source of income)	This section discusses the transactions that each client group uses to make money.
Key resource (resource)	It includes all resources—physical, human, intellectual, and technological—that are essential to the business model's effective functioning.
Key activities	These are the main elements of a company's operating model.
Key partnership (cooperation)	This section discusses who the partners should work with to run the company.
Cost structure	This section outlines the business owner's overall expenses.

Establishing strict mapping rules—themes are only attributed to one or more BMC components if they meet the evidence criteria. Validate with source triangulation, inter-coder or member checks, document all decisions in an audit trail, visualize the initial BMC map, and mark cross-component or ambiguous themes as contextual findings to avoid forcing the data.

The case study approach is more relevant because it allows for in-depth contextual analysis of the specific business dynamics at CV. Ritawati Palm Brown Sugar, while also providing space to integrate quantitative and qualitative data in developing a BMC. If phenomenology is maintained, it is necessary to clearly explain how phenomenological insights—for example, the experiences, values, and perceptions of business actors—are processed and translated into BMC

blocks, so that the resulting business elements are not only based on technical data but also reflect the humanistic and cultural aspects that holistically shape the business model. Phenomenology is the primary approach, and the themes resulting from these experiences are then systematically mapped into BMC elements (e.g., experiences of difficulty accessing capital → key resources, strategies for dealing with customers → customer relationships). However, if the focus is on deeply analyzing business practices in a specific context, case studies are more appropriate as the primary design and phenomenology is abandoned to avoid paradigm inconsistencies.

FINDINGS AND DISCUSSION

Implementation of the Business Model Canvas in the Palm Oil and Palm Sugar Business in Silau Rakyat Village

The implementation of the palm sap brown sugar business in Silau Rakyat Village can be explained in more detail and arranged in line with the nine elements of the BMC block, which will increase productivity, in accordance with the results of research conducted through observation and interviews with several sources ([Ichsan et al., 2023](#)) business actors can be planned in more detail.

In the development of the palm sap sugar business model in Silau Rakyat Village, the potential for revenue streams from transportation services was mentioned. However, transportation services have not yet become a practical practice among business owners based on interviews and field observations. Farmers and producers rely more on private or informal and unorganized public transportation services as part of their businesses. This indicates that transportation services have not yet become a real source of income, but rather a logistical necessity that has been handled independently without a formal business model. Therefore, the inclusion of transportation services as a revenue stream in the BMC at this stage remains an assumption or idea that has not yet been realized in daily practice.

Based on the interview results with Mrs. Ritawati, it was stated that "As a development potential, transportation services do have a strategic opportunity to be integrated into the palm sugar business model to improve supply chain efficiency and open up new revenue sources." By managing transportation services in an organized manner, for example through cooperatives or partnerships with local transportation service providers, CV. Ritawati and other business actors can reduce logistics costs, accelerate product distribution, and create added value that can be monetized." This is in line with the agribusiness development trend that prioritizes value chain integration and revenue diversification. However, clearly separating transportation services as a potential business development idea from existing revenue streams is important so that the business model analysis remains accurate and based on current field facts. Thus, this study can provide realistic and measurable strategic recommendations for future business development. The results of research with nine business components in BMC are presented below.

Table 4. Nine Business Components in BMC

Key Partnership	Key Activity	Value Proposition	Customer Relationship	Customer Segment
- Partnership with palm oil farmers in and outside the region to obtain raw materials. - The palm sap brown sugar collector.	- Procurement of raw materials. - Management and monitoring of the brown sugar production process of palm sap. - Packaging. - Distribution from producers to consumers. Key Resources - Raw material (palm sap). - Place and means of production. Key Resources - Raw material (palm sap). - Place and means of production.	- Palm sap brown sugar as a healthier natural sweetener. - Distinctive taste and authentic aroma.	- Direct communication and through social media. - Transactional relationships (sales through intermediaries). Channel - Collector trader. - Market place.	- Local consumers. - Home industry using palm sap as a raw material for brown sugar production.
Cost Structure			Revenue Stream	
- Production cost. - Distribution costs. - Tax costs. - Marketing costs.			- Profit from sales results. - Profit from transportation services.	

a. Customer segment(Customer segment)

Identifying customer segments is a crucial step in understanding a value proposition's primary target audience. The primary customer segments for this palm sap brown sugar product are divided into two categories. First, local consumers with a preference and awareness of the importance of natural sweeteners and a healthy lifestyle. This segment tends to seek sugar alternatives that provide not only sweetness but also health benefits. Second, there are cottage industries that use palm sap brown sugar as a raw material. This segment represents a significant business-to-business (B2B) market, showing potential for larger-scale supply, supporting local creative industries, and participating in the downstream product value chain. A deeper understanding of these two segments will enable marketing and sales strategies to be more focused.

b. Value proposition (value proposition)

The core of how this product creates value for its customers is the value proposition. PBBS offers two distinct and complementary value propositions. First, in terms of quality and taste ([Arif et al., 2023](#)), it is a healthier natural sweetener. This value responds to global and local trends of increasing health awareness, where consumers are becoming more selective about food ingredients. With its natural characteristics and minimal processing, palm sap brown sugar offers a better alternative to refined sugar. Second, this product boasts a distinctive taste and authentic aroma. This unique taste is not just a sweetener

but a distinct sensory experience that can be a key market differentiator. This authenticity can build an emotional connection with consumers, especially those who value local and traditional products.

c. Channel (Channel)

Channels serve as a bridge between value propositions and customer segments. In this context, the distribution strategy utilizes two primary, complementary channels. First, wholesalers act as key intermediaries in collecting and distributing products from producers to broader markets, including grocery stores and traditional markets. This channel is crucial for penetrating local and regional markets. Second, the use of marketplaces (online platforms) is crucial in today's digital era. These online channels not only geographically expand market reach but also facilitate direct sales to end consumers, shortening the distribution chain and enabling more direct interaction. The combination of these two channels ensures product availability in physical and digital markets.

d. Customer Relationship (CR)

A customer relationship strategy is designed to create, maintain, and develop positive customer interactions. The proposed approach encompasses two main aspects. First, direct and social media communication. Direct communication can take the form of participation in exhibitions or community events, while social media allows for two-way interaction, feedback gathering, and the development of loyal online communities. This is crucial for building trust and brand loyalty. Second, transactional relationships through intermediaries are also a focus. Although indirect, maintaining good relationships with wholesalers or sales partners through intermediaries ensures smooth transactions, consistent product availability, and accurate information delivery to end customers.

e. Revenue stream (source of income)

Revenue sources identify how a company generates revenue from its value proposition. In this business model, there are two primary revenue sources. Profit derived from the sale of palm sap brown sugar products. This is the core revenue source based on sales volume and strategic pricing. Second, there is the potential for additional revenue from transportation services. This suggests that the company may offer delivery or logistics services to fulfill large orders (e.g., for cottage industries) or as a value-added service for individual customers. Diversifying these revenue streams can enhance financial stability and business flexibility.

f. Key Resources (Resource)

Resources are the assets needed to offer and deliver a value proposition. The operations of this business rely heavily on three crucial resources. First, the primary foundation is the raw material, namely, palm sap. The availability, quality, and sustainability of the sap supply directly impact production capacity and quality. Second, an adequate production facility that satisfies hygiene and food safety standards is essential. Third, appropriate production equipment, both traditional and modern, is needed to ensure efficiency and consistency in the processing of palm sap into brown sugar. The optimal management of these three resources is key to operational sustainability.

g. Key Activity (Activity)

The most crucial step a business can take to succeed is called activity. The palm sap brown sugar business has a series of core activities. This begins with the procurement of raw

materials, which ensures a stable and high-quality supply of palm sap. Next, the management and monitoring of the palm sap brown sugar production process is the core of the operation, encompassing all stages from tapping to crystallization, with a focus on quality control and efficiency. After production, effective and attractive product packaging is crucial to maintain quality and visual appeal. Finally, distribution from producer to consumer is a vital activity to ensure that the product reaches customers through established channels.

h. Key Partnership (Cooperation)

Collaboration or partnerships are networks of suppliers and partners that support this business strategy. These strategic partnerships significantly contribute to business sustainability and growth. First, partnerships with oil palm farmers, both within and outside the region, are fundamental to ensuring a consistent and sustainable supply of palm sap raw materials. These partnerships can include long-term agreements or other forms of mutually beneficial collaboration. Second, establishing close relationships with palm sap brown sugar collectors will also strengthen the supply and distribution chain, enabling products to reach a wider market more efficiently and reducing producers' initial logistics costs.

i. Cost Structure (Cost Structure)

The cost structure outlines all costs incurred in operating a business model. Various cost categories are critical components in calculating profitability. These include production costs (e.g., raw palm sap costs, labor costs for tapping and processing, and energy costs), distribution costs (including transportation, packaging, and related logistics costs), tax costs in accordance with applicable government regulations (local taxes and VAT if applicable), and marketing costs incurred for product promotion (social media advertising and exhibition participation fees). Optimizing and carefully managing all these cost components is key to ensuring financial sustainability and determining competitive selling prices.

In interviews with business owners in Silau Rakyat Village, many palm sap workers and farmers directly revealed the specific challenges they face in producing palm sap brown sugar. Mr. Ahmad Maulana, a palm sap farmer, explained, "The increasingly long dry season makes it difficult for the palm sap to come out of the palm flowers, so we have to wait longer and the yield decreases." This demonstrates the dependence of sugar production on natural conditions that are highly vulnerable to climate change, in contrast to cane sugar production, which is more stable because it uses annual plants that are relatively resistant to weather fluctuations. Lisa, a palm sap worker, explained, "Sometimes the sap produced is unstable, especially during the rainy season, making it difficult to maintain the quality of the palm sugar." Another worker named Ratih explained, "The season is very influential; when it rains, the sap thins and the quality of the palm sugar decreases." Another challenge is that if the container for collecting sap is not completely clean, the resulting sap quickly turns sour and cannot be used." "In addition, a worker named Fauzan Hilmi said, "We have difficulty maintaining the quality of the sugar because the equipment is still traditional and production capacity is limited, so sometimes the color and texture of the produced sugar are uneven." This situation shows that the processing process is still simple and is the main obstacle in maintaining product consistency, which has an impact on market acceptance and selling prices. This finding agrees with previous studies that highlighted technological and infrastructure limitations as major challenges for MSMEs in the traditional agribusiness sector.

Raw material suppliers in Silau Rakyat Village also revealed unique problems, such as supply chain fragmentation and a lack of organized market access, in terms of marketing and supply chain. Mr. Riswandi, a supplier/partner, said, "We have to sell palm sap to several different factories at frequently fluctuating prices, making it difficult to plan income and production." This situation differs from that of palm sugar supply chains in several other areas, which are organized into cooperatives or farmer associations, thus providing a stronger bargaining position and greater price stability. Furthermore, the palm sap palm sugar marketing model in Silau Rakyat Village remains heavily reliant on local markets and direct sales, without strong branding or digital marketing, which limits the product's penetration into broader, more modern markets. This uniqueness emphasizes that PSP business development strategies must consider local aspects that are closely tied to natural and social conditions and require innovation in supply chain management and marketing to compete effectively, as also noted in research on locally resource-based MSMEs.

Challenges and Problems Faced by Palm Oil and Brown Sugar Producers

Palm sap palm sugar producers face several challenges in running their businesses. One such challenge is the decline in local palm sap production, with a decline in palm sap production in Silau Rakyat Village, which has become a problem for palm sap palm sugar producers like Mrs. Ritawati Napitupulu. Furthermore, the palm sugar production process is highly dependent on the season and the availability of raw materials, namely sap from unproductive palm trunks. Furthermore, the packaging used by this company is unattractive and lacks labeling. The packaging used by palm sap palm sugar producers is still simple, made of plastic, and lacks product labeling, which can impact its appeal and marketability. Criticism of "unattractive" packaging should not only be visual but also encompass the regulatory and functional aspects required by modern and export markets. If packaging lacks BPOM registration, halal certification, a nutrition label, and mandatory information such as expiration dates and ingredients, the product will struggle to penetrate large retailers or international markets, even if it appears attractive. Without these features, the added value of packaging in building consumer trust and meeting official distribution standards is weakened, so that the product's position in BMC in both customer segments and distribution channels remains weak.

The challenge of declining sap production significantly impacts several key blocks in the BMC, particularly key resources and key activities. This decline directly impacts the availability of palm sap, the primary raw material in brown sugar production. If sap supply decreases, overall production capacity will also decrease, negatively impacting the volume of products that can be produced and sold. This threatens business sustainability and reduces competitiveness because limited production makes it difficult for companies to meet market demand, especially when competing with palm or cane sugar products, which have more stable production. Therefore, this challenge is crucial to maintain production resources and allow the business to operate optimally.

Seasonal dependence on palm sap production also significantly impacts the BMC's customer segments, channels, and revenue streams blocks. Because sap production is highly seasonal, the product distribution and availability of palm sap brown sugar are inconsistent throughout the year. This makes it difficult for businesses to sustainably maintain strong customer relationships and meet demand, especially in markets that require stable product supply. This supply uncertainty also impacts distribution channels, as businesses must adjust shipping and marketing schedules according to the season, ultimately resulting in fluctuating and unpredictable revenues. This seasonal dependence poses a significant challenge that hinders business development and weakens market competitiveness.

The issue of unattractive packaging is closely related to the BMC's value propositions and customer relationships blocks. Unattractive or uninformative product packaging can reduce a product's appeal to consumers, especially in today's increasingly competitive market, which is influenced by branding and product presentation. Today's consumers are looking not only for quality taste but also for the visual experience and esthetic value inherent in the product. Unattractive packaging can lower the product's perceived value and make it less competitive with palm or cane sugar products that already have more professional and modern packaging. Furthermore, ineffective packaging can reduce customer trust and loyalty, thereby hindering the development of long-term relationships with consumers. Therefore, packaging improvement is a crucial element in strengthening the value proposition and increasing the competitiveness of palm sugar in the market.

The challenge of declining sap production is directly related to the key resources and key partnerships elements in the BMC, as the decline in palm sap supply threatens the availability of the primary raw material required for production, necessitating the strengthening of partnerships with farmers or suppliers to ensure supply continuity. Seasonal dependence impacts customer segments, channels, and revenue streams, as production fluctuations cause instability in meeting customer needs and disrupt distribution schedules and sustainable revenue. Meanwhile, the issue of unattractive packaging is closely related to value propositions and channels, as packaging serves as a representation of the product's value received by consumers and is the primary medium for attracting interest and strengthening customer relationships. By explicitly linking these challenges to the BMC blocks, business actors can focus more on designing appropriate strategies to overcome these obstacles and increase the business's overall competitiveness.

Solution

Palm sap palm sugar producers can obtain sap from surrounding areas to address the decline in palm sap production in Silau Rakyat Village. Producers can obtain palm sap of similar quality from surrounding areas. This agrees with the business growth theory, which assumes the availability of stable or increasing resources. Furthermore, using TTM to extract sap is a solution to meet raw material needs and provide added value to previously underutilized products. The application of the BMC can also be a solution for palm sap palm sugar producers. Applying the BMC can be an effective business development strategy to design a detailed and easy-to-understand business model and increase product competitiveness in the market.

One practical step is to establish farmer cooperatives as key partners in the supply chain to address the challenges of declining sap production and seasonal dependence. These cooperatives serve as a platform for coordinating and empowering palm sap farmers, thereby increasing the efficiency of raw material collection, maintaining sap quality, and ensuring year-round supply continuity. Farmers can also receive technical training on palm tree management and more effective harvesting techniques through cooperatives, thereby increasing production and minimizing the risk of seasonal dependence. Furthermore, cooperatives can play a role in negotiating fairer and more stable prices for farmers, which directly impacts community income and socioeconomic well-being, as demonstrated in several other regions where cooperative implementation has increased farmer income by 20-30%.

On the marketing side, palm sap palm sugar businesses must develop strong branding by providing a special brand or label accompanied by product health and authenticity certification. This not only increases the product's added value in the eyes of consumers, especially in modern and export markets that increasingly prioritize sustainability and health, but also strengthens the value proposition that differentiates PSP from conventional PSP or cane sugar. Digital marketing training is also crucial for opening broader market access, using online platforms to reach new

consumers, and building customer loyalty through effective communication. Supporting socioeconomic data, such as increased cooperative income and reduced reliance on intermediaries, will strengthen social claims that can be used in product promotions. This approach allows business development to focus on production aspects and strengthens overall competitiveness through integrated marketing and branding strategies.

Business growth theory explains the stages of a business's development, from start-up, growth, expansion, to maturity, with different challenges and strategies at each stage. This study's application is to understand the current position of MSMEs—for example, whether they are still in the early stages of market discovery or have entered the expansion stage requiring product innovation, access to capital, and a broader distribution network—so that the strategies designed through the BMC can be more relevant to the real needs according to the business's growth phase.

CONCLUSIONS

The palm sap-based brown sugar business in Silau Rakyat Village has significant growth potential despite facing obstacles such as decreasing local raw material supplies and less than optimal packaging. Through the application of the Business Model Canvas, it was found that the number of consumers in the palm sap brown sugar business is still very limited, with only local consumers and home industries using palm sap brown sugar as an ingredient in their food and beverage processing. The offering through the Value Proposition is in the form of product quality, such as the distinctive taste and authentic aroma produced from palm sap brown sugar, so that it can attract customers to choose the product. The palm sap brown sugar business needs to improve channel elements to partner with staple food wholesale businesses to increase its business's consumers. Customer Relationship through good communication with customers through direct communication and social media. The revenue stream obtained from Mrs. Ritawati's palm sap brown sugar business comes from the sale of palm sap brown sugar products and from transportation services, with production costs, distribution, taxes, and marketing as the cost structure of its business implementation, of course maximizing the application of key resources consisting of raw materials and places and production equipment. Key activities include managing and monitoring the production process, packaging, and distribution of palm sap brown sugar from producers to consumers. Key partnerships are established with palm oil farmers within and outside the region to obtain raw materials, which have a positive impact because they are mutually beneficial for both parties. In this case, the application of the Business Model Canvas allows researchers to conclude that this business model significantly assists business actors in carrying out their business activities and can increase the income of BPBS entrepreneurs.

This study fills a gap in the literature by presenting a mapping of the palm sap brown sugar business model using the Business Model Canvas framework, which has rarely been comprehensively applied to small-scale agribusinesses and palm sap-based products. Most previous studies have focused on the technical aspects of production or marketing separately, without comprehensively integrating the strategic elements of the business within a single, systematic framework. This study differs by not only highlighting the challenges faced by business actors but also explicitly linking the various blocks within the BMC, such as the supply chain, value proposition, partnerships, and distribution channels, thus producing a more holistic and practical picture for business development. The novelty of this study lies in the use of the BMC to map the palm sap brown sugar business model, which has previously been limited to the technical aspects of production, nutritional value, or commodity potential. With the BMC, this study not only highlights the product but also directly connects the experiences of business actors with nine elements of the business model—for example, specific customer segments, distribution patterns, key resources, and potential partnerships—thus providing a comprehensive picture of the

challenges and opportunities for palm sugar commercialization. This approach provides new insights into how traditional products can be strategically positioned in a modern, market-oriented business ecosystem.

Local governments and cooperatives play a strategic role in supporting the development of palm sap brown sugar businesses through various concrete initiatives. Local governments can facilitate technical training and mentoring for business actors regarding attractive packaging that meets modern market standards while also providing access to environmentally friendly and economical packaging technology. Furthermore, the government can expedite the product certification process, particularly health and authenticity certification, by providing affordable services and simplifying the licensing process, thereby increasing the added value and consumer trust of palm sap brown sugar products. Cooperatives, as organizations that connect farmers and producers, can play a role in collectively organizing supply chains, coordinating raw material collection, and establishing strategic partnerships with logistics and marketing actors. Thus, collaboration between local governments and cooperatives can create a more integrated, efficient, and sustainable business ecosystem while increasing product competitiveness in local and national markets. Insights from the CV. Ritawati can be transferred to other small-scale palm sap brown sugar businesses if they operate in similar contexts, such as facing marketing challenges, access to capital, and packaging standards. These findings are indeed rooted in specific village conditions, but the principles mapped through BMC—such as distribution channel strategies, the importance of certification, or partnership patterns—can serve as practical references for comparable communities in various regions of Indonesia with similar socioeconomic characteristics and resource potential.

LIMITATIONS AND FURTHER RESEARCH

The limitations of this study lie in its limited scope, confined to a single location and with specific informants, making it unable to fully represent the varying conditions of palm sap palm sugar businesses in other regions. Furthermore, the use of BMC places greater emphasis on the business model, leaving unexplored external factors such as policies, global market dynamics, and technological change. Future research is recommended to expand the scope, involve more business actors and stakeholders, and integrate market and regulatory analysis to create a more comprehensive and applicable development strategy.

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