The Role Of The Altman Z-Score Method To Predicate The Bankruptcy Of KUD Sumber Wangi Pamekasan

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ABSTRACT

To meet the needs of people's lives rely on KUD which aims to guarantee needs and welfare with economic movements based on democracy and kinship. In its development, KUD experienced difficulties in developing its business caused by: 1. Lack of understanding about cooperatives, causing misunderstandings; 2. Macro and political approach in the development of cooperatives. The purpose of this study is to analyze KUD whose condition is not good as an evaluation and take the right strategy to improve conditions in the future. The research method is a quantitative descriptive. The analysis tool uses the altman z-score method. The results of the study show that KUD conditions from 2017 to 2021 are in a safe position even though 2019 was in a gray area due to the Covid-19 period which resulted in KUD having to work hard to improve its performance at that time

Key words: KUD, Altman Z-Score and Bankruptcy.

ABSTRAK

Untuk memenuhi kebutuhan hidup masyarakat bertumpu pada KUD yang bertujuan menjamin kebutuhan dan kesejahteraan dengan gerakan ekonomi yang berdasarkan demokrasi dan kekeluargaan. Dalam perkembangannya, KUD mengalami kesulitan dalam mengembangkan usahanya yang disebabkan oleh: 1. Kurangnya pemahaman tentang koperasi sehingga menimbulkan kesalahpahaman; 2. Pendekatan makro dan politik dalam pengembangan koperasi. Tujuan dari penelitian ini adalah menganalisis KUD yang kondisinya kurang baik sebagai bahan evaluasi dan mengambil strategi yang tepat untuk memperbaiki kondisi di masa depan. Metode penelitian yang digunakan adalah deskriptif kuantitatif. Alat analisisnya menggunakan metode altman z-score. Hasil penelitian menunjukkan bahwa kondisi KUD pada tahun 2017 hingga tahun 2021 berada pada posisi aman meskipun tahun 2019 berada pada area abu-abu akibat masa Covid-19 yang mengakibatkan KUD harus bekerja keras untuk meningkatkan kinerjanya saat itu.

Kata Kunci : KUD, Altman Z-Score dan Kebangkrutan

INTRODUCTION

To meet the needs of life in the village, the community relies on the existence of a KUD which initially engaged in agriculture because the majority of the community were farmers. KUD is not only engaged in agriculture, but also supports community activities in the fields of trade, health, education, etc. This is in line with the purpose of the establishment of the KUD, namely to ensure the needs and welfare of the community. This is because KUD is a people's economic movement based on democracy and kinship. It is undeniable that KUD has a very important role and benefits for village development, especially in the economic field. The agricultural sector continues to be encouraged to be more productive and able to be self-sufficient. This has also received positive encouragement from the government through various things such as grant assistance, soft loans to training for KUD members whose aim is to raise the spirit of independence and a brighter future.

In its development, KUD also experienced difficulties or there were obstacles in developing its business. Cooperatives do not develop due to 2 (two) factors, namely: 1. Lack of understanding of cooperatives, lack of understanding of cooperative identity (cooperative values and principles) which causes misunderstanding and loss of cooperative nature; and 2. Macro and political approach in cooperative development which is sometimes just a discourse. This is reinforced by research conducted (Indriawati et al., 2017), where there are 7 (seven) aspects in determining the health level of a cooperative to be able to develop properly including: capital, quality of productive assets, management, efficiency, liquidity independence and growth, and cooperative identity.

For KUD Pamekasan, data obtained there are 13 KUD scattered throughout Pamekasan sub-district, but there are several KUD whose condition is questionable because they have not/never implemented the RAT implemented by the Pamekasan Cooperatives and MSME Service. The following is the data of KUD in Pamekasan district with its condition:

Tablel 1. KUD Pamekasan

No.	District	KUD	No.	District	KUD
1	Batu Marmar	Sumber Hasil	8	Pademawu	Dharma Bakti
2	Waru	Setia	9	Pakong	Karya Bakti
3	Pasean	Tunas Harapan	10	Galis	Guntur
4	Proppo	Sumber Jaya	11	Larangan	Karya Sakti
5	Pamekasan	Sumber Bakti	12	Tlanakan	Sumber Wangi
6	Pagentenan	Karya Harapan	13	Kadur	Karya Kita
7	Palengnga'an	Harapan Rakyat			

Source : Cooperatives and SMEs Service Office of Pamekasan Regency

This condition is reinforced by research results stating that out of a total of 13 KUDs in Pamekasan County, there are only 5 (five) active KUDs and only 1 (one) active KUD whose performance is in good condition while the rest tend to produce negative result (loss) (Djaja & Maulana, 2020).

With this background, the author wants to examine active KUDs whose performance is in poor or unfavorable condition using the Altman z-score method so that it can be seen whether the KUD is bankrupt or still in a safe condition. That way, KUD can evaluate and take appropriate strategic steps to be taken to improve conditions in the future. Previous research related to this research includes : (Hikmah & Afridola, 2018); (Salatin et al., 2013); (Sagho & Merkusiwati, 2015); (Kadim & Sunardi, 2018); (Tambunan et al., 2015); (Silaban, 2017); and (Yati & Afni Patunrui, 2017) where the entire research discusses bankruptcy analysis of a company or village business entity using the Altman z-score method. If you look at several previous studies, the application of the Altman z-score method to a research object in the form of KUD is still rarely carried out, where on average this analytical tool is used to measure the performance of large companies such as banking, manufacturing companies and other types of companies. This is what is new in the current research

With the phenomena and research gaps that exist in the background above, the problem formulation in this research is how to analyze bankruptcy using the Altman z-score method in active KUDs in Pamekasan that have? decreasing profits or profit trends. The urgency of this research is to look at active KUDs whose performance is not good or not so good that the impact on the community is less than optimal and makes the KUD condition unable to develop. The next urgency, this research is a follow-up to previous research so as to produce sustainable research results. The aim of this research is to analyze the extent to which active KUDs whose performance is not good are in a bankrupt or safe condition so that they can be used as evaluation material and can take appropriate strategic steps. correct actions to improve conditions in the future.

According to Law no. 17 of 2012 states that a cooperative is an entity formed by a group of people who are legal entities by running their business by separating their assets and being able to carry out the values and principles of cooperatives to meet the needs of shared aspirations. Cooperative is an institution with a form of business and service that has a role in helping its members in particular and society in general and its existence is very necessary (Huda et al., 2017). Cooperatives are the most appropriate form of company in Indonesia's economic democracy as contained in Article 33 paragraph 1 of the Constitution which states that the economy is structured as a joint effort based on the principle of kinship. Therefore, as one of the economic actors, cooperatives are expected to be able to become the pillars of the Indonesian economy (Riani, 2007). Based on PERMEN No. 21/Per/M.KUKM/IX/2015 concerning the rating of cooperatives states that quality cooperatives are cooperatives that have good performance in 5 (five) scopes including: (1). Cooperative institutional aspects; (2). Cooperative business aspects; (3). Cooperative financial aspects; (4). Aspects of the benefits of cooperatives to members; and (5). Aspects of benefit to society.

In 1968, Altman introduced the Z-Score Analysis, which is an analysis that connects various ratios in financial statements as variables and is combined into an equation to obtain a Z value, where the Z value here is a value to predict the condition of the company, both in a state of healthy or bankrupt (Purnajaya & Merkusiwati, 2014). Altman z-score continues to develop, here is the development of the Altman z-score model :

1. The first Altman Z-Score model (Original)

Altman produces the first bankruptcy model or the original Altman Z-Score model by using the bankruptcy equation used to predict a publicly traded manufacturing company. The equations from the first Altman model are as follows (Hanafi & Halim, 2012) :

$$\text{Z-score} = 1,2\ (X_1) + 1,4\ (X_2) + 3,3\ (X_3) + 0,6\ (X_4) + 1,0\ (X_5)$$

The "cut off" for this index are :

Z < 1,81   : Bankruptcy
1,81 < Z < 2,99   : Grey area
Z > 2,99   : Not Bankruptcy

2. Altman Z-Score Model Revision

The model developed by Altman underwent a revision. The revision made by Altman by re-estimating the variables so that the Altman Z-Score bankruptcy prediction model can not only be used by manufacturing companies that go public. Altman changed the X4 equation from Market Value of Equity to Book Value of Equity. This happens because Altman wants the equation to be used in private companies that do not have a stock market value (Ramadhani & Lukviarman, 2009). The following is the revised Altman Z-Score equation :

$$\text{Z-score} = 0{,}717\ (X_1) + 0{,}847\ (X_2) + 3{,}107\ (X_3) + 0{,}420\ (X_4) + 0{,}998\ (X_5)$$

The cut off used are:

$Z < 1{,}23$	: Bankrupt
$1{,}20 < Z < 2{,}9$	: Grey area
$Z > 2{,}9$	: Not Bankrupt

3. Altman Z-Score Modified Model

Altman then modified the model so that it can be applied to all companies, such as manufacturing, non-manufacturing, and bond issuing companies. In this modified Z-score Altman eliminates the X5 variable (sales/total asset). Altman did the elimination, because according to him this ratio would be very varied for industries with different assets (Ramadhani & Lukviarman, 2009). The following is the modified altman z-score equation :

$$\text{Z-score} = 6{,}56\ (X_1) + 3{,}26\ (X_2) + 6{,}72\ (X_3) + 1{,}05\ (X_4)$$

The cut off are :

$Z < 1{,}1$	: Bankrupt
$1{,}1 < Z < 2{,}9$	: Grey area
$Z > 2{,}9$	: Not Bankrupt

Bankruptcy is a condition of the company's inability to pay off its obligations again. This condition usually does not just appear in the company, there are early indications of the company which can usually be recognized earlier if the financial statements are analyzed more carefully in a certain way. Financial ratios can be used as an indication of bankruptcy in the company (Prihadi, 2011). Bankruptcy as a failure that occurs in a company can be interpreted as follows: 1. Economic failure; and 2. Financial Failure (Brigham & Houston, 2001).

The factors that can lead to bankruptcy in the company are (Tambunan et al., 2015): 1. General factors (economic, social, technological and government factors); 2. Internal factors (customer factors, suppliers/ creditors and competitors); and 3. External factors (non-performing loans, management inefficiency as well as abuse of authority and fraud). Bankruptcy of the company is also usually found several signs or indicators of managerial and operational, namely: 1. Indicators of the business environment; 2. Internal indicators; and 3. Combined indicators (Fakhrurozie, 2007).

Financial performance is the implementation of analyzing the company's performance properly and in accordance with the correct rules. There are 5 (five) stages in analyzing financial statements including: (1). Reviewing data; (2).

Perform calculations; (3). Comparison of calculation results; (4). Interpretationtheproblems found; and (5). Troubleshooting the problems found (Fahmi, 2012). Performance measurement is a very important factor to support the growth and development of a cooperative, especially for cooperatives that have been around for a long time. In this regard, cooperatives need to improve themselves and must be able to see environmental conditions, both the internal environment and the external environment of the cooperative.

Future-oriented performance measurement not only focuses on financial aspects but also non-financial aspects. Financial measures to find out the results of actions that have been carried out in the past and these financial measures are complemented by non-financial measures such as customer, productivity, and process cost effectiveness business and personnel commitments that will determine future financial performance. Financial measures show the consequences of various actions that occur outside of non-financial (Himpuni, 2008).

RESEARCH METHOD

Based on the formulation and objectives of this study, this type of research is a quantitative descriptive study. This research was conducted in active KUD in Pamekasan district. This was chosen considering that there are inactive KUDs spread across 13 sub-districts. The selection of the active KUD is not without reason, it is based on the title of the study which analyzes the bankruptcy of the active KUD whose condition is not good or not good. The data on active KUDs with their performance conditions which are the object of this research are as follows :

Table 2. Active KUD Pamekasan

No	KUD	Status	Performance
1	Sumber Wangi	Active	Bad performance
2	Dharma Bakti	Active	Bad performance
3	Karya Sakti	Active	Bad performance
4	Karya Bakti	Active	Good performance
5	Karya Kita	Active	Bad performance

Source : (Djaja & Maulana, 2020)

The analysis used in this study is the altman z-score method which is used to analyze the extent to which active KUDs whose performance is not good are in a bankrupt or safe condition so that this is become material for evaluation and can take appropriate strategic steps to be carried out in order to improve conditions in the future. The KUD chosen as the object of research is KUD Sumber Wangi Tlanakan Pamekasan district by analyzing KUD financial reports for the last 5 (five) years.

RESULT AND DISCUSSION

Sumber Wangi KUD is one of the active cooperatives in Pamekasan Regency. Where this KUD is engaged in savings and loans, but not only that because this KUD has other forms of business. Forms of business owned by KUD Sumber

Wangi include : 1. Save and borrow; 2. PPOB / Electricity; and 3. Warehouse rental (currently in collaboration with JLI (Indonesian Logistics Network)).

In its journey to become a KUD with all its shortcomings, there are several conditions where the KUD experiences various obstacles in running its business. The following below are some of the obstacles that have been faced by Sumber Wangi KUD along its journey to become a KUD to date, including the following :

1. In 2010 there was a misappropriation of savings and loan funds by members so that this became a separate burden for the next management to date

2. In 2017 the warehouse was closed due to losses, the cost (electricity) was greater than income obtained from the rental

3. In 2019 covid so bad credit (there was an issue from the government "during covid, for those who have a loan, there is no need to pay" so that issue triggers bad credit)

From some of these incidents, the KUD's financial condition is unstable and even tends to suffer significant losses since 2017 until now, where the peak in 2019 the loss rate reached the highest point so that this KUD had to work hard to restore the KUD's financial performance better.

Seeing this condition, it is appropriate to conduct a study by analyzing the financial statements of KUD using Altman Z-score analysis where this analytical tool is used to measure the level of bankruptcy of a company in this case is KUD Sumber Wangi. This Altman Z-score analysis tool consists of several ratios in it before being inputted into the Altman Z-score formula itself. Some of the ratios in question include :

1. Working capital to total assets (X1)

$$X1 = \frac{working\ capital}{Total\ assets}\ x\ 100\%$$

2. Retained earning to total assets (X2)

$$X2 = \frac{SHU}{Total\ assets}\ x\ 100\%$$

3. Earning before interest and taxes to total assets (X3)

$$X3 = \frac{EBIT}{Total\ assets}\ x\ 100\%$$

4. Total equity to total debt ratio (X4)

$$X4 = \frac{Total\ equity}{Total\ debt}\ x\ 100\%$$

The Altman Z-score formula used in this study uses a modified model because this model is suitable for all types of companies so that it can be more flexible in its use. The following below is the Altman Z-score formula for the modified model

5. Model Z-score modified model

$$Z = 6,56\ (X_1) + 3,26\ (X_2) + 6,72\ (X_3) + 1,05\ (X_4)$$

If, The value of $Z < 1,22$ then Bankrupt
The value of $Z > 2,9$ then Not Bankrupt
The value $1,22 < Z < 2,9$ then the Grey area

By using data in the form of KUD financial reports that have been condensed in the annual RAT, the table below is the result of calculations using several ratios contained in the Altman Z-score formula itself

Table 3. Ratio calculation results and altman Z-score

| Variable		Years	2017	2018	2019	2020	2021
X1	=	Working capital	Rp 419.601.743	Rp 337.006.586	Rp 328.932.028	Rp 320.152.449	Rp 313.354.131
		Total assets	Rp 1.811.748.484	Rp 1.712.010.204	Rp 1.703.780.646	Rp 1.694.911.067	Rp 1.688.112.749
X1	=	6,56	0,232	0,197	0,193	0,189	0,186
X2	=	SHU	Rp (4.264.442)	Rp (4.281.745)	Rp (12.339.000)	Rp (1.212.574)	Rp (4.137.318)
		Total assets	Rp 1.811.748.484	Rp 1.712.010.204	Rp 1.703.780.646	Rp 1.694.911.067	Rp 1.688.112.749
X2	=	3,26	-0,002	-0,003	-0,007	-0,001	-0,002
X3	=	EBIT	Rp (4.264.442)	Rp (4.281.745)	Rp (12.339.000)	Rp (1.212.574)	Rp (4.137.318)
		Total assets	Rp 1.811.748.484	Rp 1.712.010.204	Rp 1.703.780.646	Rp 1.694.911.067	Rp 1.688.112.749
X3	=	6,72	-0,002	-0,003	-0,007	-0,001	-0,002
X4	=	Total equity	Rp 1.061.542.695	Rp 1.052.069.288	Rp 1.043.994.730	Rp 1.047.093.901	Rp 1.055.295.583
		Total debt	Rp 750.205.789	Rp 659.940.916	Rp 659.785.916	Rp 647.817.166	Rp 632.817.166
X4	=	1,05	1,415	1,594	1,582	1,616	1,668
Z	=		2,982	2,940	2,856	2,929	2,944
KUD conditions			Not Bankrupt	Not Bankrupt	Grey area	Not Bankrupt	Not Bankrupt

Source : Data processed
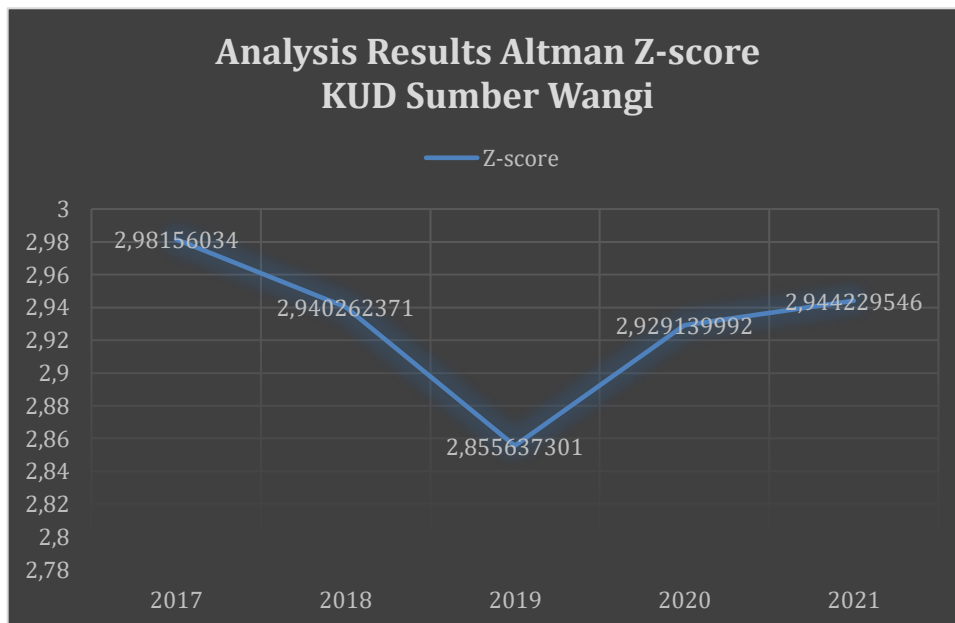
Figure 1. Graph analysis altman Z-score

Based on the graphic image of the Altman Z-Score above, it shows that the performance of KUD in 2017 to 2019 experienced a significant decline where the peak in 2019 was the lowest point of the results obtained from the results of the Altman Z-Score so that the KUD position was in the gray area. However, in 2020 to 2021, KUD strives to improve its performance so that the Altman Z-Score have a significant increase and make KUD in a safe position or not bankrupt.

That way, from the results of the calculation of several ratios and the results of calculations using the Altman Z-Score it shows that the results are safe or not bankrupt as a whole every year. This shows that the results of the achievements that suffer losses for the KUD financial statements do not mean that the KUD is bankrupt. This also shows that KUD can restore financial performance with all the shortcomings it has so that KUD's position is in a safe position or not bankrupt even though the financial statements show losses that can lead to bankruptcy

Based on table 3 above, the results of the Altman Z-score analysis can be obtained as follows :

Table 4. Analysis result Altman Z-Score

Years	Z-score	KUD conditions
2017	2,982	Not Bankrupt
2018	2,940	Not Bankrupt
2019	2,856	*Grey area*
2020	2,929	Not Bankrupt
2021	2,944	Not Bankrupt

Source : Data processed

CONCLUSION

From the results of the research above, the researcher can conclude several points including: 1. In 2017 to 2021, the KUD position is in a safe condition or not bankrupt; 2. In 2019, the position of the KUD is in a gray area so that the KUD is in a condition that must improve its performance in the following year; 3. In 2019 it was in a gray area due to the covid period which made bad loans in almost all forms of business in Indonesia.

The weakness in this research is that there are so many analytical tools for measuring bankruptcy that the current research results can be further developed by using other analytical tools as material for comparison and consideration. This is also a recommendation for future researchers to improve this research by using other bankruptcy analysis tools

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