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Analysis of Seaweed Chips Business Feasibility (Case Study on "NORIbet" Seaweed Processed MSMEs in the City of Bandung, West Java)

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ABSTRACT

Indonesia is the world's largest producer of seaweed, contributing 16.2% to the global market, yet most of its seaweed is still exported in raw form. This limits added value creation and hinders the growth of micro, small, and medium enterprises (MSMEs). NORIbet, a seaweed-processed MSME based in Bandung, West Java, aims to address this gap by developing value-added seaweed products. However, the business still faces challenges in cost management, marketing, and technology access. This research was conducted from June to October 2024 to analyze NORIbet's business profile using the Business Model Canvas (BMC) and evaluate its financial feasibility. A descriptive case study approach combining qualitative and quantitative methods was used, with data collected through observations and interviews involving two business owners and two production staff, selected using purposive sampling. Financial feasibility was analyzed through indicators such as profit, revenue cost ratio (R/C), break even point (BEP), payback periods (PP), and sensitivity analysis. Findings indicate that NORIbet successfully implements the 9 BMC elements in a well-structured manner. The business earned an annual profit of IDR 766,334,100 with a profitability rate of 56.1% and an R/C ratio of 2.28. Payback period is estimated at 4.6 months, and each product packaging type has its own BEP unit. Sensitivity analysis showed that a 10% increase in cost reduced profitability to 51.7%, while a 10% cost reduction increased it to 60%, indicating strong cost efficiency and operational resilience. These results confirm that NORIbet is highly feasible and has strong development potential.

INTRODUCTION

Indonesia, as a tropical island country, has biological conditions that support the optimal growth of seaweed. In 2022, national seaweed production reached 9,282,391 tons with an economic value of 40.85 trillion rupiah (KKP, 2023). A total of 15 provinces became production centers, with five main provinces, namely South Sulawesi, East Nusa Tenggara, North Kalimantan, West Nusa Tenggara, and East

Java, dominating the contribution. Although not a major producer, West Java is included in the top 15 national production centers. Globally, Indonesia supplies 16.2% of the world's seaweed market, making it a strategic commodity with great potential (Musdalifah *et al.,* 2022).

Global demand for seaweed continues to increase, especially for the food, cosmetics, and medical industries, with a market value of USD 3.71 billion in 2022, growing 32.4% from the previous year (KKP, 2023). This positive trend reflects a great opportunity for Indonesia to expand its market share, especially through the development of the domestic processing industry. One of the local seaweed processing initiatives is "NORIbet," an MSME that produces nori chips in Bandung, West Java. Although it is still micro-scale, NORIbet plays a pioneering role in the local market and contributes to the regional economy (Primatami and Hidayati, 2019).

However, MSMEs such as NORIbet also face significant challenges in their growth. Although funding is often considered the main problem for MSMEs, other obstacles such as limited management skills, lack of technology, as well as ineffective marketing strategies and lack of optimization of every element in the business model also play a role in hindering growth (Ogbokor and Ngeendepi, 2012 *in* Charamba, 2017). These factors often lead to stagnation in the scale of businesses, where micro businesses find it difficult to develop into small or medium-sized businesses.

To be able to survive in the midst of competition and overcome these challenges, MSMEs like NORIbet need to have the right strategy. Business development must be based on the optimization of mature business elements and business feasibility analysis. This is important so that the business not only survives but is also able to develop according to the existing potential. One way to find out the state of the business is through a feasibility analysis that includes financial aspects.

In addition, the Business Model Canvas (BMC) serves as an essential tool for understanding business profiles by providing a structured framework. BMC is one of the tools that can be used to map the state of business by dividing business components into nine parts. With this approach, MSMEs can better understand the key elements of their business and find development opportunities. Financial feasibility analysis can also be carried out through several methods, such as revenue and profit analysis, R/C (Revenue Cost Ratio) analysis, BEP (Break Even Point), PP (Payback Periods), and sensitivity analysis.

Sensitivity analysis can help estimate how much impact changes in production costs will have on profits. This analysis is important to understand how changes in economic conditions, such as inflation or fluctuations in operating cost prices, can affect business continuity. With the results of this analysis, NORIbet can be better prepared to face financial risks that may occur and make more informed decisions in the development of its business.

Overall, the results of this feasibility analysis will be a benchmark for whether NORIbet is worth continuing to develop in the long term. Given the huge market potential and increasing demand, good management and the right strategy will be the key to NORIbet's success in competing with other processed seaweed industries in the city of Bandung.

LITERATURE REVIEW

Assessing the feasibility of a business through financial analysis is an important step to determine whether the business can continue to generate profits. This analysis helps MSMEs reduce the risk of failure and provide guidance in making the right business decisions. Based on research conducted by Putri et al. (2014), financial feasibility analysis can evaluate various aspects, such as expenses, income, and potential profits from fisheries processing businesses. Thus, MSME actors such as NORIbet can be more confident in developing their businesses.

Research conducted by Millaningtyas *et al.* (2023) shows that the use of BMC in MSME business strategies is very effective in improving business sustainability. By mapping elements such as value propositions, customer segments, and distribution channels, MSMEs can focus more on optimizing their resources and establishing better relationships with customers. This has positive implications for increasing competitiveness and business continuity, especially in the processed seaweed sector.

Another study by Deanta and Zulistiani (2023) underscores the importance of implementing BMC in business strategy development. Although BMC has been implemented in several MSMEs, such as UD Sinar Harapan which is engaged in cracker processing, there is still room for further development, especially in terms of product diversification and branding. The findings of this study show that BMC not only helps map out business areas that need improvement, but also allows business owners to maximize their potential.

In addition, financial analysis remains a vital instrument in assessing the feasibility of seaweed processing businesses. Justika *et al.* (2022), in their research on the seaweed business in Bontang Kuala Village, found that this business is financially feasible with a R/C ratio up to 2. Even in the conditions of fluctuations in operational and production costs, this business is still able to survive through good cost management, showing the potential for sustainability of the seaweed processing business that is promising.

The same thing was also found in the analysis of sustainable MSME strategic planning in the processed seaweed industry by Pratiwi (2022). The results of Revenue Cost Ratio (R/C) show that the business is viable and profitable, with an R/C Ratio of 3.29, a BEP of 38 packs per month, and a 4 month PP. For processed seaweed MSMEs, the development strategy suggested in this study is a quick strategy that takes advantage of existing strengths and opportunities, such as

increasing business cooperation and product diversification. The study also emphasizes that MSMEs must make the right funding decisions because irregular funding arrangements and low market life can be a major weakness for businesses.

In the end, the development of the seaweed processing industry in the MSME sector has great potential to support local and national economic growth. Success in developing this business requires careful planning, proper financial analysis, and the implementation of business strategies that are in accordance with market conditions. By using tools such as the Canvas Business Model (BMC) and conducting a business feasibility analysis, MSMEs can be better prepared to face challenges while maximizing the opportunities that exist in the seaweed processing industry.

METHOD

Location and Research Time

This research was conducted in June – October 2024 at Micro, Small, and Medium Enterprises (MSMEs) processed from Seaweed "NORIbet" located on Turangga Timur. No.21a, South Ring Road, Lengkong District, Bandung City, West Java. MSMEs "NORIbet" is a seaweed-based fishery product processing site that produces healthy snacks of seaweed chips (NORI).

Types and Data Sources

The data used in the research consisted of primary data and secondary data. Primary data is obtained directly from activities in the field, such as observations and interviews. In this research process, business owners, and production staff, and marketing staff, were interviewed about the general and financial situation of "NORIbet" MSMEs. The primary data collected includes an overview of the business, investment costs, operational costs, receipts and profits, marketing, and other data related to business feasibility analysis. Secondary data was obtained from the Central Statistics Agency (BPS) and other related agencies and literature studies. Secondary data taken is in the form of data on micro, small and medium enterprises in the city of Bandung, and the processing of fishery products as data to support research.

Respondent Recruitment Techniques

In the implementation of this research, the respondent taking technique is carried out by nonprobability sampling, which is a sampling technique by determining the criteria that must be met by respondents to become a sample, in the sense that not all members of the population get the same opportunity (Sugiyono, 2013). Sample considerations for respondents in this research include samples with knowledge and data related to the general and financial situation of NORIbet Processed Seaweed MSMEs. The respondents in this research consisted of two business owners and two production staff members of the NORIbet processed seaweed MSMEs. The existence of data from respondents is expected to provide

complete data information. The data that has been collected will then be processed and analyzed so that the data can be described clearly.

Data Analysis

The data obtained from this research will be processed and analyzed based on two types of data: quantitative and qualitative. Quantitative data will be processed using Excel tools, while qualitative data is analyzed through the Canvas Business Model (BMC) method.

a) Profiling Business Model Canvas (BMC)

The profiling business model canvas (BMC) is used by the author to create a mapping of the business model that has been applied by NORIbet MSMEs to see the state of the business at the time of the research. The description of BMC was carried out through an interview with NORIbet MSME owners. Furthermore, the author will develop a framework based on 9 elements of BMC in NORIbet MSMEs, namely customer segment, value proposition, channel, revenue streams, customer relationship, key activities, key resources, key partners, and cost structure.

b) Revenue and Profit Analysis

Revenue analysis is the result of multiplication between the production results that have been produced during the production process and the selling price of the product (Winahyu and Lestari, 2021).

Total Revenue (TR)

$$TR = P \times Q \quad (1)$$

Information:

TR : Total Revenue (Rp)

P : Price (Rp)

Q : Quantity (Number of productions sold) (Unit)

With the provision:

- If the value of TR > TC, then the business is said to be profitable.
- If the value of TR < TC, then the business suffers a loss.
- And if the total revenue is equal to the total cost of production or TR = TC, the business will not experience profits and losses.

Profit

$$\pi = TR - TC \quad (2)$$

Information:

π : Profit (Rp)

TR : Total Revenue (Rp)

TC : Total cost (Rp)

With the provision: An effort is said to be profitable if the result of the calculation is positive.

c) Business Investment Value

Revenue Cost Ratio (R/C)

The calculation of the R/C is carried out using the formula of total revenue divided by total production costs, which are as follows (Gumilar, 2021):

$$R/C = TR/TC \quad (3)$$

Information:
R/C : Revenue Cost Ratio
TR : Total Revenue (Rp)
TC : Total Cost (Rp)
With the provision:

- If the R/C value is > 1, then the business will get a profit and it is worth continuing
- If the R/C value is < 1, then the business will suffer a loss and it is not worth continuing
- If the R/C value = 1, then the business is in break-even, that is, it will not get profits and losses.

Break Even Point (BEP)

The calculation of BEP can be done in two ways, namely the calculation of the price break even point and the production break even point (Kasmir in Dwintara, 2023).
Price break even point:

$$\text{BEP Price} = \frac{FC}{1-\frac{VC}{P}} \quad (4)$$

Production break even points:

$$\text{BEP Unit} = \frac{FC}{P-VC} \quad (5)$$

Information:
BEP : Break Even Point
FC : Fixed Cost
VC : Variable Cost
P : Selling Price Per Unit

Payback Periods (PP)

$$PP = \frac{Initial\ Investment}{Revenue} \text{ X 1 Year} \quad (6)$$

With the following conditions:

- If the value of PP is < 3 years, then the return on investment is included in the quick period.
- If the value of PP is between 3 years < PP < 5 years, then the return on investment is included in the medium period.
- If the value of PP > 5 years, then the return on investment is included in the slow period.

Cost of Production Sales (HPP)

In this study, the calculation of HPP value was carried out using the full costing method by accumulating the cost of main raw materials, the cost of additional and auxiliary raw materials, labor costs, depreciation of equipment and machinery, building rental costs, and factory overhead costs (Melati *et, al.* 2022).

The calculated HPP value is the cost incurred to make one package of nori seaweed chips. The cost calculation used is the total cost of production divided by the output produced.

$$\text{HPP} = \frac{Total\ Production\ Cost}{Number\ of\ Outputs\ Produced} \quad (7)$$

Sensitivity Analysis

Sensitivity analysis is an analysis intended to see the influence that will occur if circumstances change (Gittinger, 1986 *in* Nurchotimah, *et al.* 2023). The sensitivity analysis was carried out by changing the variable cost of the business according to the assumption, namely an increase of 10% and a decrease of 10%, while the selling price and the number of sales wrere assumed to be fixed. Variable costs will then be calculated based on financial analysis, including profit, break even point (BEP), revenue cost ratio (R/C), and payback periods (PP). The end result will show whether the business is still profitable and worth continuing despite changes in production costs.

RESULT AND DISCUSSION

Business Model Canvas (BMC)

The business state profile through the canvas business model overview implemented by NORIbet MSMEs has included nine elements of the business model canvas (BMC). NORIbet MSMEs segment target customers based on geographic, demographic, psychographic, and behavioral aspects. From the geographical aspect, customers come from the city of Bandung and its surroundings, from outside the region, to tourists. In the demographic aspect, customers cover various age groups, ranging from children to adults, with various professions such as students, workers, to housewives. Meanwhile, the psychographic and behavioral aspects show that NORIbet MSME customers are loyal consumers to this trademark. They buy products both as a complement to meals and as snacks. This reflects the success of NORIbet MSMEs in understanding the needs and preferences of their consumers.

NORIbet MSMEs have also managed to offer superior value for their products. High-quality raw materials, relatively affordable prices compared to similar products, various flavor variants, thick and crispy textures, and flavors that suit local tastes are the main attractions. By optimizing its nine business elements, NORIbet MSMEs are able to maintain their competitiveness and maximize profits from their business.

Cost Analysis

1. Total Cost

Total costs are the sum of total fixed costs and total variable costs. The calculation of the total production cost can be seen in the following table:

Table 1. Total Cost of Nori Seaweed Chips

No	Total Cost	Month (Rp)	Year (Rp)
	Fixed Cost		
1	Shrinkage Tool	456.825	5.481.900
	Variable Cost		
1	Rent a building	5.000.000	60.000.000
2	Packaging	9.914.000	118.968.000
3	Raw Materials	24.628.000	295.536.000
4	Gas	170.000	2.040.000
5	Electricity	300.000	3.600.000
6	Labour	7.500.000	90.000.000
7	Internet	300.000	3.600.000
8	Transportation	1.750.000	21.000.000
	Total	**50.018.825**	**600.225.900**

Source: Processed Data (2024)

From this data, the total cost incurred for one month of production of nori seaweed chips is approximately IDR 50,018,825. This includes raw material costs amounting to IDR 24,628,000 per month. The raw materials consist of Nori (*Porphyra sp*) seaweed, chicken and garlic seasoning powder, BBQ seasoning powder, spicy seasoning powder, and cooking oil, with detailed weekly expenses totaling IDR 6,157,000. The annual accumulated production cost reaches approximately IDR 600,225,900. The calculation of total costs serves as a fundamental step in evaluating the business's financial feasibility and sensitivity. These total costs are further utilized in financial analyses, such as profit calculation, revenue cost ratio (R/C), break even point (BEP) in terms of price and production quantity, and payback periods (PP) to estimate the return on investment.

2. Revenue

The revenue is obtained from the result of multiplication between the output of nori seaweed chips products and the selling price of the packaged products (Winahyu and Lestari, 2021). In one month, NORIbet MSMEs produce an estimated 1,500 boxes of nori chips (13 x 7 x 13 cm) sold at IDR 21,000 each, resulting in revenue of IDR 31,500,000. For the 30gr pouch packaging, approximately 4,500 units are sold at IDR 18,000 per pouch, generating IDR 81,000,000. Additionally, the jumbo packaging yields 12 units per month at a price of IDR 90,000 each, contributing IDR 1,080,000, while 20 packs of 70gr shredded nori are sold monthly at IDR 15,000 per pack, adding IDR 300,000 to the revenue. The total revenue that

will be obtained in one month of production of nori seaweed chips at NORIbet MSMEs is IDR 113,880,000. The estimated receipt of nori seaweed chips for a year is around IDR 1,366,560,000.

Based on the results of the calculation, it was obtained that the total revenue was greater than the total cost of production (total cost) or notated with TR > TC showed that NORIbet MSMEs benefited from the sales of nori seaweed chips products. When TR > TC, the venture can reinvest profits, expand operations, or increase product offerings (Georgiev and Milev, 2015).

Financial Analysis of Business Feasibility

1. Profit (%)

Profit is the result of the difference between revenue and total production costs. The main purpose of establishing a business is to make a profit. The total revenue of NORIbet MSMEs from nori seaweed chips per year is IDR 1,366,560,000 with a total annual production cost of IDR 600,225,900. The calculation of profits from the sale of nori seaweed chips can be explained in the following table:

Table 2. Advantages of Seaweed Nori Chips Production

No	Components	Month	Year
1	Total Revenue (Rp)	113.880.000	1.366.560.000
2	Total Cost (Rp)	50.018.825	600.225.900
	Profit	**63.861.175**	**766.334.100**

Source: Processed Data (2024)

The results of the calculation show a positive value, which means that NORIbet MSMEs benefit from the sale of nori seaweed chips. Based on the results of the profit calculation, it shows that in one month of production, the company can earn a profit of IDR 63,861,175. And if accumulated for one year of producing nori seaweed chips, the company will get a profit of IDR 766,334,100.

Furthermore, to show that NORIbet MSMEs make profits, it can be described by the percentage of profits received. The percentage of profit obtained is calculated by the profit formula divided by the total revenue then multiplied by 100%. The value of the percentage of profit that will be obtained by NORIbet MSMEs can be seen in Table 3.

Table 3. Percentage Profit of Nori Seaweed Chips Production

No	Components	Month	Year
1	Profit (Rp)	63.861.175	766.334.100
2	Total Revenue (Rp)	113.880.000	1.366.560.000
	Percentage	**56,1%**	**56,1%**

Source: Processed Data (2024)

Based on the table, the percentage of profit generated by nori seaweed chips products is 56.1%. The profit percentage of 56.1% shows that in one month of producing nori seaweed chips, NORIbet MSMEs can achieve a profit of 56.1%. The benefits received by NORIbet MSMEs show that the nori seaweed chips business has good potential to be developed and has strong potential in the processed seaweed sector.

This profit that exceeds 50% has similarities with the results of Samonte's (2017) research on seaweed farming business *Kappaphycus spp*. When profits exceed 50%, this means that entrepreneurs are able to keep operating costs low and maximum results which signify cost management efficiency, if profits continue to be stable above 50% then the business can be sustainable in the long term.

2. Revenue Cost Ratio (R/C)

R/C is calculated by comparing total revenue with total cost. If the R/C value is more than one (R/C > 1), the business is considered feasible for further development (Ibrahim, 2009).

Table 4. Revenue Cost Ratio Analysis of Nori Seaweed Chips

No	Components	Sum (Rp)
1	Revenue	1.366.560.000
2	Total Cost	600.225.900
	R/C	**2,28**

Source: Processed Data (2024)

R/C analysis on nori seaweed chips showed a ratio of 2.28. This ratio is obtained by dividing the total annual revenue of IDR 1,366,560,000 by the total annual production cost of IDR 600,225,900. The ratio of 2.28 shows that for every one rupiah of production costs incurred, this business generates revenue of 2.28 rupiah. This indicates that the business is profitable and worthy of development as well as sustainable in the long term, the results of this study are also in line with the research of Haryanti (2021) in his study on the feasibility analysis of the candied seaweed business, the results showed a ratio above 2 which means it shows strong profitability. According to Gumilar (2021), the higher the R/C value, the greater the profit obtained, so that the business is worthy of continuing to be developed.

3. Cost of Production Sales (HPP)

The calculation of the HPP value or cost of production sold basically calculates how much it costs to make a product. In this study, the calculation of the HPP value was carried out using the full costing method by accumulating the cost of main raw materials, the cost of additional and auxiliary raw materials, labor costs, depreciation of equipment and machinery, building rental costs, and factory overhead costs (Melati, *et al.* 2022).

For NORIbet's nori seaweed chips, the total monthly production cost amounted to IDR 50,018,825, covering the production of 6,032 units. These include 1,500 box packages, 4,500 pouch (30g) packages, 12 jumbo packages, and 20 shredded nori packs. The average HPP per unit was IDR 8,292, indicating uniform production costs across different packaging types due to the consistent use of raw materials and production methods.

Despite identical production costs per unit, the selling prices vary based on packaging type, ranging from IDR 15,000 for shredded nori to IDR 90,000 for jumbo packages. This reflects NORIbet's pricing strategy, which considers packaging size, product value, and target market segments. Consequently, the profit per unit also differs: IDR 12,708 for box packaging, IDR 9,708 for 30g pouch, IDR 81,708 for jumbo packaging, and IDR 6,708 for shredded nori. These pricing strategies aim to optimize profit margins while remaining attractive to consumers. To ensure long-term business sustainability, such strategies must align with consumer value perceptions and remain competitive in the market.

4. Break Event Point (BEP)

The BEP analysis in this study was conducted using two methods: BEP in units and BEP in rupiah, based on Dwintara (2023). BEP in units is calculated by dividing fixed costs by the difference between selling price and variable cost per unit, while BEP in rupiah is obtained by dividing fixed costs by 1 minus the ratio of variable cost per unit to selling price per unit. The BEP values for seaweed nori chips are as follows:

Table 5. BEP Unit and Price of Nori Seaweed Chips/ Month

BEP Production (Unit)/Month			
Total Fixed Cost/Month		Rp	5.481.900
HPP per unit for each type of packaging		Rp	8.292
No	**Product Packaging Type**		**BEP**
1	Box Packaging		431
2	Packaging Pouch 30gr		565
3	Jumbo Packaging		67
4	Abon Nori		817
BEP Price (Rp)			
1	Box Packaging		9.059.028
2	Packaging Pouch 30gr		10.164.472
3	Jumbo Packaging		6.038.240
4	Abon Nori		12.258.722

Source: Processed Data (2024)

Based on the results of the break even point (BEP) calculation for NORIbet MSME products, it can be seen that each type of packaging has a different number of units to reach the break even point. Production BEP indicates how much product must be sold so that revenue is equal to the total costs incurred, so there are no losses or profits.

Nori seaweed chips packaged in boxes have a production BEP of 431 units, which means that NORIbet MSMEs must sell at least 431 pcs of packaging to break even with a total revenue of IDR. 9,059,028. This indicates that box packaging, with a relatively higher selling price, requires a smaller number of sales than other types of packaging to break even. The 30gr pouch packaging has a production BEP of 565 units, with a BEP price of IDR. 10,164,472 to break even. For Jumbo Packaging, it shows the production BEP at 67 units, with a BEP price of IDR 6,038,240. This shows that jumbo packaging products require the least number of sales units to break even. This is due to its high selling price, which allows the company to break even with fewer sales. These results support the research of Yuliana *et al.* (2021), which shows that high-priced goods have higher profit margins and require a smaller number of sales to break even.

Meanwhile, shredded nori requires 817 units to break even, with a BEP price of IDR 12,258,722. Shredded nori products, the number of units that must be sold to reach a break-even point is higher compared to other packaging. The high number of units indicates the need for massive sales strategies to achieve targets, such as marketing such as promotions. Research by Rahmawati *et al.* (2019) shows that a massive marketing approach is needed on products with high BEP to increase sales volume.

Overall, this BEP calculation gives NORIbet MSMEs an idea of how many units of the product must be sold to cover production costs. Because the number of units that must be sold is smaller, jumbo packaging has the potential to generate profits faster, while nori shredded packaging requires a more massive sales strategy to break even if NORIbet MSMEs want to focus on increasing nori shredded sales.

5. Payback Periods (PP)

Calculation of the payback periods value of nori seaweed chips products by dividing the investment value (Rp) with the total revenue obtained (Rp), then multiplied by one period (one year).

Table 6. Payback Periods Nori Seaweed Chips

No	Components	Rupiah
1	Investment Costs	292.914.000
2	Profit	766.334.100
	Payback periods value	**0,38**

Source: Processed Data (2024)

The total investment cost incurred by NORIbet MSMEs is IDR 292,914,000 with the profit received in the year is IDR 766,334,100. The results of the payback periods analysis showed a value of 0.38 which means that the duration of the effort to return capital was 4.6 months. The payback periods for nori seaweed chips business capital on NORIbet MSMEs is included in the fast category because businesses can return their capital in less than 3 years. The results of this study have similarities with Yudaswara's (2018) research on the feasibility analysis of products made from tilapia siomay and kekian, the payback time is less than one year which shows that businesses can quickly return their initial investment, increase cash flow, and reduce financial risks.

Sensitivity Analysis

Sensitivity analysis is a tool used to evaluate how the performance of the production system is affected by changes in production factors in an effort to achieve profits (Yudaswara 2018). The sensitivity analysis was carried out by changing the variable cost of the business according to the assumption, namely an increase of 10% and a decrease of 10%, while the selling price and the number of sales were assumed to be fixed. In this study, it is assumed that variable cost components in one month such as building rental costs, packaging costs, raw material costs (main, additional and auxiliary raw materials), gas and electricity costs, production labor costs, as well as internet and transportation costs undergo cost changes. The following are the results of the comparison of profits, index R/C values, and payback periods, due to changes in variable costs:

Table 7. Comparison of Profit and Profit Percentage as well as R/C Index and Payback Periods

Cost Sensitivity	Profit (Rp)	Persentase Profit (%)	R/C Ratio	PP
Normal	770.534.100	56,1	2,28	0,38
10% Increase	717.479.700	51,7	2,09	0,41
10% Decrease	823.588.500	60	2,50	0,36

Source: Processed Data (2024)

Changes in the variable cost of processing nori seaweed chips cause changes in the profits that will be obtained. At normal costs, the profit earned by NORIbet MSMEs is around IDR 770,534,100 per year, with a profitability of 56.1%. As a result of the 10% increase in variable costs, the profit obtained will decrease to IDR 717,479,700 per year, with profitability also decreasing to 51.7%. Meanwhile, production costs that have decreased by 10% will cause profits to increase to IDR 823,588,500 per year and profitability to increase to 60%.

Revenue cost ratio (R/C) and payback periods (PP) under normal conditions, when there is a 10% increase in costs, and when costs decrease by 10%. Under normal conditions, the R/C ratio is 2.28, which means that for every rupiah of costs incurred, it produces a benefit of Rp 2.28. At a 10% increase in costs, the R/C ratio decreased to 2.07, while at a 10% decrease in costs, the R/C ratio increased to 2.53. This shows that an increase in costs can reduce business efficiency, while a decrease in costs increases efficiency.

Payback periods (PP), which are the time it takes to return the initial invested capital, show results consistent with the R/C ratio. Under normal conditions, the payback periods (PP) are at 0.38 years (about 4.6 months), showing that this effort is very fast in returning capital. With a 10% increase in costs, the payback periods (PP) increased slightly to 0.41 years (about 4.9 months), while at a 10% decrease in costs, the payback periods (PP) decreased to 0.36 years (about 4.3 months).

Changes in the condition of cost fluctuations, such as an increase or decrease in variable costs by 10%, affect the break even point (BEP), both in terms of production (unit) and price (Rp). This result is in line with the research of Nuryanti *et al.* (2020) which stated that cost fluctuations affect production BEP and prices. Businesses must increase production volumes or find ways to increase prices to break even and avoid losses. Meanwhile, if costs decrease by 10%, it is easier for businesses to achieve BEP because the number of production units required is reduced and the minimum income required is also lower. This presents an opportunity to increase profitability if cost efficiency can be achieved.

CONCLUSION

The conclusion of this study is that the nori seaweed chips business in NORIbet MSMEs in the city of Bandung has shown high business feasibility both from business and financial aspects. The business profile depicted through the canvas business model (BMC) includes nine key elements, including diversified customer segments, superior value in the form of raw material quality and product taste, and effective customer relationships through offline and online services. In addition, distribution channels, revenue sources, key resources, key activities, key partners, and cost structures have been well managed to support business operations.

From the financial side, NORIbet MSMEs show strong feasibility with a total annual profit of IDR 766,334,100 with a profitability of 56.1%. An analysis of the R/C ratio yielded a value of 2.28, indicating that the business generated economic benefits more than double its cost. Analysis of break event points (BEP) and payback periods (PP) confirms that NORIbet can return capital in a short time, which is only 4.6 months, with optimal sales performance. The value of business sensitivity shows that NORIbet has good resilience to cost fluctuations. Despite the 10% increase in costs, the business was still able to generate profits with a profitability of 51.7%. In

contrast, a 10% reduction in costs further increases profits with profitability of 60%, indicating high efficiency in resource management.

Overall, NORIbet MSMEs have been able to make optimal use of important aspects of their business. The analysis of business feasibility and sensitivity shows that this business is not only profitable but also efficient and has long-term sustainability potential. Overall, NORIbet MSMEs have been able to make optimal use of important aspects of their business. The analysis of business feasibility and sensitivity shows that this business is not only profitable but also efficient and has long-term sustainability potential. With the right strategy and good management, NORIbet can continue to grow and make a positive contribution to the local economy and compete in the seaweed market.

REFERENCES

Antowijoyo, T., Prihatiningrum, R. Y., & Swandari, F. (2017). Kelayakan Usaha Budidaya Ruput Laut Eucheuma cottoni dengan metode Long Line. *Jurnal Wawasan Manajemen*. Vol. 5, Nomor 1.

Aries Dwi Adiguna, Bayu Krisnamurthi, dan Erwidodo. 2022. Analisis Daya Saing Ekspor Rumput Laut Olahan Indonesia. *Jurnal Agribisnis Indonesia (Journal of Indonesian Agribusiness)*. 10 (1) : 31 – 39

Artika, Marini, Kencana, Ayu Nopiarti, dan Indah Affirianti. (2022). Analisis Nilai Tambah Rumput Laut Sebagai Produk Pangan Pada Kelompok Usaha "Ares" Kota Mataram. *Unmas Mataram Journal*. 15 (2) : 1165 – 1170

Budi Rahayu Tanama Putri. (2014). Manajemen Pemasaran. Universitas Udayana. Bali

Carter, K. W dan Usry. (2004). Akuntansi Biaya. Salemba Empat. Jakarta.

Dwintara, F. (2023). Analisis Break Even Point (BEP) dalam Perencanaan Laba UMKM (Studi: Ayam Geprek Nur Kecamatan Pontianak Barat, Pontianak). *Economics And Business Management Journal (EBMJ)*, 2(3) : 298-303.

Elinah, A. A. Bayyinah dan D. Nurkhasanah. (2021). Analisis Kelayakan Usaha Alat Tangkap Jaring Udang (Trammel Net) di Kabupaten Cirebon. Jawa Barat. *Jurnal Sosial Ekonomi KP*. Vol 16 (2): 153-162.

Fachrurazi, Fachrurazi & Sabtohadi, Joko & M.Pd, Dr & Hasan, Samsurijal & M.E., Zarkasi,. 2022. Studi Kelayakan Bisnis.

Gittinger, J. P. (1986). Analisa ekonomi proyek-proyek pertanian. Universitas Indonesian UI-Press.

Grisvia, Agustin., Wahjoedi, Inayati, Nuraini, Dwiputri. (2022). The Analysis of Small and Medium Industries (SMIS) of Fishery Products Processing.

Gumilar, I., Akmalya, A. E., Dhahiyat, Y., & Suryana, A. A. H. (2021). Financial Analysis of Carp (Cyprinus carpio) Hatchery Business (Case Study in Ciparay Sub-District, Bandung District, West Java, Indonesia). *Asian Journal of Fisheries and Aquatic Research*, 15(3), 35-45.

Harris, Pearson, Smith. (2018). 1. Farm Machinery and Equipment.

I Dewa Suartha, Made Suma Wedastra. Selfia Herlina. (2019). Analisis Kelayakan Usaha Keripik Rumput Laut Udang Ebi (Studi Kasus di UD ORA ET Labora Kota Tarakan. *Unmas Mataram Journal*. 13 (1) : 188 - 192

Ibrahim, Y. (2009). Studi Kelayakan Bisnis. Rineka Cipta. Jakarta.

Izwan S, Ayu W, Mimi S, M. Alfayyadh, Reza R. (2023). Analisis Business Model Canvas (BMC) Pada UMKM Cimol Aa di Kota Tanjungpinang. *INNOVATIVE: Journal Of Social Science Research*, 2023 3(4) : 2270 - 2281.

Jakfar Kasmir. (2013). Studi Kelayakan Bisnis / Jakfar Kasmir edisi 1. Kencana Prenada Media Group. Jakarta.

Kasmir. (2017). Analisis Laporan keuangan. Jakarta: PT.Raja Grafindo Persada

Kementerian Kelautan dan Perikanan Republik Indonesia. (2023). Profil Pasar Rumput Laut. Direktorat Jenderal Penguatan Daya Saing Produk Kelautan dan Perikanan. Jakarta. 28 hlm.

Kementrian Koperasi dan UKM RI. Undang-Undang Nomor 20 Tahun 2008 tentang Usaha, Mikro, Kecil, dan Menengah.

Keohwn, A. J., J. D. Martin., J. W. Petty dan D. F. J. Scoot. (2008). Manajemen Keuangan: Prinsip dan Penerapan Jilid 2, Edisi Sepuluh. Indeks. Jakarta.

Kottler, P dan K. L. Keller. 2009. Manajemen Pemasaran Edisi 13 Jilid 2. Erlangga. Jakarta.

Laras Sukma Arum Melati, Guntur Saputra, Faridatun Najiyah, Fitria Asas. (2022). Perhitungan harga pokok produksi berdasarkan metode Full Costing untuk penetapan harag jual produk pada CV. Silvi MN Paradilla Parengan. *Owner: Riset & Jurnal Akuntansi*. Vol 6 (1) : 632-647. https://doi.org/10.33395/owner.v6i1.611

Larasati S., W. (2015). Analisis Kelayakan Usaha Pembuatan Mie Rumput Laut (Eucheuma cottonii) Studi Kasus di Desa Tihengo Kabupaten Ponelo Kepulauan, Gorontalo, Utara. *Jurnal Technopreneur Technology & Entrepreneur*, vol 3 (1) 48-54.

M. Fahrie Dwintara, Pratiwi Kurniati, Fitri Yani. (2023). Analisis Break Even Point (BEP) dalam Perencanaan Laba UMKM (Studi : Ayam Geprek Nur Kecamatan Pontianak Barat, Pontianak). *Economics And Business Management Journal (EBMJ)*. Vol. 2 (3) : 298-303.

Mahyudin, K. (2008). Panduan Lengkap Agribisnis Lele. Penebar Swadaya. Jakarta.

Mulyadi. (2020). Akuntansi Biaya, Sistem Akuntansi, Sekolah Tinggi Ilmu Ekonomi YKPN, Yogyakarta.

Musdalifah, Mohammad Natsir, Syafiuddin. (2022). Determinan Ekspor Komoditas Rumput Laut di Provinsi Sulawesi Tenggara. *Mimbar Agribisnis: Jurnal Pemikiran Masyarakat Ilmiah Berwawasan Agribisnis* 8(2): 778-784

Nastiti Winahyu, Retna Dewi Lestari. (2021). Analisis Keuntungan Produk Olahan Susu Pasteurisasi Skala Rumah Tangga. *Journal Science Innovation and Technology (SINTECH)*. 2(1) : 22 – 27.

Nurchotimah, N., Maulina, I., Suryana, A. A. H., & Gumilar, I. (2023). Income Analysis of Tuna Fish Meatball Business (Case Study at CV Olahan Berkah Sadayana in

Karangpawitan District, Garut Regency). *Asian Journal of Fisheries and Aquatic Research*, 23(2), 33-40.

Nur Isnaniah Justika, Bambang Indratno Gunawan, Muhammad Syafril. (2022). Analisis finansial usaha pengolahan manisan rumput laut di kelurahan bontang kuala kecamatan bontang utara kota bontang. *Jurnal Pembangunan Perikanan dan Agribisnis* 9(1):147-170.

Osterwalder, Alexander dan Y. Pigneur. (2010). Business Model Generation. John Willey & Sons. Hoboken – NJ.

Restu Millaningtyas., Sudarmiatin., Agus, Hermawan. (2023). Strategic Sustainable Development With Innovation And Business Model Canvas In SMEs. *International Journal of Humanities Education and Social Sciences*, doi: 10.55227/ijhess.v2i6.490

Sugiyono. (2013). Metode Penelitian Kuantitatif, Kualitatif dan R&D. Bandung:Alfabeta.

Sulistya Rini Pratiwi. (2022). Green Business Strategy For The Processed Seaweed MSMEs (Case Study At Tarakan City Coastal). *Journal Research of Social Science, Economics, and Management*, 2 (5) : 916 – 924.

Yudaswara, Refki A. (2018). Analisis Kelayakan Usaha Produk Olahan Berbahan Baku Ikan Nila (Oreochromis Niloticus) (Studi Kasus di CV Sakana Indo Prima Kota Depok). *Jurnal Perikanan dan Kelautan Unpad*, vol. 9, no. 1.

Zulistiani, & Deanta, Jhosia. (2023). Analisis Pengembangan Bisnis UD. Sinar Harapan Melalui Pendekatan Business Model Canvas. *Jurnal Ilmiah Ekonomi Global Masa Kini*. 14. 37-43.