

Clustering Capital and Business through the Implementation of Corporate Strategy in the Amanah Belimbing Wuluh SME Group

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Abstract - Small and Medium Enterprises (SMEs) became a trend when the Indonesian economy experienced a downturn. SMEs of Amanah Belimbing Wuluh is a micro sector that is only able to produce products and is able to sell its production to cover the needs of the economic cycle. The aim of this research is to measure the feasibility of capital using the Net Present Value (NPV) concept. Measuring capital feasibility with the Average Rate of Return (ARR) concept. Looking for clustering of company strategies in business development through capital budgeting. The research sample was 30 SMEs. Data analysis using K-Means Cluster. The research results based on the feasibility of SME capital using the Net Present Value (NPV) concept produce a positive value (NPV) of IDR. 344,869,146 so it can be said to be feasible. The feasibility of SME capital with the Average Rate of Return (ARR) concept is 44.12% annually above a discount factor of 16% so it can be said to be feasible for the turnover of SMEs business capital Amanah Belimbing Wuluh Dukuh Menanggal. Cluster analysis divides two groups of company strategies. Cluster 1 contains investment strategies that have the attributes; final investment, total investment and average investment. Cluster 2 contains

a capital turnover strategy that has the Average Rate of Return attribute.

Keywords: SMEs Clustering, NPV, ARR, Company Strategy

I. INTRODUCTION

Small and Medium Enterprises (SMEs) became a trend when the Indonesian economy was experiencing a downturn. The micro sector that can only produce products and be able to sell their production to cover the needs of economic turnover. The business strategy applied by SMEs is very different, a simple concept, simple equipment with capital in the middle category, resulting in a lower risk of bankruptcy experienced by SMEs [1]. Regarding business strategy, SMEs are sometimes still at a less qualified level. The lack of innovation also has an impact on the weakness in facing competition. There is a need for knowledge that encourages SMEs to be more aggressive in facing future challenges, of course, more in-depth about financial reporting, financing strategies and even financial engineering. Back to macro and micro economic rules, SMEs must always be able to professionally recognize good financial management, especially also the lack of knowledge in making financial statements, SAK ETAP is sometimes not also applied to micro businesses. [2]

In reality, the strategies implemented by SMEs are more relevant in the face of prolonged Covid-19, the business world is on the verge of collapse. A report from the Organization for Economic Co-operation and Development (OECD), that the pandemic is indeed devastating the economy in the real

sector, but this impact is also reflected in the decline or sluggishness of market demand. The cessation of bargaining circulation in the market results in a decrease in the production sector, a decrease in people's purchasing power, and a decrease in supply [3]. More broadly, the effect on the SME sector is that

product distribution is hampered on the way, because big cities have also not fully recovered to accept non-consumptive products, products in the form of handicrafts, kraft and clothing products have somewhat stopped to rotate. People in the covid-19 pandemic era are still concentrating on food recovery and treatment, this is what encourages SMEs to experience very significant development problems [4].

Amanah Belimbing Wuluh Small and Medium Enterprises located in Dukuh Menanggal Village, has around 30 SME members in 2024. SMEs can be defined as businesses that have limited capital with a limited number of employees under 50 people, capital turnover is also limited, SMEs are independent businesses that are certainly not part of a large business or company. The capital of Small and Medium Enterprises is not more than 300 million in a year, so the orientation of SMEs is the fulfillment of a small scale economy [5]. Micro Enterprises will turn into medium-sized businesses if in the course of their business they reach a turnover of 500 million to 10 billion, of course, when experiencing changes in financial structure, SMEs must always get guidance from the local Dinas [6].

The importance of handling SMEs for the academic community is part of environmental awareness. The assistance provided by Industrial Engineering lecturers has been relatively long. The assistance has been carried out in the form of making product catalogs for SMEs in Dukuh Menanggal since 2018, the business evaluation can achieve a PI of 4.072 in 2019 [7]. This is the background of this research so that it continues to be a sustainable activity. Then the concept of clustering capital and business to find out the mapping. Choosing how to cluster with cluster analysis techniques is an effort to find information on the capital owned by SMEs, of course, it will be grouped from heterogeneous or inequality in the ability to return capital (Capital Budgeting) into equal or homogeneous groups, of course, after becoming new clusters will be identified capital capabilities and types of businesses owned by SMEs [8].

Problems arising in SMEs Amanah Belimbing Wuluh, determination of capital,

and it is very necessary to make clustering, even clustering SMEs become a source of data to see the development, professionalism is also required here [9]. Of course not limited to its financial performance, but also the performance of the ability to return on capital, many companies, medium industries and even cooperatives use the analysis of return on capital in the form of NPV [10]. The urgency of the research is focused on efforts to organize the capital and type of business. Previous research only covered marketing issues, the focal point was not broad in efforts to develop its corporate strategy [1]. This research will have an impact on sorting or clustering groups of small and medium enterprises (SMEs), efforts to separate from the ability to return capital Net Present Value (NPV) and efforts to cluster the profit Average Rate or Return (ARR). According to [11], the average return on capital associated with the cash flow of SME investment during the investment period will provide information that the SME is in a stable condition, in relation to the discount factor that is determined. The discount provides information to potential investors, that the lowest limit of return turnover by SMEs, after financial engineering, will be obtained that SMEs have a percentage return above the discount factor.

Many research interests have not been achieved, the role of SMEs is indeed classified as much in the marketing sector, especially in SMEs engaged in food processing [12]. The selection of clustering involving capital budgeting analysis methods, of course, illustrates that a number of businesses owned by Kelurahan Dukuh Menanggal, through the Amanah SME group, are able to make infographics, that the clustering of SME capital is divided into certain parts, with the assumption that in the first cluster with large capital, the next cluster will definitely be lower in value.

The objectives to be achieved from this research include; (1) Capital feasibility with the concept of Net Present Value (NPV). (2) Capital feasibility with the concept of Average Rate of Return (ARR). (3) Clustering corporate strategies in business development through capital budgeting. The results of this research greatly contribute to the progress of

Small and Medium Enterprises in Dukuh Menanggal, Surabaya City.

II. MATERIALS AND METHODS

This research is quantitative, research that will conduct Cluster Analysis. Clustering analysis to group SMEs with capital and business rules. Capital clustering is more directed at Net Present Value (NPV), Average Rate of Return (ARR). The variable indicators of the NPV measurement are used as a corporate strategy to be developed, the clustering of these indicators will provide an overview of cluster 1 or cluster 2 that must be prioritized.

a. Capital Budgeting Variables

Net Present Value or often abbreviated as NPV is the difference between the present value of the incoming cash flow and the value of the outgoing cash flow at a certain period of time [10]. A positive NPV value ($NPV > 0$) is an illustration that the results of the analysis show a positive value, it can be described that the acquisition of profit can certainly exist, and vice versa if the NPV value is negative ($NPV < 0$) indicates the ability of SMEs to create profits is very difficult, even the process of returning capital is very unlikely, this is calculated after considering the Time Value of Money.

Average Rate of Return (ARR) is an assumption about the company's ability to return the average investment. Of course, this relates to the value of the company's profitability recorded in the financial statements each year. ARR is always associated with discounting or also called a discount factor, meaning that the ARR should not be lower than the promised discount value, of course it will change the stigma of investors if the value is below that. The simple rule is to divide the average profit by the investment time or number of years. ARR must be very easy to understand, especially investors will always ask what percentage of ARR the company records [13].

The variable indicators set as the focal point of this study, based on research [14] that the indicators can include: Initial investment (X1), Profit (X2), Final Investment (X3), Total Investment (X4), Average investment (X5),

Cashflow (X6) and Average rate of Return (X7).

b. Research Sample and Data Collection Technique

The sample was selected based on certain objectives, namely, SMEs that have received capital from related agencies. So that the sample of this study amounted to 30 SMEs. The sampling technique, used Purposive Sampling, with certain criteria or objectives, so that the sample is very representative to be the object of research. Certain criteria are based on SME members who from 2019 to 2023 are active in financial reporting.

Data collection techniques using documentation, which is taking the financial statement data members of SMEs Amanah Belimbing Wuluh Dukuh Menanggal for 5 years, starting from 2019 to 2023.

c. Data Analysis Technique

Cluster analysis is a grouping analysis, of course this analysis is chosen so that there is a unification of several components that are considered the same or homogeneous into different groups, so that the groups or clusters can be identified [11]. K-Means Cluster Analysis is a Non-Hierarchical Cluster analysis with SPSS, so the next step is to interpret the results. Let's learn together the tutorial on interpretation of non-hierarchical cluster analysis with SPSS. The main results that will be read from the analysis output are; Iteration History, Final Cluster Centers, Anova.

III. RESULTS AND DISCUSSIONS

Results

The results of this study will be sorted from the beginning of the data that will be the source of processing. Data such as assets owned by all members of the SME group, liabilities and profits, to the stages of analyzing the research data.

a. Research Data

This research data contains data relating to the source of SME wealth, cooperative operating expenses and cooperative profits obtained from financial statement data during 2019-2023. Associated with the calculation of Net Present Value (NPV), associated with cooperative financial statements, then divided into two parts cash inflow and cash outflow.

Based on the financial statements recorded in the balance sheet of Amanah Belimbing Wuluh SMEs Dukuh Menanggal in 2019-

2023, in relation to current assets and the number of borrowers can be tabulated as follows:

Table 1. SME Assets for the 2019-2023 Period

Year Period	Number of Members SMES	Current Asset (Rp.)	Current Liabilites (Rp.)	Final Receivables (Rp.)
2019 (1 th Year)	21	89.925.600	20.706.900	78.684.850
2020 (2 nd Year)	18	91.629.700	22.561.950	104.740.000
2021 (3 th Year)	18	100.265.800	55.824.750	104.740.000
2022 (4 th Year)	24	176.402.700	93.275.300	167.310.000
2023 (5 th Year)	30	292.055.500	145.998.650	246.325.000
Total	111	750.279.300	338.367.550	701.799.850

Source: SME Financial Report for Financial Year 2023

Based on these data for five years in the sampling research data, that the total members of productive SMEs based on financial reporting in the association group as many as 111 borrowers and the total current assets of the cooperative as an NPV analysis material as a Future Value group, the total current assets for 5 years amounted to Rp. 750,279,300. Based on the above data also for five years in the research data that became sampling, that the total current liabilities as much as Rp. 338,367,550 and the total final receivables of SMEs as NPV analysis material as group C0 (Initial Investment) which became the burden of Amanah Belimbing Wuluh SMEs for 5 years amounted to Rp. 701,799,850.

b. Data Analysis

Analysis of this research data contains analysis related to this research question. In relation to the answer to the research that leads to the analysis of the feasibility of granting credit in determining loans in SMEs Amanah Belimbing Wuluh Dukuh Menanggal, the form of analysis there are 3 parts as follows:

1) Analysis of Net Present Value (NPV)

Net Present Value is measuring the financing spent so far as an investment with cash inflows from income per period, associated with cash inflows now. Mem-present value-kan (assess the present cash flow) is done by discounting the net cash inflow to be received with a discount rate (discount factor) for SMEs Amanah Belimbing Wuluh Dukuh Menanggal set at 16%.

a) Analyzing Initial Financing (Co)

Initial financing in the NPV analysis process is the costs charged to the company each year plus the prediction of the final cost of the specified time. This initial investment is the burden of SMEs receivables on the cooperative, which will be used as a source of funding for lending to customers / members. Analysis of initial financing in SMEs Amanah Belimbing Wuluh Dukuh Menanggal, can be obtained from the final accounts receivable data for five years, as follows:

Table 2. Set Initial Financing (Co)

Years	Periode Analyst	Final Receivable
2019	(1 th Year)	Rp. 78.684.850
2020	(2 nd Year)	Rp. 104.740.000
2021	(3 th Year)	Rp. 104.740.000
2022	(4 th Year)	Rp. 167.310.000
2023	(5 th Year)	Rp. 246.325.000
Initial Financing/Initial Investment (Co)		Rp. 701.799.850
Year-end Economic Financing (Ct)		Rp. 246.325.000

Source: Data processed

Based on the processed data that the initial investment (Co) which will be used for NPV analysis, from UKM Amanah Belimbing Wuluh Dukuh Menanggal obtained a value of Rp. 701,799,850 while the economic value or economic financing at the end of the observation year or the fifth year is Rp. 246,325,000.

b) Analyzing Net Cashflow (C)

Net Cashflow or net cash flow is the difference between the total money in (cash

inflow) and money out (cash outflow) from the business in a certain period. Net Cashflow (C) for companies in the SME class can be taken from all incoming income minus financing / expenses. Then also deduct the tax burden that must be borne by the cooperative. The tax burden is set at 10%. The results of the calculation of Net Cashflow (C) each year can be shown as follows:

Table 3. Net Cashflow (C) UKM

Description	Cash Inflow	Cash Outflow	Saldo
Current Assets	Rp. 750.279.300		Rp. 750.279.300
Current Liabilities		Rp. 338.367.550	
Profit Per Year		Rp. 96.528.900	Rp. 434.896.450
Operating Profit/Gross			Rp. 315.382.850
Tax Set at 10%			Rp. 31.538.285
Profit After Tax			Rp. 283.844.565

Source: Data processed

Based on the analysis above, the Net Cashflow value is profit after tax, so the Net Cashflow (C) value is Rp. 283,844,565.

c) Calculating Net Present Value (NPV)

Based on the previous data processing that with a discount factor of 16%. The results of the analysis of the initial investment calculation (Co) obtained a value of Rp. 701,799,850 while the Net Cashflow (C) value throughout the year for 5 years is Rp. 283,844,565, then the economic value or

economic financing at the end of the fifth year is Rp. 246,325,000, so the NPV formula can already be used to calculate the value of creditworthiness.

Before all initial investment financing, net income and year-end economic value are included in the NPV formula, it is necessary to analyze the value of income every year by considering the discount factor, the results can be described in the table below:

Table 4. Setting the Discount Factor Value Every Year

Years	Periode Analyst	Net Cashflow/C
2019 $C/(1 + 0,16)^1$	Rp. 283.844.565/1,16	Rp. 244.693.591
2020 $C/(1 + 0,16)^2$	Rp. 283.844.565/1,35	Rp. 210.942.750
2021 $C/(1 + 0,16)^3$	Rp. 283.844.565/1,56	Rp. 181.847.199
2022 $C/(1 + 0,16)^4$	Rp. 283.844.565/1,81	Rp. 156.764.826
2023 $C/(1 + 0,16)^5$	Rp. 283.844.565/2,10	Rp. 135.142.092
Total Nilai C 1-5 tahun		Rp. 929.390.458

Source: Data processed

Retrieved

Co = Rp. 701.799.850

Ct = Rp. 283.844.565

C = Rp. 246.325.000

r = 0,16 (16%)

Based on the NPV Analysis formula, the calculation results are:

$$N = -C + \frac{C_t}{(1+r)^t}$$

$$N = -C + \frac{C_1}{(1+r)^1} + \frac{C_2}{(1+r)^2} + \frac{C_3}{(1+r)^3} + \frac{C_4}{(1+r)^4} + \frac{C_5}{(1+r)^5} + \frac{C_6}{(1+r)^6}$$

$$NPV = -Rp. 701.799.850 + \frac{Rp. 2.850}{(1+0,1)^1} + \frac{Rp. 2.300}{(1+0,1)^2}$$

$$NPV = -Rp. 701.799.850 + Rp. 929.390.458 + Rp.117.278.539$$

$$NPV = -Rp. 701.799.850 + Rp. 1.046.668.996$$

$$NPV = Rp. 344.869.146$$

The calculation results show that the value of Net Present Value (NPV) is positive, namely Rp. 344,869,146 so that it can be said to be feasible for investment in business capital

SMEs Amanah Belimbing Wuluh Dukuh Menanggal.

The decision of the Net Present Value (NPV) analysis to provide the feasibility of determining the business capital owned by SMEs Amanah Belimbing Wuluh Dukuh Menanggal can be said to be accepted because the positive NPV value is above 0 or the NPV value > 0 (Positive) then the feasibility analysis is accepted.

I) Average Rate of Return (ARR)

Average Rate of Return (AAR) is the average amount of cash flow received in one year during the investment period. The way to calculate AAR is to combine all the estimated cash flows from the investment and divide them by the estimated total investment year. In this cooperative ARR considers the discount factor of 16%.

Table 5. Establish a Final Investment Value Each Year

No.	Year	Initial Invest (Co) (a)	Profit (b)	Finals Invest (c = a-b)
1	2019 (0)	701.799.850		
2	2019 (1 th Year)	701.799.850	37.662.800	664.137.050
3	2020 (2 nd Year)	664.137.050	11.859.800	652.277.250
4	2021 (3 th Year)	652.277.250	10.358.800	641.918.450
5	2022 (4 th Year)	641.918.450	21.167.600	620.750.850
6	2023 (5 th Year)	620.750.850	36.186.800	584.564.050
No.	Total Invest (d=a+c)	Average Invest (CI)	Cashflow (ANP)	ARR
1				
2	1.365.936.900	682.968.450	283.844.565	41,56 %
3	1.316.414.300	658.207.150	283.844.565	43,12 %
4	1.294.195.700	647.097.850	283.844.565	43,86 %
5	1.262.669.300	631.334.650	283.844.565	44,96 %
6	1.205.314.900	602.657.450	283.844.565	47,10 %
	ARR			220,61 %
	Average ARR			44,12 %

Source: Data processed

Based on the table above, calculating the ARR for each year can be formulated as follows:

$$A = \frac{A}{C} \times 100\%$$

$$A (2019) = \frac{Rp. 283.844.565}{Rp. 682.968.450} \times 100\%$$

$$A (2019) = 0,4156 \times 100\%$$

$$A (2019) = 41,56\%$$

So that the Average Rate of Return (ARR) value in 2019 is 41.56%. ARR in 2020 amounted to 43.12% then ARR in 2021 amounted to 43.86% then ARR in 2022 amounted to 44.96% and ARR in 2023

amounted to 47.10%. The total value of the Average Rate of Return (ARR) for 5 years is 220.61% so that the average ARR per year is 44.12% above the discount factor of 16%.

Analysis of Average Rate of Return (ARR) decision to provide a feasible value of lending in the determination of loans to SMEs Amanah Belimbing Wuluh Dukuh Menanggal can be said to be accepted because the ARR value of 44.12% above the discount factor of 16%. This means that the provision of credit that has been done by SMEs Amanah Belimbing Wuluh Dukuh Menanggal can be said to be feasible.

2) **K-Means Cluster Analysis**

Non Hierarchical Cluster Analysis with SPSS, part of the attributes of capital budgeting, whose elements we will do Kluster K-Means analysis. From this attribute or also

called a variable, it will be seen into the cluster group. In SPSS, it is divided into case labels and variables, the details of the attributes to be clustered are as follows:

a) Case label: Year of Observation (2019-2023)

b) Variable : - Initial Investment/Co (X1)

- Profit/P (X2)

- Final Investment/Ca (X3)

- Total Investment/I (X4)

- Average Investment/CI (X5)

- Cashflow/ANP (X6)

- Average Rate of Return/ARR (X7)

a) **Final Cluster Results**

Iteration results are used to detect how many times the iteration process is carried out in the clustering process of the 6 objects studied, it can be seen from the following output display:

Tabel 6. Iterasi History

Iteration	Iteration History ^a	
	Change in Cluster Centers	
	1	2
1	5.770E7	3.904E7
2	.000	.000

a. Convergence achieved due to no or small change in cluster centers. The maximum absolute coordinate change for any center is ,000. The current iteration is 2. The minimum distance between initial centers is 212490623,113.

It turns out that the clustering process is carried out through 2 iteration stages to get the right cluster. From the table above, it is stated that the minimum distance between cluster

- 1) Initial investment (X1) is in cluster 1 because the value is higher with an average value of IDR 67,273,805 for observations from 2019 to 2023.
- 2) Profit (X2) is in cluster 2 because the value is higher with an average value of Rp. 28,677,200 for observations from 2019 to 2023
- 3) Final investment (X3) is in cluster 1 because the value is higher with an average value of Rp. 652,777,583 for observations from 2019 to 2023
- 4) Total investment (X4) is in cluster 1 because the value is higher with an average value of Rp. 1,325,515,633 for observations from 2019 to 2023

Table 7. Final cluster

	Final Cluster Centers	
	Cluster	
	1	2
Initial Investment (Co)	672738050	631334650
Profit (P)	19960467	28677200
Final Investment (Ca)	652777583	602657450
Investment Amount (I)	1325515633	1233992100
Average Investment (Ci)	662757817	616996050
Cashflow (ANP)	283844565	283844565
ARR	42.85	46.03

centers that occurs from the iteration results is Rp. 212,490,623, 113. The final results of the clustering process are described below:

- 5) Average investment (X5) is in cluster 1 because the value is higher with an average value of Rp. 662,757,565 for observations from 2019 to 2023
- 6) Cashflow (X6) is in cluster 2 because the value is higher with an average value of Rp. 283,844,755 for observations from 2019 to 2023
- 7) Average Rate of Return (X7) is in cluster 2 because the value is higher with an average value of 46.03% for observations from 2019 to 2023.

The Anova test will provide information that each clusterization has no difference, considering the significance value is above 5% (sig. > 0.05). Based on this decision, Table 8 will provide a description.

Table 8. Anova Analyst

	Cluster		ANOVA		F	Sig.
	Mean Square	df	Mean Square	df		
Initial Investment (Co)	2.057E15	1	5.204E14	3	3.953	.141
Profit (P)	9.118E13	1	1.947E14	3	.468	.045
Final Investment (Ca)	3.014E15	1	3.007E14	3	10.026	.005
Investment Amount (I)	1.005E16	1	1.447E15	3	6.944	.008
Average Investment (Ci)	2.513E15	1	3.619E14	3	6.932	.007
Cashflow (ANP)	.000	1	11.667	3	.002	1.000
ARR	12.160	1	1.682	3	7.228	.006

The F tests should be used only for descriptive purposes because the clusters have been chosen to maximize the differences among cases in different clusters. The observed significance levels are not corrected for this and thus cannot be interpreted as tests of the hypothesis that the cluster means are equal.

- 1) Initial investment (X1) has an F value = 3.953 with a sig value. = 0.141 because the sig. > 0.05, the initial investment is excluded from cluster 1 because there is no significant difference.
- 2) Profit (X2) has an F value = 0.468 with a sig value. = 0.543 because the sig value. > 0.05 then profit is excluded from cluster 2 because there is no significant difference.
- 3) Final investment (X3) has an F value = 10.026 with a sig value. = 0.005 because the sig. <0.05, the final investment is included in cluster 1 because there is a significant difference.
- 4) Total Investment (X4) has an F value = 6.944 with a sig value. = 0.008 because the sig. <0.05, total investment is included in cluster 1 because there is a significant difference.
- 5) Average investment (X5) has an F value = 6.932 with a sig value. = 0.007 because the sig value. <0.05, the average investment is included in cluster 1 because there is a significant difference.
- 6) Cashflow (X6) has an F value = 0.000 with a sig value. = 1.000 because the sig value. > 0.05 then cashflow is excluded from cluster 2 because there is no significant difference.
- 7) Average Rate of Return (X7) has an F value = 7.288 with a sig value. = 0.006 because the sig. <0.05, Average Rate of Return is included in cluster 2 because there is a significant difference.

Discussions

The objectives to be achieved from this research include; (1) Clustering using capital with the concept of Net Present Value (NPV). (2) Clustering using capital with the concept of Average Rate of Return (ARR). (3) Clustering using the concept of business type and grouping. The research results provide the following conclusions:

1. The results of the NPV analysis is a study of the feasibility of SME capital Amanah Belimbing Wuluh. The concept of Net Present Value (NPV)

generated (NPV) is positive, namely Rp. 344,869,146 so that it can be said to be feasible for business capital investment of UKM Amanah Belimbing Wuluh Dukuh Menanggal.

2. The results of the ARR analysis is also a study of the feasibility of SME capital with the concept of Average Rate of Return (ARR) is worth every year 44.12% above the discount factor of 16% so it can be said to be feasible for the turnover of SME capital Amanah Belimbing Wuluh Dukuh Menanggal.

3. Clustering corporate strategy with capital budgeting. Cluster analysis divides two groups of strategies. Cluster 1 contains investment strategies that have attributes; final investment, total investment and average

investment. Cluster 2 contains a capital turnover strategy that has the attribute Average Rate of Return. ARR becomes cluster 2, this is in line with research [15].

IV. CONCLUSION

Providing answers to the research questions through a brief review, namely the conclusion, will provide information on the proper study of this research. Conclusions from the results of the analysis and discussion can be described as follows:

1. Feasibility of SME capital with the concept of Net Present Value (NPV) resulting (NPV) is positive value of Rp. 344,869,146 so that it can be said to be feasible for business capital investment SME Amanah Belimbing Wuluh Dukuh Menanggal.

2. Feasibility of SME capital with the concept of Average Rate of Return (ARR) is worth every year 44.12% above the discount factor of 16% so that it can be said to be feasible for the turnover of SME capital Amanah Belimbing Wuluh Dukuh Menanggal.
3. Cluster analysis divides two groups of corporate strategies. Cluster 1 contains investment strategies that have attributes; final investment, total investment and average investment. Cluster 2 contains a capital turnover strategy that has the attribute Average Rate of Return.

V. REFERENCES

- [1] R. Idayu, M. Husni, and S. Suhandi, "Strategi Pengembangan Usaha Mikro Kecil dan Menengah (UMKM) Untuk Meningkatkan Perekonomian Masyarakat Desa di Desa Nembol Kecamatan Mandalawangi Kabupaten Pandeglang Banten," *J. Manaj. STIE Muhammadiyah Palopo*, vol. 7, no. 1, p. 73, 2021, doi: 10.35906/jm001.v7i1.729.
- [2] A. Parmono and A. Zahriyah, "Pelaporan Keuangan Pada Usaha Mikro Kecil Dan Menengah (Umk) Di Kabupaten Jember," *JIAI (Jurnal Ilm. Akunt. Indones.*, vol. 6, no. 2, pp. 209–241, 2021, doi: 10.32528/jiai.v6i2.4983.
- [3] M. Nawawi, Elsa, and I. Hasanah, "Strategi Bisnis Pelaku UMKM Di Tengah Pandemi Covid-19," *TazkiyyaJurnal Keislaman*, *Kemasyarakatan dan Kebud.*, vol. 22, no. 2, pp. 121–138, 2021.
- [4] N. L. K. Maryasih, "Strategi Usaha Mikro Kecil Dan Menengah (Umk) Di Jabodetabek Dalam Menghadapi Pandemi Covid-19," *Moestopo J. Int. Relations*, vol. 2, no. 2, pp. 150–159, 2022.
- [5] Y. Yurnita, S. R. Busaeri, and R. Rasyid, "Analisis Kelayakan Finansial Usaha Roti Lembut Pada Kelompok Usaha Bersama Industri Kecil," *Wiratani J. Ilm. Agribisnis*, vol. 4, no. 1, p. 84, 2021, doi: 10.33096/wiratani.v4i1.137.
- [6] S. S. Sari, S. Nuringwahyu, and R. N. Hardati, "Strategi Bisnis Usaha Mikro, Kecil dan Menengah Dalam Meningkatkan Penjualan," *Jiagabi*, vol. 9, no. 1, pp. 43–54, 2020, [Online]. Available: <https://core.ac.uk/download/pdf/287229257.pdf>
- [7] Y. Utomo and D. A. Walujo,

- “Evaluasi Kelayakan Bisnis Berbasis Teknologi Pada Usaha Kecil Menengah Kelompok Amanah Dukuh Menanggal Surabaya,” *Snhrp-Ii*, vol. 17, pp. 633–641, 2019.
- [8] M. W. Talakua, Z. A. Leleury, and A. W. Talluta, “Analisis Cluster Dengan Menggunakan Metode Provinsi Maluku Berdasarkan Indikator Indeks Pembangunan Manusia Tahun 2014,” *J. Ilmu Mat. dan Terap.*, vol. 11, no. 2, pp. 119–128, 2017.
- [9] D. Marcelina, A. Kurnia, and T. Terttiaavini, “Analisis Klaster Kinerja Usaha Kecil dan Menengah Menggunakan Algoritma K-Means Clustering,” *MALCOM Indones. J. Mach. Learn. Comput. Sci.*, vol. 3, no. 2, pp. 293–301, 2023, doi: 10.57152/malcom.v3i2.952.
- [10] D. Christine, Apriwandi, A. N. Fathonah, E. Sherlita, A. Wijaya, and E. Kartadjumena, “Analisis Penganggaran Modal pada Usaha Mikro Kecil dan Menengah (UMKM) di Kabupaten Bandung Barat,” *J. EMT KITA*, vol. 7, no. 1, pp. 179–190, 2023, doi: 10.35870/emt.v7i1.829.
- [11] W. Sudrajat, I. Cholid, and J. Petrus, “Penerapan Algoritma K-Means Clustering untuk Pengelompokan UMKM Menggunakan Rapidminer,” *J. JUPITER*, vol. 14, no. 1, pp. 27–36, 2022.
- [12] S. Batubara, F. Maharani, and M. Makhrani, “Pengembangan Usaha Umkm Di Masa Pandemi Melalui Optimalisasi Penggunaan Dan Pengelolaan Media Digital,” *E-Amal J. Pengabd. Kpd. Masy.*, vol. 2, no. 1, pp. 1023–1032, 2022, doi: 10.47492/eamal.v2i1.1237.
- [13] A. Kurnia and J. K. Wardani, “Keputusan Penganggaran Modal Pada Usaha Mikro Kecil Menengah (Umkm) Tunas Jaya Bidang Tanaman Buah Dan Tanaman Kayu Di Desa Cempaka Nuban Kabupaten Lampung Timur,” *Al-Wathan J. Ilmu Syariah*, vol. 4, no. 1, pp. 25–33, 2023.
- [14] O. H. Hasmoro, A. H. Mukti, and E. W. Wibowo, “Analisis Capital Budgeting Sebagai Pendekatan Pengambilan Keputusan Investasi Pembangunan Integrated Dry Bulk Terminal Pelabuhan Pulau Baai, Bengkulu (Studi Kasus Pt Pelabuhan Indonesia Ii),” *J. Ilm. Bisnis, Pasar Modal, dan UMKM*, vol. 4, no. 1, pp. 1–10, 2021.
- [15] Mihani and T. R. Hutauruk, “Strategi Pengembangan Usaha Mikro, Kecil Dan Menengah (UMKM) Dapur Etam Sejahtera Samarinda Dalam Meningkatkan Penjualan,” *J. Ris. Inossa*, vol. 2, no. 2, pp. 111–122, 2020.