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Strategic Decision-Making Analysis on Product Prioritization at Batterspoon by Mulia Using Analytic Hierarchy Process (AHP)

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ABSTRACT

Micro, Small, and Medium Enterprises (MSMEs) contribute 61% to Indonesia's GDP and employ 117 million workers, with the food and beverage sector representing 28% of all MSMEs. *Batterspoon by Mulia*, a home-based bakery MSME in Depok, faces stagnating sales despite holding *halal* certification and a Business Identification Number (*Nomor Induk Berusaha* [NIB]) for its signature *cheesesticks*. The business operates with limited capital and multiple product lines, requiring strategic resource allocation to maximize investment impact. This study aims to analyze the strategic decision-making process for product prioritization at *Batterspoon by Mulia* by identifying key selection criteria, determining product priorities using the *Analytic Hierarchy Process* (AHP), and developing an implementation plan based on the prioritization results. This research employed a mixed-methods approach combining qualitative and quantitative analysis. The study population consisted of stakeholders directly involved with (Creswell & Clark, 2017) *Batterspoon by Mulia*'s operations, with eight participants selected through purposive sampling, including the General Manager, Production Manager, Marketing Manager, and external resellers/retailers. Root cause analysis revealed that stagnant sales stem from operational weaknesses across material, machine, method, people, and environmental factors, all linked to a lack of structure and limited capital. SWOT analysis identified five strengths, six weaknesses, five opportunities, and five threats. PESTLE analysis identified 14 macro-environmental factors affecting the business. This study demonstrates that AHP provides a structured, multi-criteria approach to product prioritization in MSME settings with limited resources.

KEYWORDS product prioritization; Analytic Hierarchy Process (AHP); MSME; strategic decision-making; product lifecycle management

INTRODUCTION

As a country with one of the largest populations in the world, Indonesia's economic structure is highly dependent on its domestic sector. According to data from Indonesia's Badan Pusat Statistik (BPS, 2025), in the first quarter of 2025 Indonesia showed positive economic growth, although it was slightly slower compared with previous periods. Indonesia's gross domestic product (GDP) during this period reached IDR 5,665.9 trillion, with a year-on-year growth rate of 4.87%, the slowest growth since the third quarter of 2021.

Bank Indonesia has estimated that Indonesia's growth will range from around 4.6% to 5.4%. The World Bank estimates growth of around 4.8% for 2025 to 2027, the IMF estimates economic growth of 4.7%, while the government has targeted growth of around 5.2% this year (Prakoso, 2025; Sulaiman and Suroyo, 2025). These projections indicate a slight economic slowdown under global pressures, despite support from relatively strong domestic demand. To respond to this slower growth, it is important to strengthen sectors that are particularly driven by domestic demand.

One of these domestic sectors, which has been a key foundation of Indonesia's economy, is household consumption and small-scale business activity, both of which play a vital role in the country's economic structure. As the economy recovers, Micro, Small, and Medium Enterprises (MSMEs) in Indonesia have experienced significant growth and have

become key drivers of job creation while supporting economic stability (GTPN, 2024). The total number of MSMEs in Indonesia reached approximately 66 million units in 2023, contributing about 61% of the country's national gross domestic product (GDP) and employing around 117 million workers (Tambunan, 2019). This substantial contribution shows that MSMEs can serve as a strategic driver for further economic improvement and increased job creation (Eniola & Ektebang, 2014; Kadin, 2025).

West Java contributes the largest share of small businesses, accounting for around 16.92% of the total national MSME contribution. This means that the Greater Jakarta area (Jakarta, Bogor, Depok, Tangerang, and Bekasi) potentially plays an important role in MSME growth as the most populous metropolitan region in Indonesia, especially in the food and beverage (F&B) sector, which contributes around 28% of all MSMEs (Kadin, 2025). The recorded numbers can also be clearly observed when comparing 2023 to 2016. The total number of businesses in the F&B sector reached 4.85 million units, representing an increase of around 21%, while total sales reached IDR 998.37 trillion, an increase of approximately 48% (BPS, 2023). Based on these figures, Greater Jakarta contributes a significant share due to its large population and strong demand, making it a natural expansion target for many MSMEs.

Within the F&B subsector of bakery/patisserie, demand is also increasing. For example, the consumption of bakery products increased by around 60% between 2016 and 2019. Industry reports also indicate that two-thirds of the national bread supply are produced by MSMEs and small bakery businesses, while larger industries contribute only around 19%. This trend supports the local MSME bakery industry, which holds approximately 49% of the market share (Bahtera Adi Jaya, 2024). This shows that small business owners still play an important role in meeting consumer demand. (Asioli et al., 2017)

With the continued growth in contribution and demand within the F&B sector—particularly in the bakery/patisserie subsector—MSME business owners in Indonesia are faced with increasing opportunities to improve their target sales and profits. Many MSMEs that previously focused on home-based operations are now expanding their businesses by adopting more systematic processes, increasing production capacity, expanding market reach, and adapting their products to increasingly complex consumer preferences. MSMEs in the bakery sector therefore have strong potential to expand their business scale sustainably in line with changes in urban lifestyles and the increasing consumption of bakery products.

To realize this potential and strengthen the foundation of MSMEs, cooperation between business owners and stakeholders is essential. Future challenges faced by MSMEs include innovation, technology adoption, digital literacy, productivity improvement, legality and licensing, financing, branding, marketing, human resources, standardization, certification, training, and facilitation (Kadin, 2025). These elements form an important foundation in the process of transforming MSMEs toward greater competitiveness. With the right improvement strategies, bakery MSMEs in densely populated areas such as Greater Jakarta have a strong opportunity to grow as part of the backbone of the national economy.

Batterspoon by Mulia is a home-based MSME bakery that originated in the early 2000s under the name "Niq Naq" in Pasar Minggu, Jakarta. After closing in 2009, the owner shifted to a made-to-order model and eventually rebranded the business in 2022 as Batterspoon by Mulia, obtaining a Business Identification Number (NIB) and halal certification while focusing on its signature cheesesticks. Operating in Cinere, Depok, the business primarily serves

customers in Jakarta and Depok through family-managed operations. The business relies largely on experience rather than formal training and currently uses a manual scheduling system for production and inventory management. Its product range includes cheesesticks, éclairs/choux, sponge cakes, puddings, and seasonal kue kering, primarily targeted at local middle-income families for gifting and social gatherings. Batterspoon by Mulia emphasizes product quality, professional packaging, and the warmth of family values, providing a competitive advantage; however, the owner seeks to increase sales and profits as the business currently faces stagnation.

Batterspoon by Mulia has experienced stagnating sales despite recent efforts to strengthen its brand, including obtaining NIB and halal certification for its cheesesticks. The business initially prioritized legal registration and packaging improvements for cheesesticks but did not further develop other products. Internal challenges include operating as a family-run business with limited training, reliance on a made-to-order system, the absence of formal sales evaluation, limited production capacity, and informal marketing practices, all of which contribute to ineffective customer engagement. Externally, various stakeholders—including part-time workers, suppliers, and competitors—also influence business operations and expansion. The customer base primarily consists of local middle-income families; however, there is growing demand for broader market reach and improved packaging suitable for gifting purposes. To address these issues, a root cause analysis is required to identify the fundamental problems hindering sales growth and to formulate an effective improvement plan.

The novelty of this research lies in its integrated methodological approach, combining Fishbone analysis for problem identification, SWOT and PESTLE for strategic analysis, the TOWS matrix for strategy formulation, and Analytic Hierarchy Process (AHP) for multi-criteria prioritization within a single comprehensive framework (Helms & Nixon, 2010). This integration provides a systematic pathway from problem identification to actionable implementation planning, addressing the gap between strategic analysis and practical decision-making. The application of Analytic Hierarchy Process (AHP) specifically to product prioritization in an Indonesian bakery MSME context represents a novel contribution to the literature, demonstrating how multi-criteria decision-making techniques can be adapted for resource-constrained small businesses (Aghdaie et al., 2013).

The business issue causing stagnating sales at Batterspoon by Mulia can be identified through a root cause analysis that includes five aspects: material, machine, method, people, and environment. When these issues are examined collectively, they indicate that improvements can be achieved through strategic allocation of the resources currently available to Batterspoon by Mulia, combined with targeted investment. Given the company's limited capital and its goal to expand into the Greater Jakarta retail and e-commerce markets, it has become essential for Batterspoon by Mulia to determine which products should be prioritized for investment, halal certification, and packaging improvement.

The research questions for this study focus on understanding the operational process and product selection criteria at Batterspoon by Mulia. Specifically, the study aims to assess the current conditions of the business, identify key criteria influencing product selection decisions, determine which products should be prioritized based on these criteria, and explore the effective implementation of the proposed business solution. Correspondingly, the research objectives are to analyze the current processes, identify relevant product selection criteria,

prioritize products accordingly, and develop an implementation plan for the proposed business solution. The scope of this research is limited to the MSME business Batterspoon by Mulia, which specializes in home-based bakery products, specifically five types: cheesesticks, éclair/choux, sponge cakes, pudding, and kue kering. The research utilizes the Analytic Hierarchy Process (AHP) to enable a structured decision-making approach by analyzing key criteria and sub-criteria for product selection. However, this study has limitations, including its focus on a single MSME, which restricts the generalizability of the findings, and it does not address broader marketing, operational, or financial aspects beyond product prioritization decision-making. The analysis relies on stakeholder interviews and document analysis to identify criteria and sub-criteria, while stakeholder surveys determine pairwise comparison weighting. The findings culminate in recommendations and an implementation plan; however, the actual execution of these decisions falls outside the scope of this research.

METHOD

Research Design

The research design to this study is structured to address the four research questions and objectives to ensure that the stages of the analysis are coherent, that are: 1) the current business process, 2) the key criteria of the product offerings, 3) the product prioritization, and 4) the implementation plan.

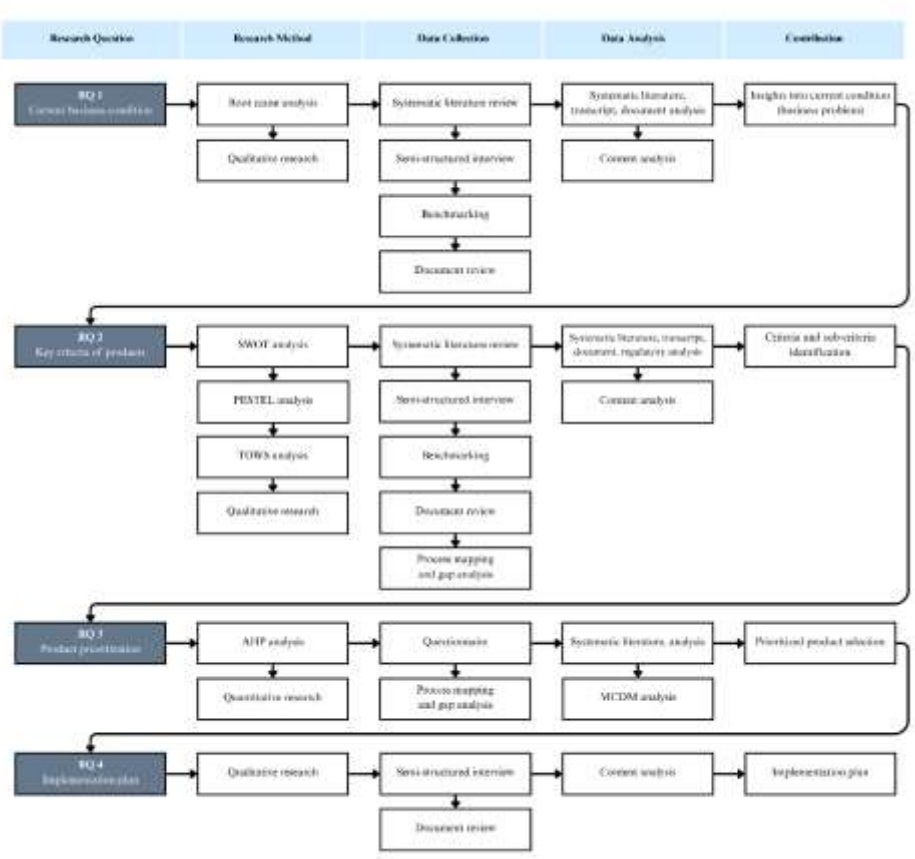

Figure 1 Research Design of The Study of Batterspoon by Mulia's Product Prioritization.

To address the first research question regarding the current operations of Batterspoon by Mulia, a root cause analysis will be conducted using qualitative research methods that include systematic literature review, semi-structured interviews with the General Manager, benchmarking, and document reviews. The data will be analyzed through content analysis of the literature, interview transcriptions, and documents, providing insights into the business's current condition. The second research question focuses on identifying key criteria for product offerings, employing SWOT, PESTLE, and TOWS matrix analyses, with data collected from literature reviews, interviews, benchmarking, and process mapping. This analysis will aid in determining criteria and sub-criteria for subsequent Analytic Hierarchy Process (AHP) analysis. The third research question emphasizes product prioritization through AHP, utilizing quantitative research methods and questionnaire surveys aligned with prior interviews. Data analyzed from literature reviews and stakeholder input will lead to a prioritized product selection. Finally, the last research question aims to develop an implementation plan using TOWS matrix analysis and Product Life Management (PLM) stages, structured around the AHP results. Data collection will involve semi-structured interviews and document review, with findings contributing to a reliable and structured implementation plan aligned with the business's future objectives.

Data Collection Method

The data collection method to this study is a combination of both primary and secondary sources to ensure a comprehensive understanding of the research problem that Batterspoon by Mulia is experiencing.

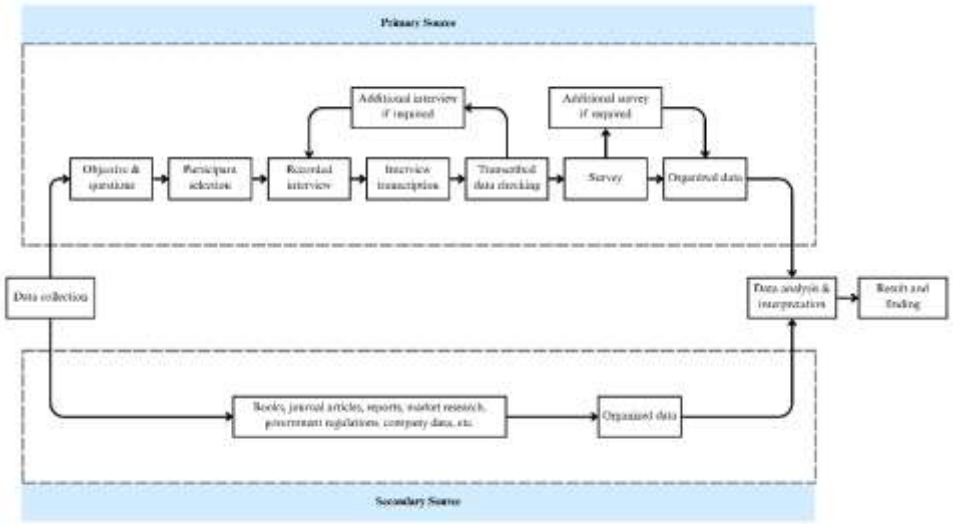

Figure 2 Data Collection Method of The Study of Batterspoon by Mulia's Product Prioritization.

Primary data for this study is collected through structured steps, starting with the formulation of research questions and objectives, followed by the selection of suitable participants for semi-structured interviews, which are recorded and noted. Eight participants

include internal roles like General Manager, Production Manager, and Marketing Manager, as well as external resellers and retailers, each contributing unique insights based on their experience in operational, marketing, and consumer behavior aspects. Interviews are transcribed, verified for quality, and may be supplemented with additional clarifications. Validation of the collected data occurs through a survey assessing the criteria identified. Secondary data is sourced from relevant books, journal articles, reports, and credible market research. The analysis method involves both qualitative content analysis, using tools like Fishbone, SWOT, PESTLE, and TOWS, and quantitative analysis through AHP and MCDM, ultimately resulting in an organized dataset that supports effective future decision-making.

RESULTS AND DISCUSSION

Analysis

Root Cause Analysis

The Fishbone analysis is used to identify the underlying cause of the stagnant sales problem within Batterspoon by Mulia (Sokovic et al., 2010). This is the main steps to define the problem clearly and specify the information needed to support the decision.

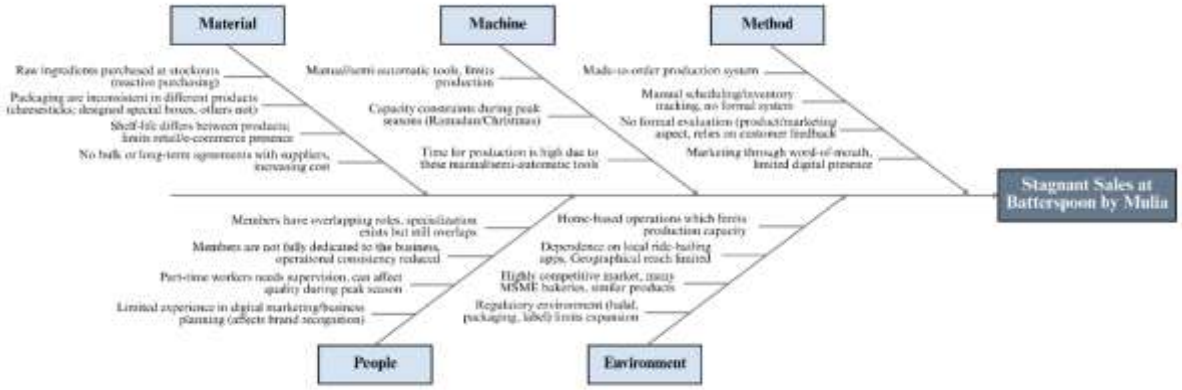

Figure 4 Fishbone Diagram Analysis of the Current Main Problem of Batterspoon by Mulia: Stagnant Sales.

The analysis shows that the stagnation inside Batterspoon by Mulia did not only come from a single issue but from the operational weaknesses in terms of factors of material, machine, method, people, and environment. These issues share one focus which is the lack of structure which can only be resolved with a targeted investment.

Within the material category, the business leverage reactive purchasing, packaging quality are inconsistent, and no supplier agreements which increases cost and reduce product competitiveness. Within the machine category, the business still implements manual and semi-automatic tools which slows production and limits scalability at peak demand (Ramadan/Christmas), and inconsistent output. Within the method category, formal systems are not yet implemented, showing structural weaknesses. Within the people category, the members have overlapping roles, dependent on part-time workforce during peak demand, and limited expertise on marketing. Within the environmental category, regulatory requirements are needed and there is strong competition in these aspects. To address these issues, it is

important for the business to invest for standardized planning, packaging, equipments, digital systems, training, hiring, certification, and etc.

The result of the root cause analysis explains that the stagnant sales comes from limitations that needs financial investment to resolve. However, because Batterspoon by Mulia has limited capital currently, the business can't improve products at once. Each products needs specific improvements, so this problem needs to be resolved by focusing on improving product selevtively so the limited capital can be used for products with the highest potential. This means that a structured decision-making process is needed to determine which product should be prioritized. In PLM (BITSOM, 2024), management can restart specific product stages after in-life stage in terms of product improvement. In innovation stage, prioritization is important to maximize the result of product improvement (Jugend & da Silva, 2014).

SWOT Analysis

The SWOT analysis is done based on the first interview answers through content analysis to align the general manager's views of both the internal and external aspect of Batterspoon by Mulia.

Table 1 SWOT Analysis of Batterspoon by Mulia from Internal Point of View.

Category	No	Findings
Strengths	S1	Emphasizing the product quality and authentic homemade taste, premium ingredients.
	S2	Cheesesticks as the business' flagship product, has proven demand because of longer shelf-life, halal certification, and improved packaging in terms of design and protection.
	S3	Family-based business structure provides reliability of the trust and experience so tasks are shared based on experience.
	S4	Made-to-order production system allows for fliexibity in the business so adapting to customers' needs doesn't take a lot of time.
	S5	Has presence in Jakarta and Depok as gift-gifting product focus because of the packaging suitability.
Weaknesses	W1	Production capacity is limited because of manual tools, relying heavily on them for products other than cheesesticks which has semi-automatic tools and capacity reached limit during peak seasons (Ramadan, Christmas).
	W2	There are no formal production, inventory, or marketing system as tracking is all manual without any digital tools.
	W3	The members have overlapping roles and limited workforce as they are not entirely focused on the business. Training is also minimal without standardized workflows.
	W4	Many of the products have short shelf-life (besides cheesesticks) which can be hard to stock and therefore limiting the expansion into retail and e-commerce.
	W5	Marketing efforts are minimal and digital presence lacks consistent marketing.
	W6	Limited capital which restricts the product and capacity development.
Opportunities	O1	Customers' increasing demand for high-quality products with good packaging.
	O2	Potential expansion into retail (already in discussion) and e-commerce platforms (Tokopedia, Shopee, TikTok Shop). (Taiminen & Karjaluoto, 2015)
	O3	Strategic evaluation to identify which products are most feasible for improvement so investing is efficient.
	O4	High demand during peak seasons like Ramadan and Christmas.

	O5	Customers' interest in longer shelf-life products which can be for gift-gifting.
Threats	T1	Competition is increasing from bakeries with stronger digital marketing and better packaging.
	T2	Government and regulatory bodies requirements including halal certification, NIB, etc.
	T3	Low capital can limit product expansion.
	T4	Operational risks from manual and experienced-based operation, dependence on part-time labour.
	T5	Consumer's high expectations in terms of branding and convenience (appealing packaging, delivery system, etc.).

PESTLE Analysis

PESTLE analysis is conducted to understand the macro-environmental aspect of the business as an MSME bakery, focusing on the external understanding of what affects the business to understand the themes and insights to the business. This is to address the more consistent aspect of the threats from the external of Batterspoon by Mulia through structured and data-based assessment within the regulations, economic data, and trends (Gupta, 2013).

Table 2 PESTLE Analysis of Bakery MSME Industry from External Point of View.

Category	Findings	Effect
Political	Article 37 Government Regulation No. 7/2021 requires business ID in a form of *Nomor Induk Berusaha* (NIB) for low-risk business activity.	Required to maintain an NIB, which Batterspoon by Mulia has already adhered to in their NIB No. 2311220106057 [see Appendix G]. This ensures that the business can remain in compliance with the regulations, avoid penalties, and gain support programs.
	UU No. 11/2020 provides legal foundation for MSME businesses so that businesses can registrate under NIB and halal certification.	MSME businesses can obtain registration, giving Batterspoon by Mulia access to a more formal business operations and support. However, this requires owner to address the unregistered products to adhere to this compliance which needs additional capital and time. Products that have halal are currently only cheesestick [see Appendix H]. (Tieman & Ghazali, 2014)
Economic	*Badan Pusat Statistik* (BPS) shows year-on-year inflation in January 2025 is 0.76% across Indonesia (BPS, 2025). Food inflation is also volatile, reaching 6.44% year-on-year (Yudo, 2025).	This affects the cost of raw ingredients (butter, cheese, flour, etc.) which therefore will increase production cost if price is not adjusted.
	Badan Pusat Statistik (BPS) shows that Indonesia's Gross Domestic Product (GDP) in the first quarter of 2025 reached IDR 5,665.9	Slowing economic growth can reduce the purchasing power which can lower the customers'

	trillion with a year-on-year rate that is 4.87% which is the slowest growth since the third quarter of 2021 (BPS, 2025).	demand for premium bakery items.
Social	Health awareness is currently trending and influencing the demand of the products, preferences for healthier products. Besides health focus, social media and influencer marketing is a promotional tool for MSMEs to reach customers with the cost-effective marketing channels in Greater Jakarta area (Simorangkir & Ali, 2025).	Consumers are shifting their interest within the healthy products like gluten-free or lower-sugar variations, which creates opportunities for Batterspoon by Mulia to expand to the healthier product line.
Technological	Bakery techonology is currently uneven with many MSMEs still using traditional methods and technology which limits the productivity and quality. To expand, bakery businesses can implement digital tools for the operations but it requires more capital investment. The technological barriers within the bakery MSMEs in the lean manufacturing implementation study explains that improving tech infrastructure will increase the operational efficiency as well (Aurelius et al., 2025: 9).	Batterspoon by Mulia's technology limitation can reduce the efficiency of production capacity and consistency.
Environmental	UU No. 18/2008 regulates the waste management in terms of reduction, recycling, and reuse.	Batterspoon by Mulia should manage the waste after production properly so the standards could adhere to these
Legal	PP No. 86/2019 sets obligations for food businesses in safety, quality, additives, equipment, etc. Article 6 explains that in order to produce or distribute food products, they must meet the safety and quality requirements. Processed food also has a maximum limit of food additives.	Requires Batterspoon by Mulia to standardize the product formulations, processes, and facilities to meet the food safety framework.
	UU No. 6/2023 protects the workers' rights to ensure of fair treatment in terms of job opportunities, fair wages, welfare, and safety.	Business needs to formalise the labor practises (fair wage, working hours, safety), especially during peak demand when hiring part-time/seasonal staff.
	PP No. 7/2021 provides the clear classification and licensing rules for MSME.	Creates access for Batterspoon by Mulia to MSME support but also sets expectations.
	BPOM Regulation No. 23/2018 sets the framework for the registration of food products within the household food industries in order for safe consumption and consumer protection.	Formal product registration is needed if Batterspoon by Mulia wants to scale production or enter retail.
	BPOM Regulation No. 31/2018 explains the labelling of processed foods with a detailed guidelines for clear labelling in food products.	Requires Batterspoon by Mulia to provide clear labelling (ingredients, nutrition, production/ expiration dates, halal status, contact, claims), so redesigning

			the packaging to meet BPOM rules is important.

TOWS Matrix Analysis

Based on the SWOT analysis result, TOWS analysis will be used to structure the strategic decision-making implementation inside Batterspoon by Mulia into a more actionable strategic directions by leveraging the internal and external factors, and additional macro-environmental conditions found through the PESTLE analysis.

Table 3 TOWS Matrix Analysis: Leveraging Internal Insight for Strategies Implemented.

Category	SWOT	No	Strategy
SO	S2S1O2	SO1	Leverage flagship product (cheesesticks) by using the current product's strength to maximize opportunities of expansion to retail and e-commerce and rising demand for long shelf-life products.
	S1S5O1	SO2	Leverage the market positioning through packaging design by focusing on authentic taste and the gift-gifting orientation to capture the growing demand for high-quality and well-packaged products.
	S3O3	SO3	Leverage family-based business operations to create a strategic product evaluation.
	S4O4	SO4	Leverage the made-to-order system to benefit the seasonal high-demand opportunities with pre-order system.
ST	S1T1	ST1	Leverage products' authentic taste and premium ingredients to compete against strong competitors with better branding and marketing presence.
	S2T2	ST2	Leverage cheesesticks' long shelf-life and halal certification to meet the requirements of retailers for shelf-life, halal, and consistency. (Rezai et al., 2010)
	S3T4	ST3	Leverage the family-based business operations to address the operational risk of currently using manual system for the whole operations by coordinating the workflow without large additional staff.
	S5T5	ST4	Leverage the gift-gifting focus to fulfil the consumers' expectations in modern branding and convenience.
WO	O1W4	WO1	Improve the short shelf-life through improved packaging and product development to capture the growing demand for high-quality and well-packaged products.
	O2W2W5	WO2	Leverage e-commerce potential of e-commerce marketing to implement digital system and improve the minimal marketing. (Rahayu & Day, 2015)
	O3W6W4	WO3	Leverage product assessment to address the limited capital and shelf-life by investing with products with highest ROI and scalability.
	O4W1W3	WO4	Leverage seasonal high-demand periods to gain capital and hire full-time employee to gain production capacity.
	O2O5W4W6	WO5	Leverage retail and e-commerce channel and demand for longer shelf-life product (cheesesticks) to gain capital and fix other products' shelf-life through R&D.

WT	W1W2T4	WT1	Create a standardized process to prevent operational risks in the production.
	W6T3T2	WT2	Address the limited capital through focusing the investment on 1-3 products only to avoid limitation straining expansion and focus on products that already meets retailer standards.
	W5T1	WT3	Improve the limited marketing to compete with competition with stronger digital brands.
	W4T5	WT4	Improve packaging to address the short shelf-life and weak branding to fulfil customers' expectations.

According to the TOWS matrix analysis for SO3 and WO3, it is important to leverage AHP analysis to prioritize product selection strategically because of the limited capital which disallow the business Batterspoon by Mulia to invest in all of the products at once. The output of this TOWS matrix analysis should become the strategic foundation for the implementation plan combined with the AHP product priorities to ensure that the strategies are effective.

Analytic Hierarchy Process (AHP) Analysis

Summary of Product Prioritization Analysis at Batterspoon by Mulia

This study employed the Analytic Hierarchy Process (AHP) method involving 8 respondents to determine product prioritization at Batterspoon by Mulia. The analysis identified five main criteria: product characteristics (33.4%), profitability (28.6%), market demand (21.5%), operational capability (9.8%), and external factors (6.7%) (Ishizaka & Labib, 2011). Each criterion has sub-criteria that were analyzed in depth, such as product quality and product differentiation under product characteristics criterion. The consistency ratio from all pairwise comparisons showed values < 0.1, indicating that the analysis results meet reliability standards and can be used for strategic decision-making.

The global synthesis results show the product priority ranking as follows: cheesesticks ranked first with a score of 0.457, followed by éclair/choux (0.208), pudding (0.118), kue kering (0.109), and sponge cakes (0.108). Sensitivity analysis demonstrates that cheesesticks consistently excels across nearly all criteria, particularly in product characteristics, profitability, and external factors. These results provide strategic guidance for Batterspoon by Mulia to focus resources and development on high-priority products.

Table 4. Global Priority Results and Product Ranking at Batterspoon by Mulia

Rank	Product	Global Priority Score	Percentage
1	Cheesesticks	0.457	45.7%
2	Éclair/Choux	0.208	20.8%
3	Pudding	0.118	11.8%
4	Kue Kering	0.109	10.9%
5	Sponge Cakes	0.108	10.8%

Consistency Ratio: 0.01 (Consistent)

Business Solution

These product improvements based on product prioritization result in the analysis will be done by focusing on the PLM stages so that the expansion are focused within one aspect at a time and who will be assigned to focus on the expansion project. Cheesestick ranked first

with global priority of 45.7% which indicates that it is the most viable option of the available products to focus on first within the first months to generate effective revenue. Then targeting the expansion of both éclair/choux with a priority of 20.8% and pudding with a priority of 11.8% at the same time once cheesestick products go-to-market. Both *kue kering* and pudding can be targeted for expansion once the business had generated enough revenue and has additional capital for further improvement.

To determine the specific focus on each product, the sensitivity analysis can help with this through a product-focused level and validated further within the internal stakeholder of the company. Cheesesticks product remains stable but lower in terms of market demand. This can be explained by how cheesesticks are commonly sold as an affordable snack and Batterspoon by Mulia's cheesesticks product is often seen as premium with the current pricing (Rp 45,000-50,000 per 200gr [see Appendix F]) so marketing should target this by implementing TOWS matrix SO2 by leveraging the market positioning. Cheesesticks should be prioritized for revenue first so targeting go-to-market early before improving the product is necessary since cheesesesticks already met most of the demand for halal, long shelf-life, and well-packaged products, which can be stored in retail.

For éclair/choux expansion plan, the main issue is with the operational capability aspect, which can be explained with how this product takes time to make which affects the feasibility and the risks of product breaking during shipping due to its main ingredients whipped cream that melt easily. Additional capital should be leveraged to address these issues through TOWS matrix WO1 and WT4 by improving the short shelf-life by improving the packaging for safe shipping as well. Additionally, retailers have stated that they can store products that melt but the cost cut off the initial price would be higher since it needs a refrigerator.

Pudding, despite have almost similar priority level with *kue kering* and sponge cakes, the results of the sesitivity analysis is most stable, though most sensitive slightly to the operational risk since it is a difficult product to make and takes time. Similar as éclair/choux, the product can melt as well and has shorter shelf-life, so this can target TOWS matric WO1 and WT4 as well to improve the shelf-life and packaging with the initial capital and needed additional cost cut if the product should enter retail.

Kue kering is considered most affected by external factors. This happens because during Ramadan and Christmas, when orders comes the most, competition of businesses producing the same products are very high. Market demand is high only during these peak demand but when it is, it can create a high profit during these time as it is the most consumers will buy gift-gifting products. Targeting SO4 and ST4 by leveraging the the made-to-order system with the gift-gifting targeting can deal with this problem.

Sponge cakes is the most volatile product out of the five current offerings. In terms of operational capability, it is considered viable option, second to cheesesticks, because of the ease of production and feasibility, and the product is resilient. However, in terms of profitability, the cost of production and the selling price are close, so it is not the most viable option to generate profit. Raising the selling price is not feasible as it would lose the competitiveness in the market as many competitors in MSME bakery sector also sells the same product. To attend to this issue, TOWS matrix WO1 can be used to capture the consumers by improving the product branding, which needs additional capital. For improvement of the

products with least priority, the business may focus on them after the other products entered the in-life stage.

The AHP prioritization of sensitivity analysis shows that Batterspoon by Mulia should build a targeted and selective product-focus investment strategy because of the limited capital and the different requirements. In summary, the business solution from this analysis is as follows.

1. Prioritize cheesestick products for immediate revenue and market expansion.
2. Invest in éclair/choux and pudding once capital increases.
3. Postpone investment for both *kue kering* and sponge cakes until the business has enough financial capacity.

This strategy ensures that product improvement aligns with the company's decision-making are viable and creates a structured implementation plan.

Implementation Plan & Justification

The implementation plan frames how Batterspoon by Mulia will use the prioritized products analyzed through AHP, followes the PLM framework, focusing on the innovation, analysis, development, go-to-market, and in-life stages, and integrates the strategic directions from the TOWS matrix. Each of the tasks are recommended to ensure that the limited capital is invested efficiently with the products with the highest potential (Stark, 2015) with the person in charge (PIC) to make sure the responsibilities are assigned according to their expertise and to organize their workflow.

CONCLUSION

The stagnant sales at Batterspoon by Mulia are primarily caused by operational weaknesses stemming from limited organizational structure and capital constraints, requiring selective product development to maximize investment impact. Through interviews, benchmarking, PESTLE analysis, and NVivo-assisted content analysis, five key product selection criteria were identified: product characteristics (quality and differentiation), market demand, profitability, external factors (competitive environment and regulatory requirements), and operational capability (feasibility and supply chain stability). The Analytic Hierarchy Process (AHP) results show that cheesesticks are the top priority (45.7%), followed by éclair/choux (20.8%), pudding (11.8%), kue kering (10.9%), and sponge cakes (10.8%). The implementation strategy is structured through the Product Life Cycle Management (PLM) framework supported by TOWS and AHP findings, recommending an immediate focus on cheesesticks for revenue growth, gradual investment in éclair/choux and pudding as capital increases, and postponement of kue kering and sponge cakes until financial capacity improves. Managerial recommendations include validating market needs, strengthening product development and go-to-market stages, monitoring in-life product performance, and preparing lower-priority products for a potential 2027 launch. Future research is recommended to conduct deeper studies on consumer needs and preferences, as well as broader market behavior, to provide more comprehensive insights for product development and strategic decision-making in bakery MSMEs.

REFERENCES

Aghdaie, M. H., Zolfani, S. H., & Zavadskas, E. K. (2013). Decision making in machine tool selection: An integrated approach with SWARA and COPRAS-G methods. *Engineering Economics, 24*(1), 5–17. https://doi.org/10.5755/j01.ee.24.1.2822

Afriansyah, B. (2019). Analisis cost-volume-profit Hotel Griya Anggita Curup. *Jurnal Ilmiah Raflesia Akuntansi, 5*(2), 15–20.

Asioli, D., Aschemann-Witzel, J., Caputo, V., Vecchio, R., Annunziata, A., Naes, T., & Varela, P. (2017). Making sense of the 'clean label' trends: A review of consumer food choice behavior and discussion of industry implications. *Food Research International, 99*(1), 58–71. https://doi.org/10.1016/j.foodres.2017.07.022

Bahtera Adi Jaya. (2024, November 14). *Pertumbuhan pasar roti dan kue di Indonesia hingga 2026*. https://bahteraadijaya.com/id/blogs/Pertumbuhan-Pasar-Roti-dan-Kue-di-Indonesia

Cooper, R. G. (2019). The drivers of success in new-product development. *Industrial Marketing Management, 76*, 36–47. https://doi.org/10.1016/j.indmarman.2018.07.005

Creswell, J. W., & Clark, V. L. P. (2017). *Designing and conducting mixed methods research* (3rd ed.). SAGE Publications.

Davalas, A. (2023). The importance of the TAM-SAM-SOM model and how big data and AI help. *International Journal of Social Science and Economic Research*, 3936–3944.

Direktorat Statistik Keuangan, Teknologi Informasi, dan Pariwisata. (2024, December 23). *Statistik penyediaan makanan dan minuman 2023*. Badan Pusat Statistik. https://www.bps.go.id/id/publication/2024/12/23/f2c7743c4712aaeaa4abf694/statistik-penyediaan-makanan-dan-minuman-2023.html

Eniola, A. A., & Ektebang, H. (2014). SME firms performance in Nigeria: Competitive advantage and its impact. *International Journal of Research Studies in Management, 3*(2), 75–86. https://doi.org/10.5861/ijrsm.2014.854

Gupta, A. (2013). Environmental and PEST analysis: An approach to external business environment. *Merit Research Journal of Art, Social Science and Humanities, 1*(2), 13–17.

Helms, M. M., & Nixon, J. (2010). Exploring SWOT analysis: Where are we now? *Journal of Strategy and Management, 3*(3), 215–251. https://doi.org/10.1108/17554251011064837

Ishizaka, A., & Labib, A. (2011). Review of the main developments in the analytic hierarchy process. *Expert Systems with Applications, 38*(11), 14336–14345. https://doi.org/10.1016/j.eswa.2011.04.143

Jugend, D., & da Silva, S. L. (2014). Product-portfolio management: A framework based on methods, organization, and strategy. *Concurrent Engineering: Research and Applications, 22*(1), 17–28. https://doi.org/10.1177/1063293X13513668

Kumah, A., Nwogu, C. N., Issah, A.-R., Obot, E., Kanamitie, D. T., Sifa, J. S., & Aidoo, L. A. (2024). Cause-and-effect (fishbone) diagram: A tool for generating and organizing quality improvement ideas. *Global Journal on Quality and Safety in Healthcare, 7*(2), 85–87. https://doi.org/10.36401/JQSH-23-42

Prakoso, R. D. (2025, July 16). *BI-rate turun 25 bps menjadi 5,25%: Mempertahankan stabilitas, mendorong pertumbuhan ekonomi*. Bank Indonesia. https://www.bi.go.id/id/publikasi/ruang-media/news-release/Pages/sp_2715325.aspx

Rahayu, R., & Day, J. (2015). Determinant factors of e-commerce adoption by SMEs in developing country: Evidence from Indonesia. *Procedia - Social and Behavioral Sciences, 195*, 142–150. https://doi.org/10.1016/j.sbspro.2015.06.423

Ramadani, R., Saputra, E., Syaifullah, & Jazman, M. (2024). Analisa studi kelayakan website Dinas Kebudayaan Provinsi Riau menggunakan metode TELOS. *Jurnal Teknik Informatika dan Sistem Informasi, 11*(4), 196–207.

Rezai, G., Mohamed, Z., Shamsudin, M. N., & Chiew, E. F. C. (2010). Non-Muslim consumers' understanding of halal principles in Malaysia. *Journal of Economic and Management, 4*(2), 35–46.

Rizquina, A. Z. (2023). *Perbandingan penjualan produk halal labeled dan non-labeled pada e-commerce Tokopedia Indonesia* (Skripsi). Universitas Islam Indonesia, Yogyakarta.

Sokovic, M., Pavletic, D., & Pipan, K. K. (2010). Quality improvement methodologies: PDCA cycle, RADAR matrix, DMAIC and DFSS. *Journal of Achievements in Materials and Manufacturing Engineering, 43*(1), 476–483.

Stark, J. (2015). *Product lifecycle management: 21st century paradigm for product realisation* (3rd ed.). Springer. https://doi.org/10.1007/978-3-319-17440-2

Sulaiman, S., & Suroyo, G. (2025, April 24). Indonesia expects steady 5% growth in 2025 amid ongoing trade tensions. *Reuters*. https://www.reuters.com/world/asia-pacific/indonesia-2025-gdp-growth-seen-around-5-finance-minister-says-2025-04-24/

Taiminen, H. M., & Karjaluoto, H. (2015). The usage of digital marketing channels in SMEs. *Journal of Small Business and Enterprise Development, 22*(4), 633–651. https://doi.org/10.1108/JSBED-05-2013-0073

Taimen, M., & Ghazali, M. C. (2014). Principles in halal purchasing. *Journal of Islamic Marketing, 5*(3), 340–359. https://doi.org/10.1108/JIMA-06-2013-0039

Tambunan, T. (2019). Recent evidence of the development of micro, small and medium enterprises in Indonesia. *Journal of Global Entrepreneurship Research, 9*(1), 18. https://doi.org/10.1186/s40497-019-0140-4

UMKM Indonesia. (2024). *Data dan statistik UMKM Indonesia*. Kadin Indonesia. https://kadin.id/data-dan-statistik/umkm-indonesia/