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Financial Feasibility Analysis of Sweet Hami Melon Cultivation with DRFT Hydroponic System (Dynamic Root Floating Technique) (Case Study: Indogarden Greenhouse Tuban)

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A B S T R A C T

This study aims to analyse the financial feasibility of the melon cultivation of the Sweet Hami variety with the DRFT (Dynamic Root Floating Technique) hydroponic system at Indogarden Greenhouse, Tuban. The research method employed is a descriptive quantitative approach, utilising primary data collected through interviews and secondary data sourced from the Indogarden Greenhouse Farm's business bookkeeping records for the period 2023–2025. The business feasibility analysis used the criteria of Net Present Value (NPV), Internal Rate of Return (IRR), Benefit-Cost Ratio (B/C), and Payback Period (PP). The results of the analysis showed that the premium melon cultivation business at Indogarden Greenhouse is feasible to develop. This is indicated by the NPV value of Rp72,869,633.98 (positive) at an interest rate of 6.5%, IRR of 29%, which is greater than the interest rate of 6.5%, B/C ratio of 1.7 (more than 1), and a payback period of 4 harvests. These financial indicators consistently show that investment in this premium melon farming business can provide significant profits and return on capital in a relatively short time, so it has high potential for sustainability.

Contribution to Sustainable Development Goals (SDGs):
SDG 2: Zero Hunger
SDG 8: Decent work and economic growth
SDG 9 - Industry, Innovation, and Infrastructure
SDG 12- (Responsible Consumption and Production

1. INTRODUCTION

1.1. Literature Review

Horticulture is a field of study that focuses on the cultivation of plants, including vegetables, fruits, ornamental plants, and medicinal plants [1], [2]. Fruits are one of the most popular horticultural products, enjoyed by people of all ages, from children to adults. In addition, fruits are rich in vitamins that are beneficial to human health. This is why Indonesians continue to consume fruits to this day.

Melon fruit (Cucumis melo L). is one of the horticultural products that are in demand by many people, because in addition to having a good taste melon fruit also has a lot of nutritional content that is very beneficial for the human body [3]. Among the nutritional content contained in melon fruit, namely water, carbohydrates, protein, iron and fiber which are beneficial for the health of the body, while the water content in melon fruit can prevent dehydration in the body, besides that melon fruit is also one of the products that has high economic value [4], with an increasing number of requests [5]. So that it can be marketed in the domestic market and also exports [6].

Melon cultivation often faces obstacles such as dependence on weather, soil quality, and pest attacks. To overcome these obstacles, the hydroponic system comes as an innovative solution. Hydroponics is a method of cultivating plants without

soil media, instead using nutrient solutions in water. The advantages of this system include water efficiency, better nutrient control, and minimal risk of pest infestation. [7]. In addition, hydroponic techniques offer several benefits in plant cultivation, including more efficient and controlled water use, reduced pesticide use, and a clean, unpolluted environment, ultimately leading toroved cultivation processes that produce healthy food [8], [9], [10], [11].

Indogarden Greenhouse is one of the gardens that applies the DRFT (Dynamic Root Floating) hydroponic system to the cultivation process of premium melon varieties Sweet Hami. The utilisation of this technology is expected to minimise the occurrence of challenges caused by external factors. However, before the sustainability of the business, it is necessary to conduct a business feasibility analysis to ensure that the investment made can provide profitable results.

Based on this description, the purpose of this MBKM internship is to analyse the feasibility of a melon farming business of sweet hami varieties at Indogarden Greenhouse. So that the criteria used to assess the feasibility of a hydroponic melon cultivation business are Net Present Value (NPV), Internal Rate of Return (IRR), Benefit-Cost Ratio (B/C), and Payback Period (PP). This financial feasibility analysis is useful to provide information on whether hydroponic melon cultivation is financially feasible for a business. Through this analysis, it can gain a clear understanding of the business's feasibility, enabling it to make informed decisions and mitigate the risk of significantosses [12].

1.2. Literature Review

A business feasibility study is an activity aimed at gaining a deeper understanding of the feasibility of a business venture. Feasibility studies are a science that aims to analyze the success of a project in terms of its completion, taking into account several factors, including economic, technological, and legal factors [13]. The Net Present Value (NPV) method is an investment evaluation tool that compares the present value of net cash inflows with the present value of expenditure costs. This calculation requires data on initial cash outflows, future net cash inflows, and the desired minimum rate of return, as explained by [14].

The Internal Rate of Return (IRR) method is an approach to finding the discount rate at which the Net Present Value (NPV) of an investment project becomes zero. In short, IRR shows the percentage return expected from an investment, reflecting the ability of cash flow to return the invested capital as well as how much liability must be met [15]. The Payback Period (PP) method is a way to determine how long it takes for the initial investment capital to return from the annual cash inflows generated by the project. According to [16], if the annual cash inflows are the same, the Payback Period can be calculated by dividing the total investment by the annual cash inflows.

1.3. Research Objective

Based on this background, the objectives of this study are; to determine the income from hydroponic melon cultivation at Indogarden greenhouse and to analyze the feasibility of hydroponic melon cultivation at Indogarden greenhouse

2. MATERIALS AND METHODS

This research was conducted for 2 (two) months or one growing season, starting from April 2, 2025 to June 2, 2025 in the garden of Indogarden Greenhouse Mojoagung Village RT.02 RW.03 Soko District, Tuban Regency. This location was determined using a purposive method, as Indogarden Greenhouse is one of the producers capable of producing quality premium melon products in Tuban Regency. This research employs a case study method to analyse the financial feasibility of a premium melon business in Indogarden Greenhouse**.**

The data used in the financial feasibility analysis are primary data and secondary data. Primary data is data obtained directly during research by means of observation, documentation, and interviews regarding financial information, product selling prices, greenhouse size and other data that can support research. Secondary data is obtained from various literature sources on the feasibility analysis of premium melon farming. Additionally, it includes data from farming bookkeeping archives, which provide production data and productivity of hydroponic premium melons at Indogarden Greenhouse from 2023 to 2025.

The data analysis method used in this is descriptive - quantitative, besides the feasibility analysis of the hydroponic emelon business is a tool used to answer the objectives of this study, using the Net Present Value (NPV), Internal Rate of Return (IRR), Benefit-Cost Ratio (B/C), and Payback Period (PP) test criteria. The following is the data analysis design.

2.1.1. Net Present Value (NPV) Method

The formula for calculating Net Present Value (NPV) is as follows:

$$NPV = \sum_{t=1}^{n} Ct \left[\frac{1}{(1+\frac{i}{m})^n}\right] - Co$$

Description:
Ct = cash inflow in the year to be determined (proceeds)
I = bank interest rate
Co = initial cost of the investment used
m = amount of interest in one year
n = economic life of the business

a. Internal Rate of Return (IRR) Method

The formula for calculating IRR can be found in the literature as described by [17].

$$\text{IRR} = {}^{i_1 + \frac{NPV1}{NPV_1 - NPV_2}} (i_1 - i_2)$$

Description:
i1 = Discount rate resulting in positive NPV
i2 = Discount rate resulting in negative NPV
NPV1 = positive NPV
NPV2 = negative NPV
The assessment of financial feasibility based on IRR is:
- If IRR > interest rate, then the hydroponic melon business is feasible.
- If IRR ≤ the interest rate, then the hydroponic melon business is not worth running

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2.1.2. Payback Period (PP)

The formula for calculating the Payback Period (PP) is as follows:

$$PP = n + \frac{(a-b)}{(c-b)} \times 1\ Year$$

Description:
n = the last year when the amount of cash has not covered the initial capital
a = initial investment
b = cumulative cash in year n
c = cumulative cash in year n+1
The assessment of financial feasibility based on PP is:
- The greater the PP value, the longer it takes to invest.
- The smaller the PP value, the faster the investment will be made.

3. RESULT AND DISCUSSION

3.1. Investment Costs

Production costs are the total costs incurred in melon maintenance and cultivation activities [18]. The costs incurred in melon cultivation at Indogarden greenhouse consist of investment costs and operational costs or variable costs. According to Ref.[19, investment costs refer to the capital or expenses incurred in running or developing a business. Table 1 describes the investment costs incurred in premium melon farming at Indogarden Greenhouse.

Table 1 shows the total investment costs incurred in premium melon farming. The total investment costs incurred amounted to Rp. 125,614,583. This cost includes the cost of purchasing equipment used in melon cultivation, including the manufacture of greenhouses and other equipment that supports melon cultivation activities. The highest cost incurred was the manufacture of a greenhouse of Rp. The total cost was 101,000,000, with a percentage of 85%. The greenhouse was 10 meters long and 33 meters wide. The lowest investment cost was the purchase of 5 units of scissors, costing Rp. 25,000, which accounted for 0.01%. Investment costs can be incurred at the beginning of starting a business. Additionally, these costs can recur when the economic value of a piece of equipment has depreciated, necessitating its purchase.

3.2. Operating Costs

Operating costs are costs used during the period in which the company produces and delivers goods, provides services or carries out other activities that are the company's main operations [20]. There is a description of the operational costs used by Indogarden Greenhouse for melon production (Table 2).

Table 1. Investment Costs of Premium Melon Farming in Indogarden Greenhouse.

No	Cost Component	Unit	Unit Price (Rp)	Total (Rp)	Presentage (%)
1	Greenhouse	1	Rp107,853,191.00	107.853.191	85.86
2	Seedling Greenhouse	1	Rp3,500,000.00	3.500.000	2.79
3	Sterofoam	160	Rp5,500.00	880.000	0.70
4	Refakto	1	Rp125,152.00	125.152	0.10
5	Small Scales gr	1	Rp74,000.00	74.000	0.05
6	Sparayer	2	Rp500,000.00	1.000.000	0.79
7	Large Basket	2	Rp70,000.00	140.000	0.11
8	Small Basket	4	Rp27,000.00	108.000	0.09
9	Scissors	5	Rp5,000.00	25.000	0.02
10	Ladder	2	Rp700,000.00	1.400.000	1.11
11	Broom	2	Rp16,000.00	32.000	0.02
12	Water hose (Melon)	2	Rp172,500.00	345.000	0.27
13	Bucket	3	Rp40,000.00	120.000	0.09
14	Measuring Tool	1	Rp1,251,000.00	1.251.000	0.99
15	Blower	4	Rp1,400,000.00	5.600.000	4.46
16	Yellow & Blue Trap	14	Rp28,000.00	392.000	0.31
17	Hanging Scales	2	Rp40,070.00	80.140	0.06
18	Digital Timer	3	Rp97,000.00	291.000	0.23
19	Try Seedlings and Mats	50	Rp16,030.00	801.500	0.64
20	Medium Scale	1	Rp161,600.00	161.600	0.13
21	Large Scale	1	Rp500,000.00	500.000	0.40
22	Medium Basket	2	Rp40,000.00	80.000	0.06
23	Small Laddes	1	Rp350,000.00	350.000	0.27
24	Leaf Scissors	3	Rp35,000.00	105.000	0.08
25	Water Hose	2	Rp200,000.00	400.000	0.31
	Total Investment Cost			**125.614.583**	**100**

Table 2 outlines the variable cost components associated with premium melon farming. These costs include various purchases of essential materials, such as sweet hami melon seeds, which are acquired each time planting occurs, at Rp 1,000,000 / Pack. The total price of rockwoll in 7 times of production is Rp. 329,000 with a unit price of Rp. 47,000 / Slab, then the total price of flannel for 7 times of production is Rp. 676,000 with a unit price of Rp. 12,250 / Slab, and the unit price of nutrients is Rp. 1,600,000 units per package, or up to 50 Kg / 100 Litres.

In investment analysis, the Internal Rate of Return (IRR) is a method that identifies the discount rate at which the net present value (NPV) of the investment cash flow equals zero [21]. The information generated by the IRR indicates the percentage return on investment capital based on project cash flows, while also illustrating the extent of obligations that must be fulfilled within a specific time period. The IRR value obtained is 29%, which is higher than the interest rate of 6.5%, indicating that the premium melon farming business at Indogarden Greenhouse is viable for development and can generate profits for farmers. Table 5 shows the B/C ratio obtained from the analysis, which is 1.7 with an interest rate of 6.5%. This indicates that the premium melon farming business at Indogarden Greenhouse is viable for

development because it achieves a B/C ratio greater than 1. For every Rp. 1 spent, a profit of Rp. 1.7 can be obtained.

Table 3. Operating Cost.

Harvest	Labor	Control and Support Materials	Electricity
1	3.500.000	3.408.400	1.600.000
2	3.500.000	343.000	1.600.000
3	3.500.000	570.000	1.600.000
4	3.500.000	251.000	1.600.000
5	3.500.000	347.000	1.600.000
6	3.500.000	413.000	1.600.000
7	3.500.000	513.600	1.600.000
Total	**24.500.000**	**5.846.000**	**11.200.000**

Based on Table 3. The operational costs, including labour, amounted to Rp. 24,500,000 for 7 harvests; the labour consists of permanent labour and daily labour. Daily labor required in the pollination stage is as many as 2 people with a working time of 2 days, so the wage that can be given is Rp. 100,000 with the number of hours / day for 4 hours. The daily labour costs for the plant pulling stage are 2 workers for 2 days, resulting in wages that match those for pollination labour. Control and support costs include the purchase of insecticides and fungicides. Some types of insecticides needed in cultivation activities are Cymbush 50 SC, with a unit price of Rp. 30,000/100ml, Doomish for Rp.80,000/100ml, Curacron 500 EC for Rp.40,000/100ml, pengasus 500 SC for Rp.95,000/80 ml, and so on. While several types of fungicides and supporters are needed, including Antracol 70 WP at Rp. 45,000/100 grams, Acrobat at Rp. 42,000/40 grams, Adhesive (Apsa) at Rp.. 140,000/1 liter, H2O2 at Rp.. 105,000/liter, Calcium Nitrate (Calnit) at Rp.. 17,500/100 grams, and so on.

Tables 4 and 5 show that the costs used in analysing the premium melon business consist of inflow and outflow. Inflow costs are cash flows that occur from transactions that generate cash profits (cash receipts) [21], [22]. Cash inflows consist of revenue from the sale of products/services by the company, the sale of fixed assets, and rental income and other revenues. These costs include the total revenue from the sale of premium melon products from the first harvest to the seventh harvest. The highest revenue was obtained from the sixth harvest, with a total of 1,430 kg of melons produced, while the lowest revenue was obtained from the seventh harvest, with a total of 949 kg of melons produced. The outflow costs incurred in melon cultivation consist of investment costs of Rp—125,803,583, which can be incurred at the start of the business. Second, there are variable or operational costs that can be incurred each time melon cultivation is initiated. The highest variable cost expenditure was at the beginning of the harvest, amounting to Rp. 17,053,400, while the lowest variable cost expenditure was at the sixth harvest, amounting to Rp. 7,242,000. The amount of variable costs and investment costs incurred will affect the total outflow costs, as shown in Table 4, where the highest outflow costs are Rp 142,856,983, incurred at the start of cultivation, while the lowest outflow costs are at the sixth harvest.

Table 4. Cash Flow from Premium Melon Farming During 7 Harvests in Rupiah

DESCRIPTION	HARVEST			
INFLOW	**1**	**2**	**3**	**4**
Product Sales	41.686.000	44.688.000	47.500.000	50.160.000
Total Inflow	**41.686.000**	**44.688.000**	**47.500.000**	**50.160.000**
Invesmen Cost	125.803.583			
Total Variable Cost	17.053.400	7.585.000	14.219.000	7.488.000
Total Outflow	**142.856.983**	**7.585.000**	**14.219.000**	**7.488.000**
Net Benefit	**-101.170.983**	**37.103.000**	**33.281.000**	**42.672.000**
Accumulated PV Net Benefit	**-94996228,17**	**62284023,8**	**34732378,18**	**1562447,241**

Table 5. Cash Flow from Premium Melon Farming During 7 Harvests in Rupiah

DESCRIPTION	HARVEST		
INFLOW	**5**	**6**	**7**
Product Sales	52.440.000	54.340.000	36.075.000
Total Inflow	**52.440.000**	**54.340.000**	**36.075.000**
Invesmen Cost			
Total Variable Cost	13.992.000	7.242.000	14.176.600
Total Outflow	**13.992.000**	**7.242.000**	**14.176.600**
Net Benefit	**38.448.000**	**47.098.000**	**21.898.400**
Accumulated PV Net Benefit	**26500011,16**	**58777877,49**	**72869633,98**

Feasibility analysis is a tool used to evaluate decision-making in a business. If the business can provide benefits to farmers, it is feasible to proceed. The feasibility analysis tools used in this study include Net Present Value (NPV), Internal Rate of Return (IRR), Benefit-Cost Ratio (BC), and Payback Period (PP). The results of the feasibility analysis of premium melon farming at Indogarden Greenhouse can be seen in Table 6 below.

Table 6. Feasibility Analysis of Premium Melon Farming at Indogarden Greenhouse, Mojoagung Village, Soko District, Tuban Regency.

No	Investment Criteria	Interest Rate 6,5%	Conclusion
1	NPV	Rp72,869,633.98	Feasible
2	B/C	1.7	Feasible
3	IRR	29%	Feasible
4	Payback Period	4.0	4 times harvest

Premium melon farming at Indogarden Greenhouse can be considered feasible if it can achieve an NPV > 0, an IRR > the prevailing interest rate, and a B/C > 1. Based on Table 6, the results of the feasibility analysis for the premium melon farming

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business show that the business can achieve an NPV of Rp72,869,633.98 using an interest rate of 6.5%. The resulting NPV is positive, indicating that the melon farming business is feasible. Conversely, if the resulting NPV is negative, the business is not feasible to operate.

Table 2. Operating Costs.

Harvest	Seeds	Rockwoll	Flannel	Nutrients
1	2.000.000	47.000	98.000	6.400.000
2	2.000.000	47.000	95.000	
3	2.000.000	47.000	102.000	6.400.000
4	2.000.000	47.000	90.000	
5	2.000.000	47.000	98.000	6.400.000
6	2.000.000	47.000	95.000	
7	2.000.000	47.000	98.000	6.400.000
Total	**14.000.000**	**329.000**	**676.000**	**25.600.000**

According to [23], the Payback Period is the time required for the total net cash flow from an investment to cover the initial investment costs incurred. Based on Table 5, the Payback Period (PP) or return on investment can be achieved after four harvests. Based on the analysis in Table 5, it is concluded that the premium melon farming business at Indogarden Greenhouse is viable for development.

4. CONCLUSION

Based on the feasibility analysis of the premium melon farming business at Indogarden Greenhouse, it can be concluded that this business is viable for development. Several key financial indicators support this. First, the positive Net Present Value (NPV) of Rp72,869,633.98 at an interest rate of 6.5% indicates that this business can generate profits above the required return rate. Second, the Internal Rate of Return (IRR) of 29% far exceeds the prevailing interest rate (6.5%), indicating that this investment is highly profitable. Third, the Benefit-Cost Ratio (B/C) of 1.7 shows that every Rp1 spent will generate Rp1.7 in profit, confirming the viability of this business. In the Payback Period analysis, over four harvests, the investment capital can be recovered within a relatively short timeframe. Overall, the results of this analysis confirm the potential profitability and sustainability of the premium melon farming business at Indogarden Greenhouse.

REFERENCE

[1] M. Rizqy, T. Setyadi, and G. Indah Harya, "Determination of Leading Fruit Commodities in the Horticulture Subsector in Gresik Regency," *AJARCDE (Asian Journal of Applied Research for Community Development and Empowerment)*, vol. 9, no. 1, pp. 54–57, 2025, doi: 10.29165/ajarcde.v9i1.590.

[2] G. I. Harya, N. Hanani, R. Asmara, and A. W. Muhaimin, "Study Of Technical Efficiency Of The Cocoa Industry Using Data Envelopment Analysis," *Revista Iberoamericana de Viticultura Agroindustria y Ruralidad*, vol. 11, no. 33, pp. 130–145, Sep. 2024, doi: 10.35588/rivar.v11i33.6257.

[3] K. Haikal Akmam Bazaz, Deffi Amirta, "Pengaruh Penjarangan Buah dan Pemupukan Kalium terhadap Pertumbuhan, Hasil, dan Kualitas Buah Melon (Cucumis melo L," *Jurnal Produksi Tanaman*, vol. 10, no. 7, pp. 388–394, 2022.

[4] M. WahyudiWahyudi, EviAndriani, AnaNurmalia, "Pendapatan dan strategi pemasaran petani melon di kabupaten seluma," *AGRITEPA*, vol. VII, no. 1, pp. 57–69, 2020.

[5] Karjono, "Analisis Titik Impas Untuk Menciptakan Efisiensi Produksi Usahatani Melon Di Kecamatan Praya Timur Kabupaten Lombok Tengah," *Jurnal Agrotek Ummat*, vol. 6, no. 2, pp. 57–62, 2019.

[6] S. H. R. Epit Erwandri, Uliya, "Analisis Pendapatan Usahatani Melon Agrowisata Sungai Buluh Kecamatan Muara Bulian Kabupaten Batanghar," *Jurnal Ilmiah Ilmu Terapan Universitas Jambi*, vol. 5, no. 2, pp. 172–179, 2021.

[7] O. S. Hs, K. Hendarto, Y. C. Ginting, and S. Ramadiana, "Pupuk Hayati Terhadap Pertumbuhan Dan Produksi Tanaman Melon (Cucumis Melo L .) The Effect Of Chicken Manure Dosage and Biological Fertilizer Application On Growth And Production In Melon (Cucumis melo L .) PLANT," vol. 10, no. 1, pp. 39–50, 2022.

[8] T. N. R. Marreta Coren Tangke, Gyska Indah Harya and M. S. Y. Faya Pratama Kuncoro Putra, "Penerapan Sistem Hidroponik sebagai Upaya Mendorong Pertanian Berkelanjutan bagi Warga Kelurahan Nginden Jangkungan," *Jurnal Pengabdian Masyarakat Waradin*, vol. 4, no. 3, pp. 161–167, 2024.

[9] L. Nurohmah. Harya, Gyska Indah, Aina Salsabila, "Optimalisasi Budidaya Melon Dengan Sistem Hidroponik Drft (Dynamic Root Floating Technique) Guna Meningkatkan Produktifivitas Tanaman Hortikultura Di Pt Indigen Karya Unggul," *Jurnal Pemasaran Bisnis*, vol. 6, no. 3, 2024.

[10] G. I. Harya, W. Mindari, T. Setyadi, A. Pratama, S. Mukaromah, and C. Fadil, "Application of the Agropolitan Concept through Digital Marketing Training and Environmental Implications for MSMEs in Gunung Anyar District , Surabaya City," *Asian Journal of Applied Research for Community Development and Empowerment*, vol. 9, no. 1, 2025.

[11] M. C. Tangke, G. I. Harya, T. N. Rahma, F. P. K. Putra, and M. S. Yudha, "Implementation of the Hydroponic System as an Effort to Encourage Sustainable Agriculture for the Residents of Nginden Jangkungan Village," *Jurnal Pengabdian Masyarakat Waradin*, vol. 4, no. September, pp. 1–23, 2016.

[12] M. Akiang and A. H. K. Rissa Ayustia, "Studi Kelayakan Bisnis Hidroponik Tinjauan Aspek Finansial (Sekolah Tinggi Ilmu Manajemen Shanti Bhuana, Bengkayang, Kalimatan Barat)," *Management Sustainable Development Journal*, vol. 2, no. 2, pp. 18–26, 2020.

[13] Kasmir, *Studi Kelayakan Bisnis*. Jakarta: PT Rineka Cipta, 2003.

[14] M. Giatman, *Ekonomi Teknik*. Jakarta: Rajawali Pers, 2017.

[15] G. S. B. Gyska Indah Harya, Akhmad Fauzi, Nuhfil Hanani, Rosihan Asmara, Abdul Wahib Muhaimin, Halimin Herjanto, "Analysis of the relationship among technical efficiency, competitive strategy, and export performance in the cocoa agroindustry in Indonesia," *Journal of International Food & Agribusiness Marketing*, vol. 37, no. 3, pp. 540–557, 2024.

[16] M. Giatman, *Ekonomi Teknik*. Jakarta: Rajawali Pers, 2017.

[17] A. S. Titik Ekowati, Edy Prasetyo, Djoko Sumarjono, *Buku Ajar Studi Kelayakan Dan Evaluasi Proyek.* Semarang: Media Inspirasi Semesta, 2016.

[18] G. I. Harya and W. Wahyuningrum, "Analisis Kelayakan Usahatani Kunyit Petani Desa Petiken yang Tergabung Dalam Kelompok Tani BPP Driyorejo Kabupaten Gresik," *Jurnal Ilmiah Manajemen Agribisnis*, vol. 11, no. 2, pp. 112–120, 2023, doi: 10.33005/jimaemagri.v11i2.17.

[19] P. T. W. W. Kusuma, "ANALISIS KELAYAKAN FINANSIAL PENGEMBANGAN USAHA KECIL MENENGAH (UKM) NATA DE COCO DI SUMEDANG, JAWA BARAT," *AJIE (Asian Journal of Innovation and Entrepreneurship),* vol. 1, no. 2, pp. 113–120, 2012.

[20] M. M. Hanafi and A. Halim, *Analisis Laporan Keuangan*, Ed. 5 Cet. Yogyakarta: UPP STIM YKPN, 2016.

[21] G. M. A. Rumbino, "Analisis Kelayakan Ekonomi Menggunakan Metode Net Present Value (NPV), Metode Internal Rate Of Return (IRR) Payback Period (PBP) Pada Unit Stone Crusher Di Cv.Xkab.Kupangprov.Ntt," *J Teknol*, vol. 14, no. 2, pp. 68–75., 2020.

[22] G. I. Harya *et al.*, "Analysis of the relationship among technical efficiency, competitive strategy, and export performance in the cocoa agroindustry in Indonesia," *Journal of International Food & Agribusiness Marketing*, p. 18, Oct. 2024.

[23] T. A. P. Olandari Mulyadi, Putri Azizi, "Pelatihan Kelayakan Usaha Menggunakan Pola Cash Flow dengan Metode Payback Periode, Net Present Value, Profitability Index, Internal Rate of Return Pada Usaha Azka Water PadangNo Title," *Alamtana: Jurnal Pengabdian Masyarakat UNW Mataram*, vol. 3, no. 1, pp. 1–8, 2022.

 https://doi.org/10.29165/ajarcde.v9i3.733