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FINANCIAL FEASIBILITY OF NEW PRODUCT VARIANTS CHILDREN'S HEALTHY SNACK BUSINESS: CASE STUDY OF LIL'BITES

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ABSTRACT

Based on data from Indonesian Nutrition Status Survey (SSGI) in 2022, 21.6% of Indonesian children suffer from stunting, and 7.7% experience wasting. Stunting results from chronic malnutrition, causing below-average height, while wasting leads to below-normal weight. These conditions arise from insufficient nutritional intake. Ensuring proper nutrition for children under five requires three regular meals and two snacks daily. Lil'Bites is an FnB start-up that focuses on providing nutritious snacks for children by prioritizing healthy and high-quality raw materials. Currently in the product sales stage, Lil'Bites plans to expand its product flavour variants but has not yet conducted a financial feasibility study for this expansion. This research aims to assess the financial feasibility of developing new snack flavours using a quantitative approach, utilizing company data as primary data and data from similar companies as secondary data. The study will evaluate the payback period, net present value (NPV), and internal rate of return (IRR), and assess risk through sensitivity analysis. The results based on realistic scenario indicate that the Lil'Bites project is financially feasible, resulted with a payback period of 1.7 years, an NPV of IDR166,428,592, and an IRR of 47.96%, which significantly higher than the WACC of 7.39%.

INTRODUCTION

Nutrition is one of the crucial factors in children's growth. However, currently, there are many children's foods and snacks that lack nutrition, eventually leading to malnutrition in the form of stunting and wasting. According to WHO (2015), stunting is a growth and developmental disorder in children due to chronic malnutrition and recurrent infections, characterized by their height being below the standard. Wasting refers to having a low weight in relation to the children's height. This condition typically suggests significant weight loss that may have occurred recently, although it can also endure over an extended period. In the latest report from the Indonesian Nutrition Status Survey (SSGI), the prevalence of stunting in 2022 reached 21.6% and wasting increased to 7.7%. The government targets a 14%

reduction in stunting by 2024, (Kemenko PMK, 2023). During the growth stage of children, nutritional intake is not only obtained from meals but also from snacks. Parents need to recognize the risk of inadequate nutrition among children, especially toddlers, who may not receive sufficient nutrients from three main meals alone. So, in a day, children need to eat 3 times a day, 1-2 snacks, and consume breast milk or milk provided to them two to three times. (Indonesian Pediatric Society, 2015). Incorporating nutritious snacks into their daily routine, scheduled 2-3 times a day, is essential to address this concern (Indonesian Pediatric Society, 2015). However, the market's inundation with unhealthy snacks targeted at children often hinders their access to necessary nutrients. Meanwhile, healthy snacks are snacks that are free from dangerous preservatives, MSG, free from excessive sugar and fat and have good nutritional value (Kementrian Kesehatan, 2023). In response, Lil'Bites offers a solution by providing a variety of wholesome and nourishing snacks designed specifically for children. By prioritizing both health and taste, Lil'Bites aims to bridge the gap in the market, ensuring children have access to nutritious options that support their overall well-being. Therefore, Lil'Bites' commitment to participating in Indonesia's stunting reduction program underscores its dedication to addressing broader societal challenges related to child nutrition and health.

Currently, Lil'Bites has been selling its snack products for five months reaching sales of 36 packs of cookies. Lil'Bites has successfully introduced one variant of children's snack cookies, namely Choco almond cookies, which are made without preservatives, artificial colors, and low sugar content. However, Lil'Bites' sales have declined over time, indicating the need for better innovation in terms of flavor variants, packaging design, and uniqueness. To overcome this challenge, it is important to evaluate the feasibility of new flavor variant innovations that can renew consumer interest and revive the Lil'Bites brand's appeal in the market. By taking this approach, Lil'Bites can maintain the company's relevance in the competitive snack market.

METHODS

This research collected data by two methods, primary data, and secondary data. Both methods will be used to fulfill the required assumption before analyzing the data. Primary data is firsthand data gathered by the researcher himself. Some sources of primary data are surveys, observations, and questionnaires (Ajayi, 2023). In this research, researchers will collect data from previous semester's Lil'Bites historical financial data, as well as data from comparable vendors' options concerning their offers for the production cost of the new cookie's variants. Secondary data is data that were gathered by someone else earlier and may not be specific with the researcher's needs but align in additional support for other purposes (Ajayi, 2023). In this research, the secondary data that will be involved are government publications, websites, books, journals, and articles to back up the information given relating to the variable in this research.

Data Analysis

1. **Construct pro forma financial Statements**

   Pro forma is a statement of financial conditions of the company, and assumptions are one of the important factors in the pro forma process. Assumptions made will be made within Lil'Bites's expectations. Assumptions will be made with data collected from primary sources, which are data from Lil'Bites internal and secondary sources such as government websites, books, journals, and articles. The assumptions that have been made will then be developed into a pro forma income statement, pro forma balance sheet, and pro forma cash flow for the next 5 years with an expected payback period of less than 5 years and is expected to continue if the project is still operating in alignment with the vision.

2. **Calculate the Cost Of Capital Using WACC**
   In order to calculate the NPV, WACC is necessary. However, in this study case, only the cost of equity will be factored in as the Lil'Bites company does not have any debt. In the cost of equity calculation, the assumption for the beta comes from a similar vendor's production of children snacks. This involves determining the cost of equity based on the required rate of return expected by the company.
3. **Conduct feasibility analysis**
   The feasibility of the investment project, specifically the new product variant of Lil'Bites, will be evaluated using capital budgeting techniques. The analysis will implement the Payback Period, Net Present Value (NPV), and Internal Rate of Return (IRR) to reach a conclusion on the project's feasibility.
4. **Risk Assessment**
   After conducting the feasibility analysis, the result of the analysis will be followed by a risk assessment process in order to calculate the uncertainty of the assumptions made. This process will involve devising strategic measures to mitigate these risks and guarantee the success of the project.

BUSINESS ISSUES EXPLORATION

Analysis of Current Business Situation

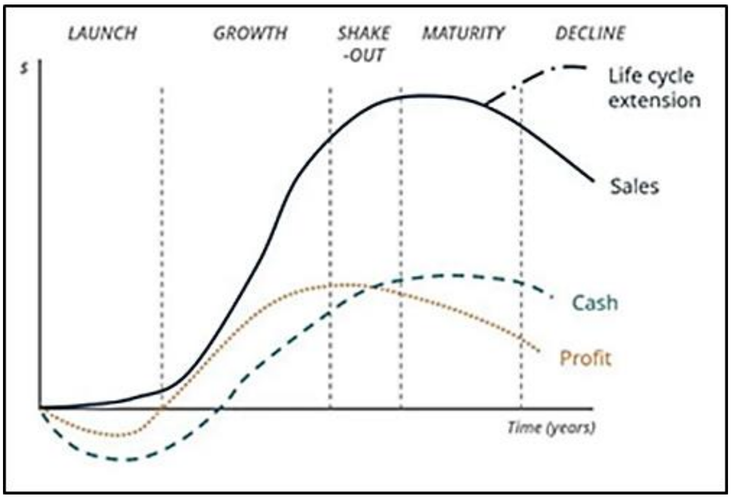

Figure 1. Business Life Cycle
Source: corporatefinanceinstitute.com

Based on the sales statistics above, Lil'Bites sales have decreased from December and until January 2024 until now Lil'Bites only make a few sales from offline channels such as children's daycare and other consignment places.

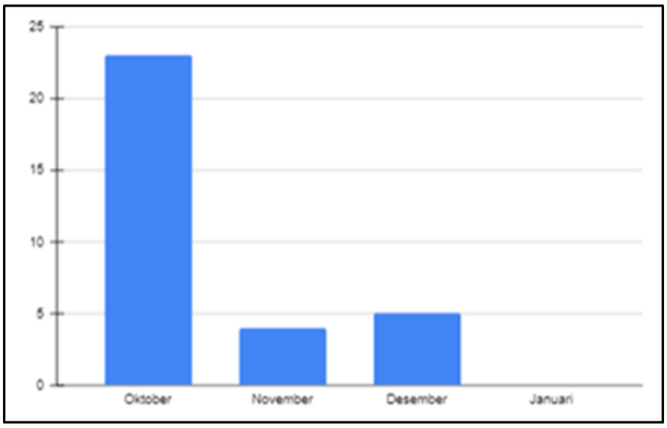

Figure 2. Lil'Bites Sales Statistics

In addition to declining sales and customer retention from offline and online sales from October until January 2024, Lil'Bites is facing new challenges related to customer needs for a variety of flavors. Several customers expressed boredom and disinterest in the flavors because there was only one flavor variant that Lil'Bites offered, which ultimately led to a decline in sales. Apart from that, several consignment stores with quite large consignment potential advised us not to provide just one variant to display on their shelves because other snack products do the same in terms of their variants. Therefore, Lil'Bites realizes the importance of innovating and adapting to market desires. Lil'Bites is conducting an in-depth evaluation of its products and planning to launch new flavor variants that can meet customer needs and desires.

External Analysis

The Porter's Five Forces Analysis

1. **Threat of New Entrants**
   The threat of new entrants into the children's F&B market for Lil'Bites is moderate. While the market is experiencing growth, the established brands and their strong brand recognition pose a barrier to entry. Additionally, Lil'Bites focus on health and nutrition creates a unique selling proposition that may act as a differentiator, making it challenging for new entrants to replicate its offerings easily.
2. **Bargaining Power of Buyers**
   The bargaining power of buyers in the children's F&B market, as it relates to Lil'Bites, is high. Parents, as the primary buyers, have a wide array of choices in the market. Their purchasing decisions are influenced by factors such as taste, nutritional value, and brand reputation. Lil'Bites must continuously innovate and deliver high-quality products to maintain and enhance its market share, given the discerning nature of its target audience.
3. **Bargaining Power of Suppliers**
   The bargaining power of suppliers for Lil'Bites is relatively moderate. As a player in the F&B industry, Lil'Bites may work with suppliers providing raw materials and production vendors, while considering quality and cost, the option of production vendors each have their own minimum order of quantity. The company's commitment to high-quality ingredients, however, necessitates maintaining strong relationships with reputable suppliers and vendors is needed.

4. **Threat of Substitutes**
   The threat of substitutes for Lil'Bites is moderate. While there may be alternatives in the market, Lil'Bites focus on healthy snacks suitable for toddlers creates a somewhat specialized niche. Substitutes may include homemade snacks or other healthy snack options, but Lil'Bites emphasis on nutrition and convenience may act as a deterrent for customers seeking equivalent alternatives.
5. **Competitive Rivalry**
   Competitive rivalry in the children's F&B market is high, reflecting a diverse landscape with numerous players. Lil'Bites faces competition from both established multinational corporations and smaller enterprises such as Alami, Milna, Yummy Bites and others. To maintain a competitive edge, Lil'Bites must continue to innovate, differentiate its products, and build strong brand loyalty through effective marketing and customer engagement.

PESTEL Analysis

1. **Political**
   Government policies addressing the significant issue of stunting in Indonesia can impact Lil'Bites strategies and operations. Government involvement in promoting children's nutrition and addressing stunting may create opportunities for Lil'Bites to contribute to solutions and strengthen its brand image. On the flip side, stringent regulations regarding advertising to children or tightened nutritional standards may demand adjustments in Lil'Bites marketing and product formulations. Government regulation and policies such as food labeling, health standards, and product advertising can impact Lil'Bites' operations and marketing strategies.
2. **Economic**
   Economic conditions affecting family purchasing power can influence the demand for Lil'Bites products. Although Lil'Bites operates in the premium segment, pricing adjustments and marketing strategies aligned with the income levels of the population may be key factors for growth in fluctuating economic conditions.
3. **Social**
   Changes in lifestyle trends and eating patterns influenced by government policies related to stunting can shape consumer preferences for Lil'Bites products. Awareness of the importance of children's nutrition may open opportunities for Lil'Bites to educate and meet the needs of health-conscious consumers.
4. **Technology**
   Technological innovations in production and distribution can help Lil'Bites enhance efficiency and meet stringent standards in its product formulations. Additionally, the use of digital technology in online marketing can expand Lil'Bites reach and enable closer interaction with its customers.
5. **Environment**
   In addressing the issue of wasting and stunting, Lil'Bites may consider government policies related to the environment, particularly those concerning packaging waste management and the use of eco-friendly materials. Lil'Bites sustainable strategies can resonate positively with environmental concerns in the community.

6. **Legal**
   Regulations related to food safety, advertising to children, and product labeling may become stricter in response to government actions on stunting. Lil'Bites needs to ensure full compliance with these regulations to avoid sanctions and maintain its brand reputation. Product licensing such as P-IRT (Industrial Business License) and Halal certification are also important factors in the regulation of children's snack products in Indonesia.

Internal (SWOTS-TOWS)

SWOT Analysis

Table 1. SWOT Analysis of Lil'Bites

STRENGTH	WEAKNESS
● **Nutrient-Rich and Delicious Baby Snacks** One of our main strengths is offering nutrient-rich and delicious baby snacks. This makes it appealing to parents who want to provide quality food for their children without compromising on taste. ● **Product Texture** Lil'Bites have a unique texture of product suitable for different stages of child development. This gives us an advantage in providing options that align with the developmental needs of children. ● **Innovative Flavor Expansion and Health-Conscious Snack** Lil'Bites introduce new flavor references to children, enhancing the attractiveness of our products and encouraging kids to explore different tastes. Other than that, the snacks are made without preservatives, artificial food coloring, and contain sugar free calories.	● **Complex Regulations** Compliance with complex and stringent regulations related to children food and complementary feeding products is a challenge. Vigilant oversight is required to ensure strict compliance. ● **Limited Financial Capital** The fundings that run this business is pure from fundraising events. Thus this system cause limited capital to scale this business. ● **Limited flavor variants** Lil'Bites only offering one flavor variant may lead to customer boredom and decreased sales, as mentioned in the scenario.
OPPORTUNITY	**THREATS**
● **Collaboration with Influencers** There is an opportunity to collaborate with influencers who have children in the complementary feeding phase. This could help expand our market reach and gain greater brand recognition. ● **Government Programs** Ongoing government programs aimed at reducing stunting rates in Indonesia presents a significant opportunity. We can contribute to this goal by providing nutritious complementary feeding products. ● **Increase Consumer Education and Awareness** Increasing consumer awareness and interest in the health and nutrition of children provide an opportunity for the growth of our business.	● **Competition from Other Healthy Baby Snack Businesses** Competition from other businesses offering healthy baby snacks can pose a threat. Continuous innovation and maintaining product quality are essential for competitiveness. ● **Reputation Issues** The possibility of issues related to product safety or quality could harm our reputation. We must consistently uphold the quality and safety of our products. ● **Lack of Trust from Parents** Parents may lack trust in complementary children's products. We need to focus on the quality and safety of our products to build customer trust.

TOWS Analysis

Table 1. TOWS Analysis of Lil'Bites

STRENGTH + OPPORTUNITY	WEAKNESS + OPPORTUNITY
• **Promote the unique texture of Lil'Bites as awareness campaign** Leverage the nutrient-rich and delicious baby snacks to capitalize on the increasing consumer awareness and interest in children's health and nutrition. • **Influencer and Online Platform Collaboration** Collaborate with influencers to enhance brand recognition, utilizing the strengths of innovative flavors and varied product textures. Collaborate with online platforms to expand distribution channels and reach a wider audience.	• **Enhancing Market Competitiveness through Flavor Innovation and Nutrient-Rich Offerings** Mitigate the competition from other healthy baby snack businesses by emphasizing Lil'Bites strengths in developing new flavor innovation and nutrient-rich offerings. • **Ensuring Product Quality and Safety to Safeguard Reputation** Proactively address potential reputation issues by maintaining a stringent focus on product quality and safety.
STRENGTH + THREAT	WEAKNESS + THREAT
• **Government Partnership for Nutritious Solutions Supporting Child Health** Overcome the challenge of complex regulations by actively participating in government programs aimed at reducing stunting rates, aligning with Lil'Bites commitment to providing nutritious complementary feeding products. • **Developing new unique flavor variants to compete the competitor** Competition from competitors in the snacks industry may offer continuous innovation of their own. Therefore, Lil'Bites have to introduce the new innovation variants to outmatch our own competitor in the market.	• **Product Safety and Quality as Competitive Advantage** Mitigate the threat of competition from other baby snack businesses by enhancing the focus on product safety and quality. • **Diversification of Flavor Variants** Address the weakness of limited flavor variants by introducing a range of new flavors that cater to diverse customer preferences and trends in the healthy baby snack market to compete with other competitors.

Technology Readiness Level (TRL)

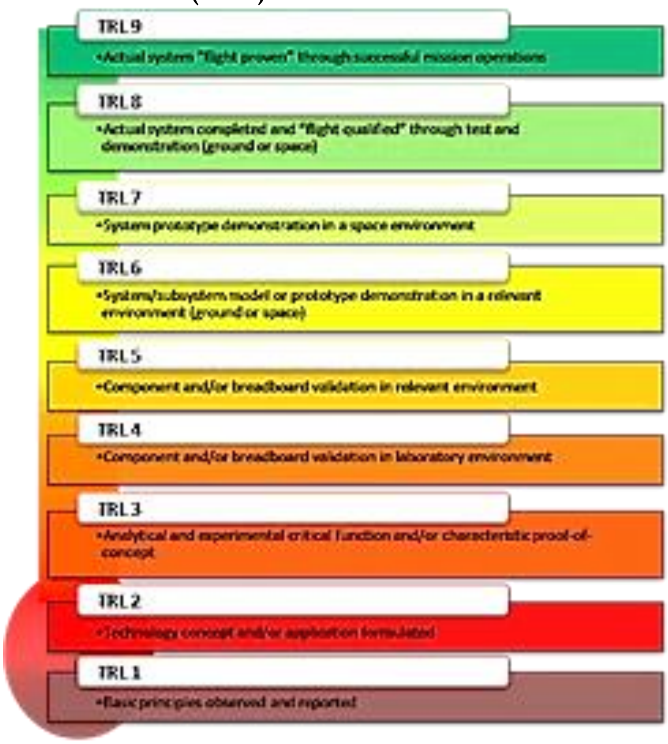

Figure 3. Technological Readiness Level (TRL)
Source: nasa.gov

Currently, the Lil'Bites product is in stage 4 of the Technology Readiness Level (TRL), where the Lil'Bites children's snack cookies are undergoing the laboratory validation stage. At this stage, a comprehensive testing process is carried out to ensure that the product meets strict quality and safety standards. This laboratory test includes a detailed analysis of nutritional content, including protein, fat, carbohydrates, vitamins, and minerals, as well as checking for the presence of unwanted additives or contaminants. Through this validation stage, Lil'Bites is committed to providing snacks that are delicious, nutritious, and safe for children to consume, before continuing to the next stage of development, namely testing in a more relevant and realistic environment.

Financial Statements

Lil'Bites' current financial statement contains Lil'Bites' finances record since we started selling our first and only product in marketplaces and offline stores. This financial statement includes the income statement, balance sheet and cash flow of Lil'Bites regarding sales of the old variant of the choco almond cookies product. We sell from the beginning of October 2023 to March 2024. The following is the financial statement from Lil'Bites:

Table 3. Lil'Bites' Income Statement

INCOME STATEMENT (MONTHLY)						
in Indonesian Rupiah	10	11	12	1	2	3
Revenue						
Sales of Lil'Bites Choco Almond Cookies (Previous)	Rp690,000	Rp60,000	Rp150,000	Rp0	Rp180,000	Rp0
COGS						
Total COGS	Rp425,500	Rp37,000	Rp92,500	Rp0	Rp55,500	Rp0
Gross profit	*Rp264,500*	*Rp23,000*	*Rp57,500*	*Rp0*	*Rp124,500*	*Rp0*
Expense						
Operational Expense						
Production Choco Almond Cookies Batch 1	Rp750,000	Rp0	Rp0	Rp0	Rp0	Rp0
Packaging Choco Almond (250 pcs)	Rp875,000	Rp0	Rp0	Rp0	Rp0	Rp0
Research&Development Expense	Rp75,000	Rp0	Rp0	Rp0	Rp0	Rp0
Box Shipping (20x20x15cm)	Rp0	Rp115,000	Rp0	Rp0	Rp0	Rp0
Box Shipping (36x24x21cm)	Rp0	Rp95,000	Rp0	Rp0	Rp0	Rp0
Resi Printer	Rp0	Rp810,000	Rp0	Rp0	Rp0	Rp0
Production Choco Almond Cookies Batch 2	Rp0	Rp0	Rp0	Rp0	Rp0	Rp375,000
Total Operational Expense	*Rp1,700,000*	*Rp1,020,000*	*Rp0*	*Rp0*	*Rp0*	*Rp375,000*
Marketing Expense						
Marketing Ads (October 2023)	Rp0	Rp100,000	Rp0	Rp0	Rp0	Rp0
TOTAL OPERATIONAL EXPENSE	Rp1,700,000	Rp1,120,000	Rp0	Rp0	Rp0	Rp375,000
Earning Before Interest and Taxes	-Rp1,435,500	-Rp997,000	Rp57,500	Rp0	Rp124,500	-Rp375,000
Depreciation	Rp0	Rp0	Rp14,000	Rp14,000	Rp14,000	Rp14,000
Net Income	-Rp1.435.500	-Rp997.000	Rp43.500	-Rp14.000	Rp110.500	-Rp389.000

Table 2. Lil'Bites' Balance Sheet

BALANCE SHEET (MONTHLY)							
in Indonesia Rupiah	9	10	11	12	1	2	3
Assets							
Current Assets							
Cash		Rp4.790.000	Rp3.980.000	Rp3.945.000	Rp3.945.000	Rp3.958.500	Rp3.583.500
Inventory	Rp0	Rp1.274.500	Rp1.447.500	Rp1.355.000	Rp1.355.000	Rp1.244.000	Rp1.619.000
Total Current Assets	**Rp0**	**Rp6,064,500**	**Rp5,427,500**	**Rp5,300,000**	**Rp5,300,000**	**Rp5,202,500**	**Rp5,202,500**
Fixed Assets							
Equipment	**Rp0**	**Rp0**	**Rp810,000**	**Rp796,000**	**Rp782,000**	**Rp768,000**	**Rp754,000**
Depreciation	**Rp0**	**Rp0**	**Rp0**	**Rp14,000**	**Rp14,000**	**Rp14,000**	**Rp14,000**
Total Fixed Assets	**Rp0**	**Rp0**	**Rp810,000**	**Rp782,000**	**Rp768,000**	**Rp768,000**	**Rp754,000**
Total Assets	**Rp0**	**Rp6.064.500**	**Rp6.237.500**	**Rp6.082.000**	**Rp6.068.000**	**Rp5.970.500**	**Rp5.956.500**
Liability and Equity							
Equity	Rp0	Rp7,500,000	Rp7,500,000	Rp7,500,000	Rp7,500,000	Rp7,500,000	Rp7,500,000
Retained Earnings		-Rp1,435,500	-Rp2,432,500	-Rp2,389,000	-Rp2,403,000	-Rp2,292,500	-Rp2,681,500
Total Founders' Equity	**Rp0**	**Rp6,064,500**	**Rp6,237,500**	**Rp6,082,000**	**Rp6,068,000**	**Rp5,970,500**	**Rp5,956,500**

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Table 3. Lil'Bites' Cash Flow

CASHFLOW (MONTHLY)							
in Indonesian Rupiah	9	10	11	12	1	2	3
From Operating Activities							
Net Income	Rp0	-Rp1,435,500	-Rp1,027,000	Rp43,500	-Rp14,000	Rp110,500	-Rp389,000
Changes in Inventories	Rp0	-Rp1,274,500	Rp173,000	-Rp92,500	Rp0	-Rp111,000	Rp0
Depreciation	Rp0	Rp0	Rp14,000	Rp14,000	Rp14,000	Rp14,000	Rp14,000
Cash Flow from Operating Activities	Rp0	-Rp2,710,000	-Rp840,000	-Rp35,000	Rp0	Rp13,500	-Rp375,000
From Investing Activities							
Capital Expenditure	Rp0	Rp0	Rp0	Rp0	Rp0	Rp0	Rp0
Other Investing Activities	Rp0	Rp0	Rp0	Rp0	Rp0	Rp0	Rp0
Net Cash Flow from Investing Activities	Rp0	Rp0	Rp0	Rp0	Rp0	Rp0	Rp0
From Financing Activities							
Grant Funds	Rp0	Rp7,500,000	Rp0	Rp0	Rp0	Rp0	Rp0
Net Cash Flow from Financing Activities	Rp0	Rp7,500,000	Rp0	Rp0	Rp0	Rp0	Rp0
Net Increase in Cash	Rp0	Rp4,790,000	-Rp840,000	-Rp35,000	Rp0	Rp13,500	-Rp375,000
Cash at the beginning		0	Rp4,790,000	Rp3,950,000	Rp3,915,000	Rp3,915,000	Rp3,928,500
Cash at the end		Rp4,790,000	Rp3,950,000	Rp3,915,000	Rp3,915,000	Rp3,928,500	Rp3,553,500

Judging from the financial statement above, Lil'Bites' sales performance in selling this old variant of the product only set the highest sales record in October 2024. After that, there was a drastic decline in sales of these choco almond cookies in the following months even though we had expanded to the online marketplace in Shopee platform. Lil'Bites has also used paid ads on the marketplace but only made a few sales. In the middle of this sale, there were several customers who asked about other flavor variants due to taste preferences and there were also those who were allergic to almonds. Even though the stock of the first production batch has run out, the sales take quite a long time to sell the 50 cookies for approximately 6-7 months.

Lil'Bites does not have excessive equipment, only printer receipts and other necessities for our online shop since our production system is purchased separately from vendors who do not require us to purchase machines. From the capital that Lil'Bites had at the start, we have remaining capital of IDR. 4,432,500 which we plan to use to develop other flavor variants of the cookies. Apart from requests from customers for other flavor variants, several consignment stores such as Setiabudi Supermarket and Papaya suggested that we stock more than 1 variant to make it more attractive to display at consignment places like other children's snacks. Thus, it is necessary to carry out a feasibility analysis to develop this new variant of healthy children's cookies because our capital is also quite limited.

Analysis of Product

Figure 3. Lil'Bites Current Product

As for now, the current product of Lil'Bites is the choco almond cookies. We have produced around 50 pcs of the choco almond cookies. We launched the product in October 2023, but our sales seem to keep declining. During the sales period, we also met directly with our customer persona, namely mothers who have children under five and they asked whether Lil'Bites had other flavors besides choco almond because their children didn't like the taste of chocolate. Because at that time we only had one flavor variant, the mother said that it would be better for Lil'Bites to release several other flavor variants so that customers can have options in the taste of the children's snack. So, the mother decided not to purchase the cookies because of the limitation on the flavor option. In response to this feedback, it is evident that introducing new flavor variants is crucial to revitalizing our sales and meeting customer demands.

The current limitation to a single flavor has directly impacted our sales performance and customer satisfaction, as pointed out through the feedback from our target market. As a result, we are developing two new flavors that will appeal to both the children and their parents namely sweet potato and vanilla, aside from choco almond flavors. The flavors were selected to be widely accepted and have nutritional value. Sweet potatoes offer natural sweetness and critical vitamins, and the flavors do not exist yet in children's cookies in the market. The Vanilla flavor is a classic that is loved by all, and it has a mild flavor, which makes both flavors perfect additions to our range of Lil'Bites cookies. This will cater to the varied tastes of our consumers while also offering a wider choice to our target customers. Besides this, having more flavors will also enhance the probability of acceptance in consignment locations, since retailers have shown more interest in having a more varied product line. We believe that new flavors can improve sales, enhance customer retention, and generally position Lil'Bites stronger in the market.

Analysis of Root Cause

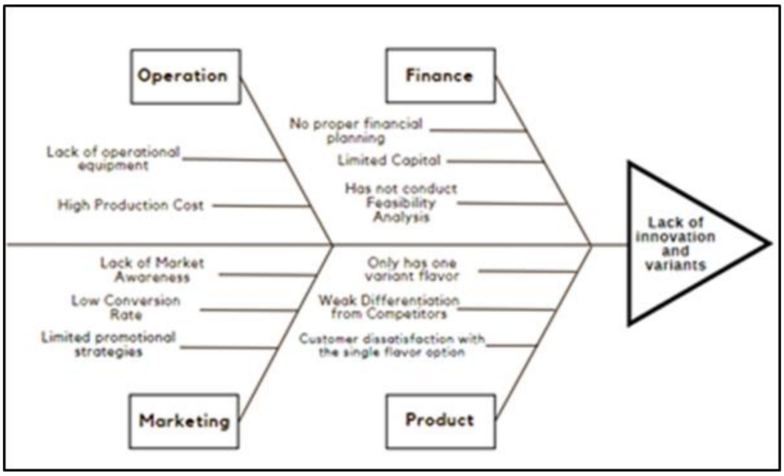

Figure 5.

Based on the fishbone analysis above, Lil’Bites currently has several problems within its product, operations, finance, and marketing. Due to Lil'Bites snack products commit on being healthy and nutritious snacks, the ingredients used in the snack are of course high quality. However, the high-quality ingredients also come with a high price, leading to high production costs for Lil'Bites. Other than that, on the operation section, Lil’Bites also lack operational equipment to support the business progress. Additionally, in terms of marketing, Lil'Bites lacks in spreading awareness to the market, with minimal content dissemination of information that could make parents aware of the impact of snacks on their children. Paid advertisements also have been done, but the conversion rate remains low. Moreover, the limited promotion strategy may not attract attention from our target customers. These resulted in a low level of conversion from awareness to the purchase of Lil'Bites products. Regarding finance, Lil'Bites currently has limited capital, has no proper financial planning, and has not conducted any feasibility analysis that could impact future actions. In terms of products, Lil'Bites only has one flavor variant, choco almond cookies, which is also offered by our competitors, leading to weak differentiation and customer dissatisfaction with only one flavor option provided. Therefore, researchers still do not know whether introducing new cookie variants for Lil'Bites is feasible or not considering the problems in the root cause analysis.

BUSINESS SOLUTION

Alternative Business Solution

In this chapter, the researcher explains the solution to solve the issues. It utilizes data from Lil'Bites internal and external such as data from Lil'Bites financial report and data of comparable vendors/suppliers and competitors. The obtained data then can be processed into a pro forma financial statement that includes assumptions, an income statement, a balance sheet, and a cash flow statement. Assumptions are very important to capture the risk that might come up from the business activities. These assumptions can be made by considering the company's financial performance, company financial data and also data from relevant similar companies.

The assumptions then construct into pro forma financial statement, the data from the pro forma financial statement will be processed to find out the cost of capital of the company which will be calculated using the weighted average cost of capital (WACC), WACC will only calculate equity because all Lil'Bites's capital will only use equity without using debts or liability. Then the data that has been obtained will be used to calculate the feasibility of new product variants of Lil'Bites, the process of assessing business feasibility will use the payback period, NPV, and IRR tools, profitability index. Which then to further ensure the results that have been obtained and minimize the risk will be carried out scenario analysis consisting of pessimistic case, realistic case, and optimistic scenario.

Analysis of Alternative Business Solution

In this section, the researcher will describe the scenarios and analysis that will be conducted. The researcher will conduct monthly and annual calculations when constructing the pro forma financial statement consisting of assumptions, an income statement, a balance sheet, and a cash flow statement for realistic, pessimistic, and optimistic scenarios. However, monthly calculations will only be performed in the first year in order to reduce the possibility of errors or miscalculations. After preparing the pro forma financial statement, the weighted average cost of capital (WACC) will be used to calculate the cost of capital. The feasibility of Lil'Bites new product variants is then determined utilizing the payback period, Net Present Value (NPV), and Internal Rate of Return (IRR).

To minimize potential risks, researcher uses three scenarios: the pessimistic scenario, the realistic scenario, and the optimistic scenario. In order to facilitate the calculation of additional scenarios, the initial calculation will be performed using the realistic scenario model or the most likely scenario. For the worst-case scenario, the researcher will reduce the number of sales to 6% from the realistic scenario sales to account for the possibility that Lil'Bites will not meet its monthly or annual sales goals. Then, the best-case scenario will be calculated to increase the number of annual sales to 10% so that you can determine what kind of scenario will be displayed if sales are greater than 8% of the Target.

Vendor Comparison

In this section, the researcher conducts research for vendor options that provide the best price for the snack productions. The aspects that will be analyzed are price, minimum order of quantity (MOQ), time of production, and terms and conditions from the partnership. Below is the vendor of production choices:

1. Vendor A: PT. Sisca Mandiri Lestari
   Informant: (Ms. Sisca - Owner)
2. Vendor B: PT. Citra Graha Nugratama
   Informant: (Chef Iin - Head Pastry Chef)
3. Vendor C: CV. Selaras Cookies
   Informant: (Mr. Diki - Owner)

From the three vendors above, the researcher conducts a short survey and interview to find out details about the vendors' given price for the production, Minimum Order of Quantity (MOQ), capacity for production, minimum order lead time, payment terms, and late payment penalty.

Table 3. Vendor's Comparison

Vendor	MOQ	Price/100gr (Per variant)	Capacity of Production (Per day)	Production Time	Minimum Order Lead Time (days)	Payment Terms	Late Payment Penalty
A	5 kg	-Choco Almond (Rp22,300) -Vanilla Cookies (Rp23,800) -Sweet Potato (Rp23,200)	30 kg	1-3 days	H-2 days	DP 0%	Rp25,000/day
B	12,5 kg	-Choco Almond (Rp27,850) -Vanilla Cookies (Rp29,950) -Sweet Potato (Rp30,250)	10 kg	3-4 days	H-3 days	DP 25% DP 50%	3 days lateness Blacklist.
C	7.5 kg	-Choco Almond (Rp23,500) -Vanilla Cookies (Rp25.250) -Sweet Potato (Rp26,525)	15 kg	3-7 days	H-3 days	DP 20%	1 week lateness Blacklist.

From the table above, it can be concluded that the suitable vendor for the new Lil'Bites variant cookie project is currently PT. Sisca Mandiri Lestari. Since Lil'Bites' capital is limited and they have the smallest Minimum Order Quantity (MOQ) among other vendors, Lil'Bites can produce according to customer orders and does not absorb too much capital into production so that it can be diverted for other expenses. Also, the vendor A had the cheapest Cost of Goods Sold for the three new variants project.

Initial Investment

Lil'Bites will continue to operate in Bandung City. However, in the future, Lil'Bites will require several aspects to run this business project. These include cash, inventory, equipment, and legality. However, due to the fact that Lil'Bites business system still relies on production vendors, there is no need for large capital in the equipment section of this business. As for inventory, Lil'Bites plans to stock 1,000 pieces/variant of children's snacks for a period of one year. The equipment needs include a printer, laptop, and cloud drive to store Lil'Bites data.

Table 4. Lil'Bites's Initial Investment

Initial Investment	
Cash	Rp14,000,000
Inventory	Rp106,000,000
Equipment	Rp10,000,000
Legal Aspect	Rp8,000,000
Total	Rp138,000,000

The project of the new variants snack cookies Lil Bites will meet all initial investment requirements with funding from all the founders and capital raising. The investment will be used for inventory, equipment, legal aspects, and other expenses. Prior to implementation, the project's feasibility must be determined in order to make the best decision regarding the company's goals.

Construct Pro Forma Financial Statement

The pro forma financial statements in this project are generated from the assumptions which consist of income statement, cash flow statement, and balance sheet. The assumption is based on a monthly period in the first year, then further developed as annual assumptions for the second to fifth year projection period. These assumptions are important since it will be used for the pro forma financial statements. Therefore, the assumptions are made considering the current Lil'Bites financial conditions combined with secondary data such as the children snacks industry overview from PT. Indofood Sukses Makmur, benchmarking from a similar company for pricing and sales such as Yummy Bites. The assumptions are made monthly based on the total of 12 months period from January to December of the first year as basis assumptions which can be seen on the appendix 1 and 2. The annual assumption for this project is based on the compound annual growth rate of the baby food industry in Indonesia which is generated from Statista resulting in 9.39% of growth annually. The percentage of growth is also used in the monthly assumptions for the basis of these projections up to the annual assumption for the second year until fifth year projections.

The annual assumption for the pro forma financial statement of Lil'Bites project can be seen on appendix 3 and 4. The realistic projections for the pro forma financial statements can be seen on the appendix 5, 6, and 7. Moreover, the pessimistic pro forma financial statement will be reduced 2% from the target sales in the realistic scenario, while the optimistic will be increased 2% from the realistic target sales for the monthly basis in the first year. All of the completed monthly pro forma financial statements that reflect the optimistic and pessimistic scenarios can be seen on appendix 11, 12, 13, 17, 18, and 19. While the completed annual projection that reflects the realistic, optimistic and pessimistic scenario can be seen on appendix 8, 9, 10, 14, 15, 16, 20, 21, and 22.

Weighted Average Cost of Capital (WACC)

In this project, to minimize financial risk and maintain control during the launch of the new product variant, Lil' Bites will avoid debt financing and rely solely on equity. This strategic choice allows for greater flexibility in managing project costs. Researchers will utilize the Capital Asset Pricing Model (CAPM) to determine the appropriate cost associated with this equity financing. CAPM considers both market risk and Lil'Bites' specific risk profile to estimate a fair cost of equity.

Table 5. Capital Asset Pricing Model

Capital Asset Pricing Model	
Beta	0.054
Risk-Free Rate	7%
Market Return	14.12%
Cost of Equity	7.39%

$$Re = Rf + \beta\ (Rm - Rf)$$

$$Re = 0.07 + (0.054) \times (0.1412 - 0.07)$$

$$Re = 7.39\%$$

Equation 1. Cost of Equity of Lil'Bites

Since Lil'Bites project is fully funded entirely by equity and has no debt or financial leverages, then the weighting is 1.00. The formula for Weighted Average Cost of Capital (WACC) is described below.

$$WACC = (1.00\ X\ 7.39\%)$$

$$WACC = 7.39\%$$

Equation 1. Lil'Bites's WACC Formula

Lil'Bites's Capital Asset Pricing Model (CAPM) is calculated using unlevered beta, risk- free rate, and market return. The unlevered beta removes the debt effect from the equation, isolating the inherent risk of the company's core business operations, assuming that the business does not have any kind of debt, which is aligned with the capital structure of Lil'Bites. The unlevered beta is generated from the unlevered beta of Indofood Sukses Makmur Tbk (IDFN) that owns "Promina" which is a similar company that also produces healthy children snacks in the food industry. On the other hand, the risk-free rate is determined by government obligations FR0101 that have 7% interest in 5 years maturity tenor (2024-2029). Moreover, the market return is determined by calculating the Compounded Annual Growth Rate (CAGR) of Indeks Harga Saham Gabungan (IHSG) daily return in the past 5 years (2019-2024). These compositions including unlevered beta, risk-free rate, and market return are then calculated using CAPM method that results in 7.39% cost of equity.

Feasibility Analysis

In this financial feasibility analysis, WACC will be used to calculate the discount rate which will be compared with IRR. From the feasibility analysis calculations for this project, it is known that from the realistic/most likely scenario, the payback period for this project is 1.7 years or 21 months. The payback period for this project is still considered acceptable because it is still below the time period criteria for this project, namely (< 5 years). Apart from that, the NPV value of the new Lil'Bites healthy cookie variant project has a positive NPV or more than 0 or positive, namely Rp166,428,592. It is also known that the IRR of this project is 47.96% which has exceeded the WACC value of 7.39.%. From the result above, it can be concluded that the new Lil'Bites cookie variant project is in accordance with the acceptance criteria because it meets these criteria. Thus, this project can be expected to generate returns from the initial investment. Considering the three feasibility methods that have been carried out, it can be concluded that the project is feasible for Lil'Bites to achieve our company target and generate more sales in the future.

Table 6. Feasibility Analysis of Lil'Bites's Project

Method	Value	Acceptance Criteria
Payback Period	1.7 years	Throughout Project's Lifetime (< 5 Years)
NPV	Rp166,428,592	Positive NPV (NPV > 0)
IRR	47,96%	Higher than WACC (WACC >7.39%)

Scenario Analysis

The scenario analysis is conducted by implementing the assumptions into scenarios that represent three conditions in various aspects of the Lil'Bites, which are realistic/most likely scenario, pessimistic scenario, and optimistic scenario. Although there were three scenarios portrayed for this project, the scenario that will be used for the result of the feasibility analysis is the realistic scenario and the other scenarios are just for risk assessment and mitigation only. The scenario analysis is performed by making some adjustment to certain assumptions such as lowering 2% for the pessimistic scenario and increasing 2% from the realistic scenario for the optimistic scenario. Each scenario has different adjustments also such as in the pessimistic scenario, the wages increase per year is different from the optimistic scenario where the optimistic scenario wages' increase for founders increase double per year than the increases in the pessimistic scenario.

Other than wages increase, the expenses also have some adjustment such as lowering the marketing expense on the pessimistic scenario using percentage of revenue to determine the marketing budget and increasing the marketing expenses on optimistic scenarios and special occasions such as Ramadan, Idul Adha, and Christmas in every scenario. From the result of the projections, the pessimistic scenario resulted in a payback period of 3.3 years which is still less than the project's lifetime of 5 years which means the payback period is still acceptable. The NPV of the pessimistic scenario is positive at Rp48,780,806 that fulfills the NPV decision criteria. Other than that, the IRR of the pessimistic scenario is greater than the WACC (18.94% > 7.39%) which means that the project is still feasible while in the pessimistic condition.

Based on the optimistic scenario, the payback period resulted in 1.1 years which is quite satisfying for the payback period and less than the end of the project's lifetime (< 5 years). The NPV for the optimistic scenario resulted in a positive at Rp257,161,136, this is the greatest value from the other two scenarios. Nonetheless, the IRR for the optimistic scenario is much greater than the WACC (75.04% > 7.39%). Based on the three scenarios that have been conducted, all the three scenario projections indicate that this project fulfills the decision criteria and expected to generate returns for the company. Based on these results that fulfill all the criteria, the project can be concluded as a feasible project that can be implemented in the future.

Table 7. Scenario Analysis of Lil'Bites's Project

Method	SCENARIO		
	Pessimistic	**Most Likely**	**Optimistic**
Payback Period	3.3 years	1.7 years	1.1 years
NPV	Rp48,780,806	Rp166,428,592	Rp257,161,136
IRR	18.94%	47.96%	75.04%
Result	**Accept**	**Accept**	**Accept**

CONCLUSION

Lil'Bites is a healthy children's snack company that provides healthy snacks made without using preservatives, using 100% mocaf flour, sugar free calories, and does not use artificial coloring. Currently, Lil'Bites is in the sales stage of healthy snack cookies. However, in the sales process, several problems were found, some of them are the number of sales which had decreased drastically since the launch of the first variant, there were requests from several customers to provide other flavor variants because these customers were allergic to peanuts and there were those who asked for other flavor references and also requirements from We have approached several consignment places to provide more than one flavor of cookies like the cookies we sell there. Thus, Lil'Bites plans to create other flavor variants as a solution to the above problems. However, before implementing this new variant of the project, it is important to note that Lil'Bites' finances currently do not yet have neatly arranged financial reports, and their capital is still quite limited, the financial records are haphazard, and this company has not conducted financial feasibility study before.

Therefore, it is necessary to have a feasibility study to produce convincing information regarding the feasibility of the business from a financial perspective which is useful in developing new flavor variants of Lil'Bites cookies. With a feasibility study, it can be determined whether the new cookie flavor variant project is feasible or not within the company's financial capabilities. In this research, the data that is used in this research consists of two types of data, mainly primary data obtained from Lil'Bites internal financial report and secondary data obtained from similar companies. The capital calculation of the company is considered only to use the cost of equity since Lil'Bites does not use any debt to fund and fulfill the initial investment for the business project. As for the feasibility study of Lil'Bites project, this involves three scenarios including realistic/most likely, pessimistic, and optimistic scenarios. On this feasibility analysis, the realistic scenario is determined to be the basis of calculations and projections for this feasibility study results. The company initial investment required to develop the new flavors variants cookies project is Rp138,000,000.

Based on the realistic scenario, the initial investment is projected to achieve its payback period in 1.7 years or 21 months which is less than the project lifetime of 5 years. Lil'Bites also projected to gain net profit projection using NPV method results positive around Rp Rp166,428,592 within 5 years and the IRR of 47.96% which is greater than the WACC of 7.39%. All the scenarios are based on assumptions that rely on the company current data with secondary data such as expected market return and the industry growth. In the pessimistic scenario, the total target of sales is reduced by 2% from total sales in the realistic scenario and in the optimistic the total target of sales is increased by 2% from total sales in the realistic scenario. The pessimistic scenario produced a payback period of 3.3 years, an NPV of Rp48,780,806 and IRR of 18.94%. While the optimistic scenario produces a payback period of 1.1 years, an NPV of Rp257,161,136, and IRR of 75.04%. As a result of the realistic, pessimistic, and optimistic scenarios implemented for the projection, all of the scenarios are considered to be feasible, which means that the project for the new variants cookies of Lil'Bites is feasible to be executed in terms of the company's financial aspects.

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