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Financial Performance Segmentation Changes on Indonesian Insurance Companies

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ABSTRACT
Company acquisition is one of the strategies for developing and maintaining the company's survival, especially if unforeseen situations occur that are detrimental to a company, for example in the insurance industry during the Covid-19 pandemic. The purpose of this study is to determine changes in the performance of financial ratios of insurance companies from 2021 to 2022 which can be used as consideration for making acquisitions. The method used is quantitative using k-mean clustering in SPSS software and ranking is made based on DER, ROE, NPM and RBC analysis. Based on the data above, it can be seen that there are companies that have changed from 2021 to 2022. There are 7 companies that have experienced an increase in status, 5 companies that have experienced a decline and 5 companies that have not experienced a change. The most recommended company for acquisition is Lippo General Insurance Tbk and the recommended company for acquisition is Panin Financial Tbk and dan Panininvest Tbk.

Keywords : Acquisition, Insurance, Financial Performance, K-mean Clustering.

INTRODUCTION

The development of a company's business can be achieved through various strategies and methods to ensure its continuous growth and sustainability in the face of changing times. Additionally, these changing times are often accompanied by uncertain situations, such as the recent Covid-19 pandemic, which halted economic activities and forced many companies to cease operations due to financial difficulties. One of the industries that was severely impacted by the Covid-19 pandemic was the insurance industry. The high number of fatalities resulted in insurance companies having to fulfill their obligations by paying out claims.

Now, in the post-pandemic era, changes are happening rapidly. Companies have started to resume operations, and new businesses have emerged during the pandemic, impacting almost all sectors of the Indonesian economy. The visible effect of this situation is the emergence of new opportunities and increased competition within the same industry, and even across industries. As a logical consequence of growing businesses, this situation poses a challenge for company managers to satisfy shareholders or investors.

One of the strategies for company development and sustainability is through acquisitions. To conduct the acquisition of a company, an analysis of its financial performance or financial ratios is necessary. Financial ratio analysis can be divided into four categories: liquidity ratios, activity ratios, leverage ratios, and profitability ratios. As known, these four financial ratio analyses are used to assess the performance and effectiveness of a company. In general, based on previous research, liquidity ratios can be measured using

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current ratio and quick ratio. Activity ratios can be calculated using total assets turnover and fixed assets turnover. Leverage ratios are measured through debt to equity ratio and debt to assets ratio. [9] Profitability ratios are measured through return on equity and net profit margin (Sinekti, 2022).

This analysis is carried out to determine whether the company's financial health is sound and robust or critical and weak, which can be considered when making acquisition decisions based on the company's financial ratios. Furthermore, it helps to observe the changes in the company's financial quality from year to year, as determined by these ratios.

LITERATURE REVIEW

Definition and Purpose of Acquisition

According to [5] Indonesian Statement of Financial Accounting Standards (SFAS) No. 22 of 1994, an acquisition is a business combination where one company, the acquirer, obtains control over the net assets and operations of another company, the acquiree, by providing certain assets, assuming a liability, or issuing shares.

[10] Sudana (2011) defines an acquisition as the merging of two companies. The acquirer purchases a portion of the acquiree's shares, resulting in a transfer of control to the acquirer, while both companies continue to operate as separate legal entities.

The objectives or motives behind acquisition activities, as presented by [6] Moin (2010), can be divided into two categories: economic and non-economic. The economic motive aligns with the company's goals, including maximizing the company's value and enhancing stakeholder welfare. To achieve these objectives, strategic decisions are required, which serve as a tool for the company to build long-term competitive advantages in attaining its goals.

Debt to Equity Ratio (DER)

According to [11] Brigham & Houston (2019), the DER is used to measure the extent to which a company is financed with debt. A higher DER indicates a larger proportion of total debt compared to total equity, which can lead to increased financial burden for the company from external parties. A DER greater than 1 indicates high performance growth risk, as the company relies heavily on debt, which may also pose liquidity risks. A DER value less than 1 shows that the company is predominantly financed by equity rather than debt. For creditors, low DER indicates low risk, making them more willing to provide loans. However, for the company, this entails high risk as its capital is primarily funded by shareholders. Thus, if the company goes bankrupt, shareholders will suffer losses.

Return On Equity (ROE)

According to [3] Hery (2016), ROE is a ratio that indicates how much equity contributes to generating net profit. The higher the return on equity, the greater the net profit generated from each unit of funds invested in equity.

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Net Profit Margin (NPM)

According to [8] Panggabean (2021), Net Profit Margin represents the profit a company can generate from its level of sales. A high NPM indicates that the company's performance is relatively good.

Risk-Based Capital (RBC)

According to [5] POJK 71 of 2016, Risk-Based Capital is one of the measurement methods mandated by the law to assess the financial health of an insurance company. The purpose of RBC is to determine the required capital of the company based on the level of risk it faces in managing its assets and liabilities.

RESEARCH METHODS

This research is a quantitative study using k-means clustering in SPSS software. K-means clustering is a non-hierarchical cluster analysis algorithm. Cluster analysis is a method used to group data based on variables or features. The goal of k-means clustering, like other clustering methods, is to obtain data clusters that maximize similarity of characteristics within clusters and maximize differences between clusters [4] (Hussein, 2021).

Data collection for this research involved obtaining digital statistical data from the Indonesia Stock Exchange (IDX) website, which includes financial data and ratios from the insurance sub-industry in December 2021 and December 2022.

After processing the data using SPSS, the final clustering results are then analyzed based on DER, ROE, NPM, and RBC, which are subsequently categorized into rankings from A (very good) to E (very poor). Subsequently, based on these rankings, a list of company names included in each cluster is created and differentiated between the results from December 2021 and December 2022. Finally, the research examines whether there have been changes in the rankings of insurance companies' financial ratios from 2021 to 2022, which can be considered in selecting the insurance company to be acquired.

Table 1. List of Insurance Companies

No.	Code	Stock Name
1	ABDA	Asuransi Bina Dana Arta Tbk
2	AHAP	Asuransi Harta Aman Pratama Tbk
3	AMAG	Asuransi Multi Artha Guna Tbk
4	ASBI	Asuransi Bintang Tbk
5	ASDM	Asuransi Dayin Mitra Tbk
6	ASJT	Asuransi Jasa Tania Tbk
7	ASMI	Asuransi Maximus Graha Persada Tbk
8	ASRM	Asuransi Ramayana Tbk
9	BHAT	Bhakti Multi Artha Tbk
10	JMAS	Asuransi Jiwa Syariah Jasa Mitra Abadi Tbk
11	LIFE	Asuransi Jiwa Sinarmas MSIG Tbk
12	LPGI	Lippo General Insurance Tbk
13	MTWI	Malacca Trust Wuwungan Insurance Tbk
14	PNIN	Paninvest Tbk
15	PNLF	Panin Financial Tbk
16	TUGU	Asuransi Tugu Pratama Indonesia Tbk
17	VINS	Victoria Insurance Tbk

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RESULTS AND DISCUSSION

Summary of Financial Ratios of Insurance Companies in Indonesia for the years 2021 - 2022.

[1] Based on data from PT Bursa Effect Indonesia (BEI) hereby financial data and ratio in December 2021 and 2022 as shown below:

Table 2. Financial Data dan Ratio December 2021

No.	Code	Stock Name	D/E Ratio, x	ROA, %	ROE, %	NPM, %	RBC,%
1	ABDA	Asuransi Bina Dana Arta Tbk	0,72	0,07	0,12	0,32	2,38
2	AHAP	Asuransi Harta Aman Pratama Tbk	3,34	-0,03	-0,14	-0,04	1,30
3	AMAG	Asuransi Multi Artha Guna Tbk	1,67	0,03	0,07	0,07	1,60
4	ASBI	Asuransi Bintang Tbk	1,82	0,02	0,06	0,05	1,55
5	ASDM	Asuransi Dayin Mitra Tbk	1,87	0,03	0,08	0,03	1,53
6	ASJT	Asuransi Jasa Tania Tbk	0,73	-0,01	-0,02	-0,04	2,37
7	ASMI	Asuransi Maximus Graha Persada Tbk	1,12	0,00	0,00	0,00	1,90
8	ASRM	Asuransi Ramayana Tbk	2,11	0,04	0,13	0,05	1,47
9	BHAT	Bhakti Multi Artha Tbk	0,33	0,02	0,03	0,20	4,07
10	JMAS	Asuransi Jiwa Syariah Jasa Mitra Abadi Tbk	1,26	-0,01	-0,02	-0,13	1,86
11	LIFE	Asuransi Jiwa Sinarmas MSIG Tbk	1,10	0,01	0,03	0,07	1,92
12	LPGI	Lippo General Insurance Tbk	1,98	0,04	0,13	0,08	1,51
13	MTWI	Malacca Trust Wuwungan Insurance Tbk	2,87	-0,02	-0,07	-0,04	1,35
14	PNIN	Paninvest Tbk	0,15	0,03	0,04	0,51	7,52
15	PNLF	Panin Financial Tbk	0,16	0,06	0,06	0,55	7,08
16	TUGU	Asuransi Tugu Pratama Indonesia Tbk	1,40	0,01	0,03	0,05	1,72
17	VINS	Victoria Insurance Tbk	0,71	0,02	0,03	0,05	2,41

Table 3. Financial Data dan Ratio December 2022

No.	Code	Stock Name	D/E Ratio, x	ROA, %	ROE, %	NPM, %	RBC,%
1	ABDA	Asuransi Bina Dana Arta Tbk	0,62	0,05	0,08	0,21	2,62
2	AHAP	Asuransi Harta Aman Pratama Tbk	2,53	-0,03	-0,12	-0,04	1,40
3	AMAG	Asuransi Multi Artha Guna Tbk	1,98	0,04	0,11	0,08	1,50
4	ASBI	Asuransi Bintang Tbk	1,66	0,03	0,07	0,06	1,60
5	ASDM	Asuransi Dayin Mitra Tbk	1,75	0,02	0,05	0,02	1,57
6	ASJT	Asuransi Jasa Tania Tbk	0,59	0,00	0,00	0,00	2,70
7	ASMI	Asuransi Maximus Graha Persada Tbk	1,79	-0,28	-0,79	-0,29	1,56
8	ASRM	Asuransi Ramayana Tbk	1,99	0,04	0,11	0,04	1,50
9	BHAT	Bhakti Multi Artha Tbk	0,95	0,00	0,01	0,03	2,06
10	JMAS	Asuransi Jiwa Syariah Jasa Mitra Abadi Tbk	1,51	0,02	0,05	0,19	1,66
11	LIFE	Asuransi Jiwa Sinarmas MSIG Tbk	1,09	0,01	0,03	0,08	1,93
12	LPGI	Lippo General Insurance Tbk	2,48	0,04	0,15	0,06	1,40
13	MTWI	Malacca Trust Wuwungan Insurance Tbk	4,24	0,00	0,01	0,00	1,24
14	PNIN	Paninvest Tbk	0,14	0,04	0,05	0,75	8,16
15	PNLF	Panin Financial Tbk	0,15	0,04	0,05	0,44	7,65
16	TUGU	Asuransi Tugu Pratama Indonesia Tbk	1,30	0,02	0,04	0,07	1,77
17	VINS	Victoria Insurance Tbk	0,77	0,03	0,05	0,07	2,29

The data was processed using 4 variables that were assessed to determine whether the company is eligible for acquisition using SPSS, and the results obtained are as follows :

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SPSS data results using data from the year 2021 and 2022.

Table 4. Final Cluster Centers 2021 & 2022

Final Cluster Centers tahun 2021 & 2022										
Variable	Cluster tahun 2021					Cluster tahun 2022				
	1	2	3	4	5	1	2	3	4	5
D/E Ratio, x	33,00	310,50	94,00	15,50	180,83	66,00	215,40	14,50	137,67	424,00
ROE, %	3,00	-10,50	2,33	5,00	8,33	4,33	-10,80	5,00	4,17	1,00
NPM, %	20,00	-4,00	4,50	53,00	5,50	9,33	-3,00	59,50	7,50	0,00
RBC, %	407,00	132,50	214,00	730,00	156,33	253,67	147,20	790,50	176,50	124,00

Table 5. Cluster Membership 2021 & 2022

Cluster Membership 2021 - 2022					
Case Number	Stock Name	Cluster 2021	Distance 2021	Cluster 2022	Distance 2022
1	Asuransi Bina Dana Arta Tbk	3	43,700	1	15,330
2	Asuransi Harta Aman Pratama Tbk	2	23,890	2	38,315
3	Asuransi Multi Artha Guna Tbk	5	14,451	2	30,114
4	Asuransi Bintang Tbk	5	2,972	4	32,944
5	Asuransi Dayin Mitra Tbk	5	7,450	4	42,485
6	Asuransi Jasa Tania Tbk	3	32,573	1	20,535
7	Asuransi Maximus Graha Persada Tbk	3	30,425	2	82,034
8	Asuransi Ramayana Tbk	5	31,924	2	28,303
9	Bhakti MultiArtha Tbk	1	0,000	4	52,163
10	Asuransi Jiwa Syariah Jasa Mitra Abadi Tbk	3	46,185	4	20,518
11	Asuransi Jiwa Sinarmas MSIG Tbk	3	27,326	4	33,100
12	Lippo General Insurance Tbk	5	18,739	2	43,142
13	Malacca Trust Wuwungan Insurance Tbk	2	23,890	5	0,000
14	Paninvest Tbk	4	22,119	3	29,845
15	Panin Financial Tbk	4	22,119	3	29,845
16	Asuransi Tugu Pratama Indonesia Tbk	5	44,062	4	7,701
17	Victoria Insurance Tbk	3	35,478	1	27,117

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Table 6. Number of Cases in each Cluster

Number of Cases in each Cluster			
Cluster		Number of Cases 2021	Number of Cases 2022
Cluster	1	1,000	3,000
	2	2,000	5,000
	3	6,000	2,000
	4	2,000	6,000
	5	6,000	1,000
Valid		17,000	17,000
Missing		0,000	0,000

Based on the above SPSS data results, five types of clusters will be formed:

Table 7. Grade Status

Grade Status	Status Type
A	Very Good
B	Good
C	Adequate
D	Poor
E	Very Poor

For the clusters in 2021 and 2022, the status types obtained are as follows:

Table 8. Status Type 2021 & 2022

Cluster	Status Type 2021	Status Type 2022
1	B	B
2	E	E
3	C	A
4	A	C
5	D	D

This is determined by looking at the adequacy ratio between the Debt to Equity ratio (DER), where a lower DER indicates higher equity obtained and positively impacts the company's financial position. As for Return on Equity (ROE), a higher value is better for the company. Net Profit Margin (NPM) represents the net profit after taxes, and a higher value compared to the target is better for the financial health of the company. According to POJK 71 of 2016, the Financial Services Authority (OJK) targets that all insurance companies should have a Risk Based Capital (RBC) value above 120%.

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Therefore, the cluster membership status type of the 17 insurance companies will be defined as follows :

Table 9. Cluster Membership

Cluster Membership						
Case Number	Stock Name	Cluster 2021	Cluster 2022	Status Type 2021	Status Type 2022	Cluster Changes
1	Asuransi Bina Dana Arta Tbk	3	1	C	B	Increase
2	Asuransi Harta Aman Pratama Tbk	2	2	E	E	No Changes
3	Asuransi Multi Artha Guna Tbk	5	2	D	E	Decrease
4	Asuransi Bintang Tbk	5	4	D	C	Increase
5	Asuransi Dayin Mitra Tbk	5	4	D	C	Increase
6	Asuransi Jasa Tania Tbk	3	1	C	B	Increase
7	Asuransi Maximus Graha Persada Tbk	3	2	C	E	Decrease
8	Asuransi Ramayana Tbk	5	2	D	E	Decrease
9	Bhakti MultiArtha Tbk	1	4	B	C	Decrease
10	Asuransi Jiwa Syariah Jasa Mitra Abadi Tbk	3	4	C	C	No Changes
11	Asuransi Jiwa Sinarmas MSIG Tbk	3	4	C	C	No Changes
12	Lippo General Insurance Tbk	5	2	D	E	Decrease
13	Malacca Trust Wuwungan Insurance Tbk	2	5	E	D	Increase
14	Paninvest Tbk	4	3	A	A	No Changes
15	Panin Financial Tbk	4	3	A	A	No Changes
16	Asuransi Tugu Pratama Indonesia Tbk	5	4	D	C	Increase
17	Victoria Insurance Tbk	3	1	C	B	Increase

Based on the data above, it can be observed that there are companies that experienced changes from 2021 to 2022. There are 7 companies that saw an increase in status, 5 companies that experienced a decrease, and 5 companies that remained unchanged. Based on the data, it was also found that there are 2 companies, Paninvest Tbk and Panin Financial Tbk, which are suitable as acquirers with a status of "Very Good." On the other hand, there are 5 companies, namely Asuransi Harta Aman Pratama, Asuransi Multi Artha Guna Tbk, Asuransi Maximus Graha Pers, Asuransi Ramayana Tbk, and Lippo General Insurance Tbk, with a status of "Very Poor" that are deemed suitable for acquisition. Further examination of these 5 insurance companies with a "Very Poor" acquisition status reveals that the directors of Asuransi Harta Aman Pratama Tbk resigned en masse, Asuransi Multi Artha Guna Tbk had its business license revoked by OJK in the brokerage field, Asuransi Maximus Graha Persada Tbk, formerly Kresna Life, had its business license revoked by OJK, Asuransi Ramayana Tbk faced policyholders' lawsuits, and Lippo General Insurance Tbk had its directors caught by OJK. These circumstances undoubtedly have an impact on the companies' financial standing.

CONCLUSIONS AND ADVICE

The development of a company's business is achieved through various strategies to maintain financial growth, especially during challenging times like the Covid-19 pandemic, which significantly affected all industries, including insurance. One of the business development strategies is through acquisitions. Acquisitions are made by evaluating liquidity ratios, activity ratios, leverage ratios, and profitability ratios. Liquidity ratios can be measured using the current ratio and quick ratio, activity ratios through total assets turnover and fixed assets turnover, leverage ratios through debt to equity ratio and debt to assets ratio, and profitability ratios through return on equity and net profit margin. This analysis should be conducted annually to gain clear insights into financial developments from one year to the next.

Based on the discussion above, a sample of 17 insurance companies was taken for evaluation of DER, ROE, NPM, and RBC using data from 2021 and 2022, and cluster analysis using the k-means algorithm was conducted to categorize them according to their cluster types to assess their suitability for acquisition.

As a result of the analysis, it is evident that some companies experienced changes from 2021 to 2022. There are 7 companies that saw an increase in status, 5 companies that experienced a decrease, and 5 companies that remained unchanged. The companies that are suitable for acquisition are Paninvest Tbk and Panin Financial Tbk, as they both exhibit very good status based on the four components mentioned earlier. Additionally, there are 5 companies that are highly suitable for acquisition, namely Asuransi Harta Aman Pratama Tbk, Asuransi Multi Artha Guna Tbk, Asuransi Maximus Graha Persada Tbk, Asuransi Ramayana Tbk, and Lippo General Insurance Tbk, all of which have a very poor status. Moreover, Lippo General Insurance Tbk is the most recommended company for acquisition, as in 2023, it was acquired by the private company Hanwha Life Insurance Indonesia.

Further evaluation is needed for the 5 companies that obtained a very poor status, including a review of their financial standing, seeking assistance from auditors to conduct

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financial audits, and implementing better company strategies to cope with the post-pandemic situation.

BIBLIOGRAPHY

Bursa Efek Indonesia. (n.d.). financial Data and Ratio. idx.co.id. Retrieved July 6, 2023, from https://www.idx.co.id/id/data-pasar/laporan-statistik/digital-statistic/monthly/financial-report-and-ratio-of-listed-companies/financial-data-and-ratio?filter=eyJ5ZWFyIjoiMjAyMyIsIm1vbnRoIjoiNiIsInF1YXJ0ZXIiOjAsInR5cGUiOiJtb250aGx5In0%3D

Gandamihardja, S., & Rusliati, E. (2020, April 1). Kinerja Keuangan Sebelum dan Sesudah Akuisisi Pada Perusahaan Non-Keuangan. Jurnal Riset Akuntansi Kontemporer, 12. https://www.journal.unpas.ac.id/index.php/jrak/article/view/4042

Hery. (2016). Analisis Laporan Keuangan Integrated and Comprehensive Edition. Grasindo.

Hussein, S. (2021, October 13). K-means Clustering: Pengertian, Metode Algoritma, Beserta Contoh. GEOSPASIALIS. Retrieved July 11, 2023, from https://geospasialis.com/k-means-clustering/

Ikatan Akuntan Indonesia. (1994, September 7). Pernyataan Standar Akuntansi Keuangan (PSAK) No. 22 AKUNTANSI PENGGABUNGAN USAHA. Ikatan Akuntan Indonesia.

Moin, A. (2010). Merger, Akuisisi, dan Divestasi (2nd ed.). Ekonisia.

Nadia, M. (2020). Pengaruh Pendapatan Premi, Hasil Investasi, dan Risk Based Capital terhadap Laba Perusahaan Asuransi (Studi pada Perusahaan Asuransi yang Terdaftar di Bursa Efek Indonesia Periode 2015-2018). Jurnal Ilmiah Mahasiswa Fakultas Ekonomi dan Bisnis, 8. https://jimfeb.ub.ac.id/index.php/jimfeb/article/view/6557

Panggabean, M. S., Angelica, Aprilia, D. K., Wijaya, E., & Febriani, S. (2021, September 11). Pengaruh Net Profit Margin, Return On Assets, Debt To Equity Ratio Dan Ito Pada Perusahaan Manufaktur Yang Terdaftar Di Bursa Efek Indonesia. Journal of Economic, Bussines and Accounting, 5. https://journal.ipm2kpe.or.id/index.php/COSTING/article/view/2600

Sinekti, L. S., & Moin, A. (2022, Oktober 31). Penilaian Kinerja Keuangan Pra dan Pasca Akuisisi Studi Kasus pada Perusahaan Pengakuisisi yang Terdaftar di BEI Periode 2013-2017. Selekta Manajemen: Jurnal Mahasiswa Bisnis & Manajemen, 1. https://journal.uii.ac.id/selma/article/view/25767

Sudana, I. m. (2011). Manajemen keuangan perusahaan teori dan praktik (1st ed.). Erlangga.

Brigham, E. F., & Houston, J. F. (2019). Fundamentals of Financial Management 15 Edition. Cengage Learning.