

Financial Feasibility of A Hair Care-Based Business: A Study Case of Sasse

Aulia Fatah Harum Ramadhan^{1*}, Atika Irawan²

School of Business and Management, Institut Teknologi Bandung^{1,2}

*Email: aulia_fatah@sbm-itb.ac.id

Abstract

Hair loss, or alopecia, is a global concern, with 3.8% of Southeast Asia's population affected by Alopecia Areata, an autoimmune disorder. Traditional treatments like minoxidil and finasteride, while effective, often have side effects. To address this, Sasse, a haircare startup, developed an almond-based hair serum in collaboration with ITB's School of Pharmacy, offering a natural solution without adverse effects. Sasse has completed product development and is preparing to launch its go-to-market strategy. This study evaluates the financial feasibility of Sasse's product using primary data from Sasse's records and secondary data from industry comparables. Key financial metrics such as the Payback Period, Net Present Value (NPV), and Internal Rate of Return (IRR) were analyzed, along with a scenario analysis under pessimistic, base, and optimistic conditions. The base scenario indicated a payback period of 3 years and five months, a positive NPV of Rp381,007,156, and an IRR of 49%, surpassing the Weighted Average Cost of Capital (WACC) of 5.02%. In the pessimistic scenario, with a 25% sales reduction, the payback period was four years and 11 months, with a positive NPV of Rp265,828,152 and an IRR of 32%. With a 15% sales increase, the optimistic scenario predicted a 2-year, 1-month payback period, a positive NPV of Rp622,915,633, and an IRR of 67%. The findings confirm that Sasse's business model is financially viable and capable of substantial returns, providing critical insights for strategic decisions in investment, market expansion, and operational scaling.

Keywords: Alopecia Areata, Almond-Based Serum, Financial Feasibility, Sasse, Haircare Startup

A. INTRODUCTION

Hair loss is a prevalent issue that affects many individuals at some point in their lives. Scientifically known as alopecia, hair loss involves a gradual or sudden decrease in hair density. According to (Pratt et al., 2017), this reduction can be categorized into non-scarring alopecia, where hair follicles remain intact, and scarring alopecia, which involves irreversible follicular damage. The most common form of hair loss is alopecia areata, an autoimmune disorder that preserves the hair follicles. Alopecia areata affects approximately 2% of the global population, or around 160 million people. While specific figures for Indonesia are unavailable, a Singapore study indicates that 3.8% of the Southeast Asian population suffers from this condition.

The exact cause of alopecia areata remains unknown, but various factors such as smoking, alcohol consumption, stress, certain dietary components, lack of sleep, and genetics are thought to trigger its onset. These factors contribute to the immune system's abnormal response, leading to hair loss (Minokawa et al., 2022). Individuals with alopecia areata may also face concurrent health conditions, including thyroid disease, lupus erythematosus, vitiligo, psoriasis, rheumatoid arthritis, and inflammatory bowel disease. Furthermore, inflammatory skin diseases like atopic dermatitis and lichen planus are associated with alopecia areata, as many of these are autoimmune disorders that correlate with the condition (Pratt et al., 2017). Alopecia areata can also lead to psychological disorders. (Dhimi, 2021) found that general hair loss could contribute to body dysmorphia, with 16 out of 20 surveyed patients reporting body dysmorphia related to hair loss. Other psychological impacts include anxiety, depression, reduced self-confidence, decreased work and sexual performance, social withdrawal, and suicidal tendencies.

The market for alopecia treatments has expanded significantly in recent years. Data shows that the global alopecia market was valued at \$7.6 billion in 2020 and is expected to grow to \$13 billion by 2028 (Castro et al., 2023). In Indonesia, the alopecia therapeutics market was valued at \$49 million in 2022 and is projected to grow at 7.5% annually from 2023 to 2030 (Insights10). Common treatments for alopecia include topical and oral medications, as well as hair transplantation. However, existing treatments like minoxidil and finasteride have notable side effects, including irritation, allergic reactions, reduced sexual performance, psychological issues, and potential impotence with prolonged use (Nestor et al., 2021). Sasse aims to innovate and disrupt the current

* Corresponding author

market in response to these challenges with a natural-based solution. Collaborating with ITB's School of Pharmacy, Sassle is developing an almond-based hair serum designed to replicate the efficacy of minoxidil while avoiding its adverse side effects. This serum distinguishes itself by using natural ingredients, specifically almonds, and avoiding harsh chemicals and additives.

Evaluating the financial feasibility of Sassle's Almond-Based Hair Serum is crucial. While the product presents an innovative approach to haircare, its success depends on sound financial planning. Research by CB Insights indicates that 38% of startups fail due to running out of cash, highlighting the importance of thorough financial planning. A comprehensive financial feasibility study will be essential for informed decision-making, risk mitigation, and ensuring the sustainability and profitability of ventures like Sassle's almond-based hair serum.

B. RESEARCH METHOD

As highlighted by (Johnson et al., 2008, p. 60), the Five Forces framework is a crucial tool for strategic analysis, even when profitability is not the primary concern. Developed by Porter in 1979, this model identifies five key forces that shape competitive dynamics within an industry. These forces are the rivalry among existing competitors, the bargaining power of suppliers, the bargaining power of buyers, the threat of substitute products or services, and the threat of new entrants. By evaluating these forces, Sassle can assess the attractiveness of Indonesia's alopecia therapeutics industry and identify potential opportunities and threats.

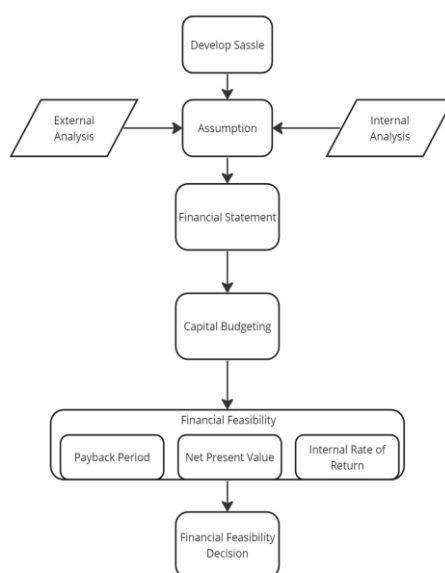


Figure 1. Conceptual Framework

To comprehensively understand Sassle's strategies, strengths, and weaknesses, the researcher employed the TOWS (Threats, Opportunities, Weaknesses, and Strengths) matrix and the Technology Readiness Level (TRL) framework. The TOWS matrix is divided into four quadrants: SO (Strength - Opportunity), which leverages strengths to capitalize on opportunities; WO (Weakness - Opportunity), which addresses weaknesses to take advantage of opportunities; ST (Strength - Threat), which uses strengths to mitigate threats; and WT (Weakness - Threat), which focuses on addressing weaknesses and defending against threats. Analyzing these quadrants helps organizations develop strategies that utilize their strengths to seize opportunities and manage risks (Weihrich, 1982). The TRL framework assesses the maturity of technology and allows for consistent comparisons across different technologies, a method occasionally used in NASA's space technology planning (Mankins, 1995).

Financial statements provide external stakeholders with insights into a company's financial health, operational efficiency, and management effectiveness. These statements include the balance sheet, income, and cash flow statement (Heerkens, 2006). The income statement details revenues, costs, profits, and losses, culminating in net income, and summarizes performance over a specific period (Gibson, 2009). The balance sheet captures the company's financial status at a specific time, detailing assets, liabilities, and owner's equity (Heerkens, 2006; Gibson, 2009). Although Sassle has not yet commenced operations, it has outlined its initial investment

needs. Sassle's financial statements are used to develop assumptions for preparing financial projections. These assumptions are derived from analyzing financial statements of similar firms, industry conditions, and Sassle's growth projections. Pro forma financial statements are then created. Scenario analysis evaluates financial risks by estimating the likelihood of changes across multiple variables. This method explores potential future scenarios by evaluating best, worst, and average outcomes (Sherman et al., 2010).

The researcher assesses the business's financial feasibility by analyzing budgets and financial transactions to determine their suitability for business management. This evaluation includes considerations of the time value of money, risk, and return on investment, using capital budgeting techniques such as the Payback Period, Net Present Value (NPV), and Internal Rate of Return (IRR) (Nurdialy, 2023). Specifically, NPV is calculated by subtracting the initial investment from the present value of future cash flows, adjusted for a discount rate (Gitman & Zutter, 2015, p. 450). IRR is the discount rate at which the present value of cash inflows equals the initial investment, resulting in an NPV of zero (Gitman & Zutter, 2015, p. 454). The Payback Period represents the time required for the company to recoup its initial investment, determined by analyzing cash inflows (Gitman & Zutter, 2015).

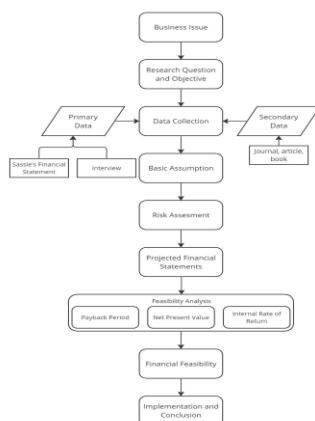


Figure 2. Research Methodology

NPV is calculated using the cost of capital; it represents a firm's expense to obtain funds for its operations. It is the minimum return a project must achieve to add value to the firm. This cost pertains to the expenditure for securing additional funding for new investments. Projects with returns exceeding the cost of capital increase the firm's value, while those with lower returns decrease it (Gitman & Zutter, p.408, 2015). In order to calculate the cost of capital, the researcher uses the cost of equity; according to (Pandey, 2015), the Capital Asset Pricing Model (CAPM) is a method more suited for the cost of equity estimation resulting from taking into account the predicted risk-free rate of return, market return, and beta in the CAPM. Lastly, the CAPM uses the Weighted Average Cost of Capital (WACC); the weighted average cost of capital (WACC) is the expected average cost of funding for a company in the future. It is calculated by looking at the cost of each company's funding (Gitman & Zutter, p.422, 2015).

This research uses primary and secondary data collection methods to ensure comprehensive coverage. Primary data is gathered firsthand, while secondary data comes from existing sources. Using both methods ensures data sufficiency and meets necessary assumptions. Data analysis, conducted after all data is collected and organized, involves four stages: assessing risks, constructing pro forma financial statements, calculating the weighted average cost of capital (WACC), and conducting feasibility analysis. Conclusions and recommendations will be drawn to ensure tangible benefits, with findings implemented across the organization.

C. RESULTS AND DISCUSSION

Porter's Five Forces analysis for Sassle provides the following insights: The threat of new entrants is moderate. While Sassle's collaboration with ITB School of Pharmacy offers a competitive advantage, there remains a potential risk of new competitors emerging. The threat of substitute products is also moderate; although Sassle's unique formulation offers some protection, it is crucial to highlight its distinctiveness continuously. The bargaining power of suppliers is moderate, primarily due to the dependence on almonds. However, the partnership with ITB may strengthen Sassle's negotiating position.

Buyers possess high bargaining power because of the extensive market options available, necessitating Sassle to innovate and deliver unique value to differentiate itself. Competitive rivalry is intense, with established brands like Martha Tilaar and Mustika Ratu presenting significant competition. To maintain a competitive edge, Sassle must focus on differentiation through innovation, effective branding, and superior quality.

Currently, Sassle's Technology Readiness Level (TRL) is at level 7, indicating that the hair growth product has completed efficacy testing and is ready for market use. However, additional certification processes, such as stability testing and obtaining BPOM (Indonesian Food and Drug Authority) registration, are required to advance to the next technological readiness level. The TOWS matrix analysis for Sassle identifies four strategic areas: leveraging internal strengths to exploit opportunities, addressing weaknesses to seize opportunities, using strengths to counter threats, and mitigating weaknesses against threats. Three key strategies have emerged: 1) leveraging the collaboration with ITB School of Pharmacy to introduce new product lines, enhancing diversification and appeal; 2) forming strategic partnerships to scale production efficiently; and 3) improving production efficiency to compete with larger industry players effectively. These strategies support Sassle's launch, promote sustainable growth, secure a competitive advantage, and ensure a successful product introduction. Further analysis using root cause methodology highlights Sassle's operational, marketing, and financial challenges. Operationally, high raw material costs necessitate small batch orders, underscoring the need for a strategic procurement approach. Marketing challenges include revenue delays due to the product's pending launch and deviations from the marketing plan, which necessitates better alignment. Financially, ongoing research addresses issues such as inadequate financial planning and incomplete feasibility assessments. Addressing these issues is critical for informed decision-making and achieving sustainable growth.

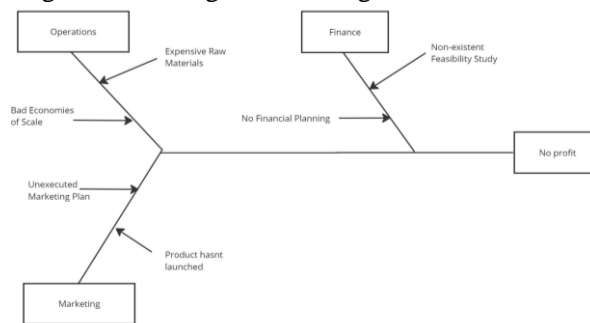


Figure 3. Root Cause Analysis

The researcher has outlined alternative solutions to achieve financially viable product innovation for Sassle. Sassle has developed an almond-based hair serum that merges the benefits of both natural and synthetic alopecia treatments. This formulation aims to offer the efficacy of minoxidil while reducing health risks and avoiding the discomfort often associated with natural treatments. Manufacturing, including packaging and design, is outsourced to a vendor, while Sassle manages branding and sales internally. Priced at 129,000 rupiah, the hair serum will be marketed through offline channels such as events, pop-up booths, and e-commerce platforms.

To evaluate Sassle's product innovation under various market conditions, the researcher has developed optimistic, base, and pessimistic scenarios. This analysis considers sales, growth, resources, operational, and marketing expenses, beginning with assessing the Serviceable Obtainable Market (SOM). The SOM analysis focuses on women aged 19-40, who represent 60% of alopecia areata sufferers in Indonesia, resulting in a market potential of Rp470,020,740,000. The average yearly sales of similar products on e-commerce platforms, estimated at 0.1% of the market potential, are used to define the SOM.

Table 1. Calculation of Serviceable Obtainable Market

Category	Persona	Market Share
Total Available Market (TAM)	Indonesian Alopecia Therapeutic Users (Insights 10)	Rp. 783.367.900.000,-
Serviceable Addressable Market (SAM)	Female Patients Aged 19-40 suffering from Indonesian Alopecia Therapeutic Users (Legiawati, 2022)	Rp. 470.020.0740.000,-
Serviceable Obtainable Market (SOM)	Average Yearly Sales in E-commerce for Hair Growth Products (Shopee; Mustika Ratu; Martha Tilaar)	Rp. 470.020.740,-

Source: Research data, 2024

The base scenario represents confirmed sales figures, while the optimistic and pessimistic scenarios adjust these figures by 25% and 15%, respectively, to account for market variability. Sales projections consider minimum order quantities from pharmaceutical vendors, the effectiveness of the internal marketing team, and financial limitations. The table below outlines optimistic, base, and pessimistic scenario variations. In all scenarios, the price of the almond-based hair serum increases by 2% annually, reflecting the cosmetic industry's average price growth of 4%. Other expenses, including the cost of goods sold (COGS), marketing, maintenance, and employee salaries, also increase according to their respective annual rates and schedules.

Significant differences are evident between each scenario, particularly in acquiring sales quantity for the current year's Serviceable Obtainable Market (SOM). The base scenario assumes a 75% acquisition of the current year's SOM, while the optimistic and pessimistic scenarios assume 90% and 50%, respectively. However, the sales growth rate is consistent across all scenarios, with a month-over-month (MoM) growth rate derived from the compound annual growth rate (CAGR). Another notable difference is the employee hiring schedule, which varies between the optimistic, base, and pessimistic scenarios.

The differences among scenarios highlight the challenges a startup launched in 2024 faces, with potential setbacks detailed in Table 2. Monthly and annual financial projections show that the optimistic scenario yields the highest profit, although profit declines in the 2nd, third, and fifth years of the optimistic scenario due to the employee hiring plan outlined in Table 2. The financial feasibility study, covering the period from Q2 2024 to Q2 2029, indicates that the employee hiring plan impacts profit margins, particularly in year 5. Similarly, the pessimistic scenario shows profit downturns in the 3rd, fourth, and fifth years, with the year five decline reflecting trends observed in other scenarios.

Table 2. Assumptions Difference Between Case Scenario

Aspects	Case Scenario		
	Optimistic	Base	Pessimistic
Sales Quantity	Annual and monthly, Annual increase of 0.00025-0.001% of the previous year's SOM. In this scenario, 90% of the current year's SOM is acquired. The monthly increase uses a growth rate derived from the annual CAGR.	Similar to Optimistic Case, 75% current year's SOM	Similar to Optimistic Case, 50% current year's SOM
Sales Growth	Monthly and annual increase, MoM growth-rate derived from alopecia therapeutics industry CAGR of 7.5%, (Insights10).	Similar to Optimistic Case	Similar to Optimistic Case
COGS	Annual increase according to alopecia therapeutics CAGR	Similar to Optimistic Case	Similar to Optimistic Case
Marketing Expense	Annual Increase of 20% of last year last month marketing expense, benchmarked with advertising growth in Indonesia that is in line with the requirements of marketing expenses. Marketing expense started at year 2 with a determined amount	Similar to Optimistic Case	Similar to Optimistic Case
Maintenance Expense	Annual Increase, increase 25% every year due to expanding operations and benchmarked above the gasoline price growth in Indonesia.	Similar to Optimistic Case	Similar to Optimistic Case
Employee Salary Expense and Schedule	Annual increase of 6% according to salary inflation (Bank Indonesia). The first two years, the founder's salary will be 15% of the gross profit, 3 sales staff and 2 marketing staff is added in third year. Year 4, 2 operations staff and 1 finance staff is added.	Similar to Optimistic Case	Annual increase of 6% according to salary inflation (Bank Indonesia). The first two years, the founder's salary will be 15% of the gross profit, 1 sales staff is added in third year. Year 4, another sales staff is added.

Source: Research data, 2024

Significant differences exist between the scenarios, particularly regarding the sales quantity acquisition of the current year's Serviceable Obtainable Market (SOM). The base scenario assumes a 75% acquisition rate, while the optimistic and pessimistic scenarios project 90% and 50%, respectively. Despite these variations, the sales growth rate remains consistent across all scenarios, with a month-over-month (MoM) growth rate derived from the compound annual growth rate (CAGR). Another notable difference is the employee hiring schedule, which varies between the optimistic, base, and pessimistic scenarios.

These scenario differences account for the challenges a startup launched in 2024 faces, with potential setbacks detailed in Table 2. Monthly and annual financial projections indicate that the optimistic scenario yields the highest profit. However, profit declines in the optimistic scenario's 2nd, third, and fifth years due to the hiring plan outlined in Table 2. The financial feasibility study, covering the period from Q2 2024 to Q2 2029, shows that the employee hiring plan affects profit margins, especially in year 5. Similarly, the pessimistic scenario also reveals profit downturns in the 3rd, fourth, and fifth years, with the year five decline reflecting trends observed in other scenarios.



Source: Research Data, 2024

As depicted in the graph, Sassle's financial performance is susceptible to sales figures. In the optimistic scenario, which assumes high sales volume and growth, the net profit is significantly higher—190% greater than in the pessimistic scenario. This highlights the critical importance of meeting sales targets. The balance sheet and cash flow statement are based on the income statement projections, with the cash flow primarily reflecting operational activities.

The Weighted Average Cost of Capital (WACC) for Sassle is 5.02%. The unlevered beta coefficients are sourced from comparable companies: PT Mustika Ratu Tbk (MRAT), PT Mandom Indonesia Tbk (TCID), and PT Martina Berto Tbk (MBTO). According to Yahoo Finance (2024), the beta values for MRAT, TCID, and MBTO are 1.248, 0.3, and 1.39, respectively, with an average of 0.98. The risk-free rate is determined using the 5-year government bond rate of return, specifically FR0061 at 7%, while the expected market return, based on the Global Financial Development database, is a 5-year IDX return of 4.98%. These metrics are weighted as of June 20, 2024.

Sassle's financial feasibility is evaluated using capital budgeting criteria. Acceptable projects must have a payback period of less than five years, a positive Net Present Value (NPV), an Internal Rate of Return (IRR) above the WACC, and a Profitability Index (PI) greater than 1.0.

D. CONCLUSION

The capital budgeting analysis reveals that the investment in Sassle is most favourable under the optimistic scenario. This scenario is characterized by a payback period of 2.11 years, a net present value (NPV) exceeding 622 million rupiahs, an internal rate of return (IRR) above 67%, and a profitability index (PI) of 3.37. In contrast, the base and pessimistic scenarios exhibit progressively lower returns and longer payback periods, highlighting the importance of considering various future outcomes. Nonetheless, all scenarios yield acceptable results. All estimated payback periods are under five years, NPVs are positive, IRRs surpass the weighted average cost of capital (WACC), and PIs exceed 1.0. Despite performance variations across different scenarios, the investment remains robust and viable.

Sassle, a startup in the personal care industry, is developing an almond-based hair serum designed to provide a natural solution for hair loss without the side effects of traditional treatments. Despite being in the advanced stages of product development, Sassle faces significant challenges due to the lack of comprehensive financial planning and feasibility studies, which could pose potential financial risks. This research aims to conduct a thorough financial feasibility study using primary data from Sassle's records and secondary data from comparable companies, focusing on equity financing.

The study evaluates three scenarios: pessimistic, base, and optimistic. The base scenario, requiring an initial investment of Rp 262,312,515, projects a payback period of 3 years and five months, a positive NPV of Rp 381,007,156, and an IRR of 49%, indicating financial feasibility. Even under the pessimistic scenario, the project remains viable with a payback period of 4 years and 11 months, a positive NPV of Rp 265,828,243, and an IRR of 32%. The optimistic scenario shows further benefits with a payback period of 2 years and one month, a positive NPV of Rp 622,915,633, and an IRR of 67%. Thus, the base scenario is deemed the most realistic and achievable, providing robust support for Sassle's business strategy.

The financial analysis concludes that Sassle's project is financially feasible and profitable. Detailed scenario analyses (pessimistic, base, and optimistic) offer a comprehensive risk assessment and support effective risk management. The study provides valuable insights for Sassle's finance division, aiding strategic decisions on investment, market expansion, scaling, and capital structure. The findings affirm that Sassle's business strategy is sound, with realistic projections across varied market conditions. Adopting the study's recommendations will help Sassle mitigate risks, ensure sustainable growth, and achieve future profitability.

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