

Analysis of The Altman Z-Score Method for Predicting Potential Bankruptcy In Advertising, Printing And Media Companies Listed on The Bei

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Abstrak

Analisis laporan keuangan dilakukan dengan tujuan untuk mengetahui kondisi dan posisi perusahaan saat ini. Dengan melakukan analisis maka akan diketahui kelemahan dan kelebihan perusahaan. Metode yang digunakan untuk memprediksi kebangkrutan adalah dengan menggunakan metode Altman Z-Score yang dimodifikasi yang dapat digunakan untuk perusahaan jasa, perusahaan publik, dan perusahaan non publik. Model ini disebut model Altman yang dimodifikasi atau Z"-Score. Dimana variabel yang digunakan adalah rasio keuangan perusahaan berdasarkan rasio keuangan Altman Z"-Score. Rasio keuangan tersebut adalah modal kerja terhadap total aset (X1), laba ditahan terhadap total aset (X2), laba sebelum bunga dan pajak terhadap total aset (X3), dan nilai buku ekuitas terhadap nilai buku utang (X4). Metode Altman dalam penelitian ini dapat dihitung dengan menggunakan rumus berikut $Z = 6.65 X1 + 3.26 X2 + 6.72 X3 + 1.05 X4$. Berdasarkan metode Altman Z"-Score, variabel (X) yang terdiri dari rasio keuangan dapat memprediksi kebangkrutan perusahaan Periklanan, Percetakan dan Media atau variabel (Y). analisis prediksi kebangkrutan tahun 2012 – 2015 terdapat 5 (lima) perusahaan yang masuk dalam kategori sehat yaitu PT.Elang Mahkota Teknologi Tbk, PT. Fortune Indonesia Tbk, PT PT.Tempo Inti Media Tbk. Dua (2) perusahaan yang berfluktuasi (perusahaan berada pada kategori berbeda selama tahun 2012 – 2015), yaitu PT. First Media Tbk dan PT. Vision Media Asia dan terdapat 2 (dua) perusahaan yang diprediksi mengalami fluktuasi mengalami kebangkrutan yaitu PT. Mahaka Media Tbk pada tahun 2012-2015 dengan nilai skor : -0.22210, 0.80435, 1.62421 dan 0.10429, $Z < 1.1$. dan -5.21769, $Z < 1.1$.

Kata Kunci : Model Altman, Kebangkrutan, Perusahaan

Abstract

Financial report analysis is carried out with the aim of knowing the current condition and position of the company. By carrying out the analysis, the company's weaknesses and strengths will be known. The method used to predict bankruptcy is to use the modified Altman Z-Score method which can be used for service companies, public companies and non-public companies. This model is called the modified Altman model or Z"-Score. Where the variables used are the company's financial ratios based on the Altman Z"-Score financial ratio. These financial ratios are working capital to total assets (X1), retained earnings to total assets (X2), earnings before interest and taxes to total assets (X3), and book value of equity to book value of debt (X4). The Altman method in this research can

be calculated using the following formula $Z = 6.65 X_1 + 3.26 X_2 + 6.72 X_3 + 1.05 X_4$. Based on the Altman Z"-Score method, the variable (X) which consists of financial ratios can predict the bankruptcy of Advertising, Printing and Media companies or the variable (Y). The results of this research show that from the results of the bankruptcy prediction analysis for 2012 - 2015 there are 5 (five) companies that are in the healthy category, namely PT. Elang Mahkota Teknologi Tbk, PT. Fortune Indonesia Tbk, PT. Jasuindo Tiga Perkasa Tbk, PT. Media Nusantara Citra Tbk, and PT. Tempo Inti Media Tbk. Two (2) companies that fluctuated (companies were in different categories during 2012 – 2015), namely PT. First Media Tbk and PT. Vision Media Asia and there are 2 (two) companies that are predicted to experience bankruptcy, namely PT. Mahaka Media Tbk in 2012-2015 with score values: -0.22210, 0.80435, 1.62421 and 0.10429, $Z < 1.1$. PT. MNC Sky Vision Tbk in 2012 – 2015 with scores: 1.57743, -0.11229, -0.24341 and -5.21769, $Z < 1.1$.

Keywords: *Altman Model, Bankruptcy, Company*

INTRODUCTION

Analysis of financial reports is carried out with the aim of knowing the current condition and position of the company. By carrying out the analysis, the company's weaknesses and strengths will be known (Kasmir, 2010). As a result of analyzing the company's financial reports, it is possible to determine the company's financial condition and development, as was done by a professor at New York University, Edward Altman, who conducted research on the financial performance of companies that experienced bankruptcy and the financial performance of healthy companies. Altman uses Multiple Discriminant Analysis (MDA) which is a statistical technique that produces an index which later allows the classification of an observation into one of several a priori groupings. The research results were formulated in a mathematical formula called the Altman Z-Score formula (Tristantyo, 2012).

Altman (1968) uses five financial ratios which are considered to contribute most to the bankruptcy prediction model using one equation model. The Z-Score model is a model that can be used to predict financial difficulties. The Z-Score value is used to classify whether a company is experiencing bankruptcy or not. Bankruptcy according to Altman (1973) is a company that is legally bankrupt. Meanwhile, according to law no. 4 of 1998 is where an institution is declared by a court decision if the debtor has two or more creditors and does not pay at least one debt that is due and collectible. (Damayanti, 2014).

The advertising printing media company is an information services company. This company continues to grow along with developments in technology, information and communication. The competitive conditions for Advertising, Printing and Media companies are currently increasingly tight. Online technology - this phenomenon has become known as online buying and selling - every individual can act as an advertising agent, can be the owner of online buying and selling media, or can also be a seller like corporations do. An individual can sell and get the goods he wants by using fast access services, such as tokobagus.com, berniaga.com, jualbeli.com, or kaskus.com (Supriadi, 2013).

Therefore, it is important to analyze financial statements and analyze financial performance to predict bankruptcy. This research aims to determine the financial condition of the company and to provide input and consideration for external parties to the company, especially investors regarding the possibility of bankruptcy so that they can take steps in making decisions regarding their investment in the company. Based on these thoughts, the author will conduct research with the title "Analysis of the Altman Z-Score Method to Predict Bankruptcy in Advertising Printing Media Companies Registered on the IDX for the 2012-2015 Period".

METHOD

The population of this research is all Advertising, Printing and Media companies listed on the Indonesia Stock Exchange in 2012-2015, totaling 15 companies. The sample used in this research is Advertising, Printing and Media companies which are part of the population. The data source for this research will use secondary data in the form of annual financial reports of Advertising, Printing and Media companies registered on the IDX for the 2012-2015 period. The data collection technique used is documentation. From the documentation, data was obtained in the form of annual financial reports (Annual Report) for 10 companies in the Advertising, Printing and Media subsector which were listed on the Indonesian Stock Exchange for the period 2012–2015.

The analysis techniques used in this research are as follows: 1) Collection of data taken from the balance sheet, profit and loss statement and changes in equity from the sample of this research; 2) The data or results of financial ratio calculations are then analyzed using the formula found by the original Altman Z-Score, namely: $Z = 6.56 X1$: Working capital to total assets, $X2$: Retained earnings to total assets, $X3$: Earnings before interest and taxes to total assets, $X4$: Book value of equity to book value of debt); 3) Classify healthy and bankrupt companies based on the Z-Score value of the original Altman Model, namely if $Z > 2.60$ it is classified as a healthy company, if $Z < 1.1$ it is classified as a potentially bankrupt company, if Z is between 1.1 to 2, 60 are classified as companies in the gray area; 4) From the results of this analysis, numbers or Z values will be obtained which will then be compared with the cut off value, so that it can be predicted which companies will be predicted to go bankrupt, gray area or healthy.

RESULTS AND DISCUSSION

Calculating Working Capital to Total Assets (X1)

The formula for this ratio is as follows:

$$WTCA = \frac{\text{working capital}}{\text{Total assets}}$$

Company Code	Years			
	2012	2013	2014	2015
ABBA	-0,0913	-0,0325	0,1196	0,1037
EMTK	0,4582	0,4280	0,5894	0,5197
FORU	0,4015	0,4095	0,4287	0,3997
JTPE	0,1551	0,1423	0,1444	0,0836
KBLV	0,0719	-0,0730	0,0008	-0,1397
MNCN	0,6156	0,5414	0,5715	0,4620
MSKY	0,0395	0,0273	-0,0414	-0,6313
TMPO	0,3742	0,3444	0,2617	0,1856
VIVA	0,3252	0,4032	0,3250	0,0983

Calculating Retained Earning to Total Assets(X2)

The formula for this ratio is as follows:

$$RETTA = \frac{\text{retained earning}}{\text{total assets}}$$

Table 2 RETTA Advertising, Printing and Media Companies for the 2012-2015 Period

Company Code	Years			
	2012	2013	2014	2015

ABBA	-0,0523	-0,0190	-0,0008	-0,0809
EMTK	0,1030	0,1229	0,1107	0,0762
FORU	0,2786	0,2996	0,2918	0,2820
JTPE	0,3622	0,3316	0,3544	0,3140
KBLV	-0,0564	-0,0644	0,5712	0,4942
MNCN	0,3922	0,4253	0,3941	0,3924
MSKY	0,0819	-0,0187	-0,0445	-0,1580
TMPO	0,1044	0,1165	0,1556	0,1639
VIVA	-0,1110	-0,0432	-0,0111	-0,0934

Source: processed secondary data

Calculating Earning Before Interest and Tax to Total Assets(X3)

The formula for this ratio is as follows:

$$EBITTA = \frac{EBIT}{Total\ assets}$$

Tabel 3 EBITTA of Advertising, Printing and Media Companies for the 2012-2015 Period

Company Code	Years			
	2012	2013	2014	2015
ABBA	0,0129	0,0688	0,0254	-0,1230
EMTK	0,1379	0,1473	0,0995	0,1368
FORU	0,0662	0,0524	0,0240	0,0160
JTPE	0,1263	0,0950	0,1029	0,1006
KBLV	0,0042	0,0148	0,6294	-0,1417
MNCN	0,2523	0,2489	0,1868	0,1161
MSKY	0,0246	-0,0994	-0,0324	-0,1254
TMPO	0,1649	0,0412	0,0560	0,0128
VIVA	0,0615	0,0458	0,0609	-0,0557

Source: processed secondary data

Calculating Book Value of Equity to Book Value of Debt (X4)

The formula for this ratio is as follows:

$$BVOE\ to\ BVOD = \frac{book\ value\ of\ equity}{book\ value\ of\ debt}$$

Table 4 BVOE to BVOD Advertising, Printing and Media Companies for the 2012-2015 Period

Company Code	Years			
	2012	2013	2014	2015
ABBA	0,4389	0,5877	0,6397	0,4905
EMTK	3,4028	2,7049	4,5731	7,2895
FORU	0,9548	1,0186	0,9930	0,8963
JTPE	0,8584	0,7265	0,7722	0,6544
KBLV	1,2786	0,8685	2,6112	1,6130
MNCN	4,3859	4,1372	2,2330	1,9491
MSKY	0,8440	0,4166	0,3724	0,2681
TMPO	1,2206	0,9960	0,8136	0,7759

VIVA	1,2766	0,6488	0,7511	0,5327
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Source: processed secondary data

Altman Z-Score Model Assessment

After obtaining the financial ratio values for each company, the next research step is to calculate the Z-Score from the results of calculating these ratio values. The formula for the Altman Z-Score Model is as follows:

$$Z = 6.56 X1 + 3.26 X2 + 6.72 X3 + 1.05X4$$

Information :

Z : Bankruptcy index

X1 : Working capital to total assets

X2 : Retained earnings to total assets

X3 : Earnings before interest and taxes to total assets

X4: Book value of equity to book value of debt

With the following criteria:

1. Z-Score > 2.60. The company has not experienced bankruptcy or can be said to be safe from bankruptcy
2. Z-Score is between 1.1 – 2.60. The company is in a gray area, which means the company will go bankrupt if it does not make significant improvements in its management or financial structure.
3. Z-Score < 1.1. The company is experiencing a serious threat of bankruptcy.

The calculation results of the four ratios are then added up according to the Altman Z-Score formula. An example of the calculation is as follows: Z-Score value for PT. Mahaka Media in 2012 are:

$$\begin{aligned} Z &= 6.56 X1 + 3.26 X2 + 6.72 X3 + 1.05 X4 \\ &= 6.56 (-0.09133) + 3.26 (-0.05229) + 6.72 (0.01290) + 1.05 (0.43885) \\ &= -0.22210 \end{aligned}$$

Altman Z-Score calculation results for advertising, printing and media companies which went public on the IDX can be seen in table 5

Table 5 Altman Z-Score for Advertising, Printing and Media Companies for the 2012 – 2015 Period

Compan y	2012	Predictio n	2013	Prediction	2014	Prediction	2015	Predictio n
ABBA	-0,2221	Bankrupt	0,80435	Bankrupt	1,62421	Grey Area	0,10429	Bankrupt
EMTK	4,72894	Healthy	7,03814	Healthy	9,69729	Healthy	12,23111	Healthy
FORU	4,98951	Healthy	5,08505	Healthy	4,96715	Healthy	4,59051	Healthy
JTPE	3,94871	Healthy	3,41579	Healthy	3,60537	Healthy	2,93538	Healthy
KBLV	1,65907	Grey Area	0,32285	Bankrupt	8,83877	Healthy	1,43615	Grey Area
MNCN	11,6174	Healthy	10,9546	Healthy	8,63344	Healthy	7,13661	Healthy
MSKY	1,57743	Grey Area	-0,11229	Bankrupt	-0,24341	Bankrupt	-5,21769	Bankrupt
TMPO	5,18488	Healthy	3,96177	Healthy	3,45410	Healthy	2,65253	Healthy
VIVA	3,52518	Healthy	3,49528	Healthy	3,29366	Healthy	0,52506	Bankrupt

Altman Z-Score Model Assessment Analysis

From table 2.5 above, it can be seen that the Z-Score values for Advertising, Printing

and Media companies registered on the IDX during 2012 – 2015 show the criteria from the Altman Z-Score model which are in the healthy, gray area and bankrupt categories, which means the company has the potential for bankruptcy, however, several companies in certain years have experienced bankruptcy assessments and several companies are even very capable of anticipating and making improvements, both in their management and in their financial structure.

The value of Working Capital to Total Assets from 2012-2015 increased, namely for the Mahaka Media Tbk company, although in 2015 it experienced a slight decrease. Meanwhile, the company MNC Sky Vision Tbk continued to decline in 2012 - 2015, so it entered the bankruptcy category. This condition is because the Working Capital to Total Assets value is negative. A negative sign on the value means that the company has negative net working capital (current debt value greater than current assets). So it can be interpreted that the company lacks current assets to pay current debts that are due from the company's total assets.

The negative Z-Score value is caused by the fact that in that year the value of current liabilities was greater than the value of current assets. A value of current liabilities that is greater than the value of current assets will make the company illiquid and prone to experiencing a crisis because it cannot fulfill its short-term obligations, resulting in bankruptcy. Several companies from 2012-2015 experienced an increase in Z-Score values and were able to anticipate and make improvements, both in their management and in their financial structure, including PT. Elang Mahkota Teknologi Tbk, PT. Fortune Indonesia Tbk, PT. Jasuindo Tiga Perkasa Tbk, PT. Media Nusantara Citra Tbk, and PT. Tempo Inti Media Tbk.

The thing that causes the Z-Score value to increase every year is the Book Value of Equity to Book Value of Liabilities which has increased even though some companies experienced a decline but not in a large amount and is still in the healthy category, so it can be interpreted that the company's ability to fulfill its obligations - its obligations are obtained from the market value of its own capital, every year it tries to anticipate if there is a decline.

There was 1 (one) company in 2012 – 2014 in the healthy category and in 2015 it was in the bankrupt category, namely the Visi Media Asia Tbk Company. This happened because current liabilities continued to increase from 2012 – 2015, the book value of debt continued to increase and there was a decrease in working capital in 2015. In addition, 1 (one) company which fluctuated from 2012 – 2015, namely PT. First Media Tbk, which in 2012 was in the gray area category, in 2013 it was in the bankrupt category, in 2014 it was in the healthy category and in 2015 it was in the gray area category. This was due to a large increase in the value of current liabilities and book value of debt in 2015, as well as a large decrease in the value of working capital which had a negative sign.

CONCLUSION

The results of the Altman Z-Score model analysis can show the potential for bankruptcy in Advertising, Printing and Media companies listed on the IDX in 2012 - 2015. The Z-Score value has experienced increases and decreases. Apart from being caused by the value of Working Capital to Total Assets which fluctuates every year, the value of -Book Value of Equity to Book Value of Debt also fluctuates every year. Companies that were in the healthy category from 2012 – 2015 were PT. Elang Mahkota Teknologi Tbk, PT. Fortune Indonesia Tbk, PT. Jasuindo Tiga Perkasa Tbk, PT. Media Nusantara Citra Tbk, PT. Tempo Inti Media Tbk. Meanwhile, the company that was in the bankruptcy and gray area category from 2012 - 2015 was PT. Mahaka Media Tbk and PT. MNC Sky Vision Tbk. The company is in the healthy category and the bankrupt category, namely PT. Media Asia

Tbk's vision, while companies that fluctuate or are in the healthy, gray area and bankrupt categories are PT. First Media Tbk.

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