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"An Empirical Study of Financial Distress on Andhra Paper Limited Based on Zmijewski Model"

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Abstract:
In this research paper researcher has tried to analyse the financial distressing position of Andhara Paper Limited for the study period of 5 years which is from 2018 to 2022. With the help of ratio analysis and the formula of financial distress model. It has helped to predict the future of the firm to identify the impact financial distress.

Key Words:
Financial distress, Andhara paper limited, Zmijewski model, Ratio analysis.

INTRODUCTION:

India is a democratic country certain changes can lead to lots of considerable changes in country as well as in the economy which leads to lots of significant changes including positive and negative from which, one of the most important factor is company's financial position of the firm can have very drastic impact on company as well as country which leads to financial distress, if it is identified earlier then the risk of bankruptcy can be evitable. Bankruptcy sometimes feels inevitable but by using certain policy or making some changes firm can fight the distressing position and bring the firm back to the survival mode. For this first thing needs to do first id to identify the firm's financial position by using some financial distress models like Altman's Z-score, Zmijwaki model etc. Those models can help the company to locate the distress. On the basis of locating the solution can be found easily and necessary steps can be taken to solve the on hand problem. Bankruptcy is the situation where company is no longer able to fulfill its obligation this can be convert into no bankruptcy by identifying the financial distress which can be done by using the financial distress identifying model.

LITERATURE REVIEW:

- **Grice & Dugan, 2003**, This paper was based of the uses the Zmijewski (1984) and Ohlson (1980) prediction of bankruptcy or financial distress. The main amie of this paper was to address whether the construct validity of financial distress or bankruptcy proxies based on the Zmijewski and Ohlson model. The result of the study gives that the Zmijewski and Ohlson model using data and finds out the model needs to be re-estimate and coefficients improve the accuracy of the models.
- **Shahad & Kaddumi, 2020,** According to the researcher they used the financial distresses predicting model of B-sherrod and Zmijewski for the public shareholding companies and for that the study period was 2015 to 2019. For that they have selected manufacturing companies in India. The outcomes were that both the models Zmijewski and B-sherrod were perfectly able to give the proper prediction about the financial distress. The results gave the glimpse that the company's management needs to adopt proper planning and control to avoid financial distress so that the companies can work effortlessly in the market and meet all the requirement of stakeholders.
- **Putri Renalita, 2020,** Here researcher wants to identify whether there was any difference between the prediction of Altman's Z-score model, Springate model, Zmijewski model and the Ohlson model and which model provides most accurate prediction. For this the researcher has taken nine pharmaceutical companies and used tools like ratio, normality test, paired sample T-test using SPSS program. The result shows that there was difference among all the models and Altman's Z-score was the best to predict financial distress of any company out of all the models.

- **Imanzadeh,, Mehdi, & Petro , 2015**, The researcher of this research paper wants to identify the main issue of bankruptcy using Springate model and Zmijewski model to identify the financial distress of Iran based companies. The study period was 2004 to 2008. The companies were taken from Tehran Stock Exchange of Iran. The results give the glimpse of the models mean Springate model was more conservative then the Zmijewski model in predicting the financial distress of the industries.

- **Pandoyo, Cundo, & Sofyan, 2022,** The research was conducted on Banking sector because it has quite high risk of financial distress. The research aims to know the financial health of state-owned banks with the help of Zmijewski model. The research was based on secondary data. The study period was 2017-2021 and the sample was Bank Rakyat Indonesia, Bank Madiri and Bank Tabungan Negara. From the result the researcher came to know that all the four state owned banks were facing financial difficulties and at high risk of bankruptcy.

MATERIALS:

Objectives of the study

- To check whether Zmijwaki model is accurate or not.
- To predict the financial condition of Andhara Paper Limited.
- To predict the bankruptcy status of the firm for the study period.
- To understand the dynamics of the model.
- To assist the model's efficiency in financial distress.

METHOD:

This study is based on secondary date which is obtained from the company's website as well as annual report. This study is based on financial distress of the company. To predict the financial distress, study has required the financial data for the year 2018 to 2022. The Zmijwaki model is as follows:

Zmijewski model

- Zmijewski used a probit model to predict bankruptcy, Elviani, Simbolon, Riana, Khairani, Dewi, and Fauzi (2020). An empirical test is conducted on a financial distress model that requires a sample of companies that experience financial pressure and companies that do not. The equation for the function of the Zmijewski model is as follows:
- X-Score = -4.3 – 4.5X1 + 5.7X2 – 0.004X3
- Where:
- X1 = Net Income / Total Assets
- X2 = Total Liabilities / Total Assets
- X3 = Current Assets / Current Liabilities
    - Zmijewski model categories, namely:
        - a. If X> 0 the company is predicted to go bankrupt,
        - b. If X <0 the company is predicted not to go bankrupt.

HYPOTHESIS:

H0: Zmijewaki model is accurate in predicting the financial distress condition of the firm.
H1: Zmijewaki model is not accurate in predicting the financial distress condition of the firm.

ANALYSIS:

Year/Factor	X1	X2	X3
2018-19	0.076	0.486	2.386
2019-20	0.169	0.356	2.215
2020-21	0.161	0.261	2.563
2021-22	-0.003	0.268	1.518
2022-23	0.093	0.270	2.386
Total	0.420	1.641	11.068
Average	0.084	0.328	2.214

Zmijewaki model : -4.3 – 4.5X1 + 5.7X2 – 0.004X3
2018-19 = -4.3 – 4.5(0.076) + 5.7(0.486) – 0.004(2.386) = -2.105
2019-20 = -4.3 – 4.5(0.169) + 5.7(0.356) – 0.004(2.215) = -3.200
2020-21 = -4.3 – 4.5(0.161) + 5.7(0.261) – 0.004(2.563) = -3.657
2021-22 = -4.3 – 4.5(-0.003) + 5.7(0.268) – 0.004(1.518) = -2.887
2022-23 = -4.3 – 4.5(0.093) + 5.7(0.270) – 0.004(2.386) = -3.305
Total = 4.3 – 4.5(0.420)+ 5.7(1.641) – 0.004(11.068) = 11.719
Average = 4.3 – 4.5(0.084) + 5.7(0.328) – 0.004(2.214) = 5.783

FINDINGS :

From the above analysis the one can see that in the year 2018-19 model showed the result of -2.105, while in the year 2019-20 it increased and want to -3.2 which again want up by 0.457 in the year 2020-21. The company made a huge fall back at -2.887 again come with the strong -3.305 in the year 2022-23. Over all company's performance was 11.719 while the average is standing at 5.783 for the 5 years. According to the model, a. If X> 0 the company is predicted to go bankrupt, b. If X <0 the company is predicted not to go bankrupt. Here the company is having its result in negative which means its less than zero.

RESULT:

On the basis of finding we can see that the company is performing well in the current market as well as it does not have any distress sing too. The model is quite accurate pulse helps the companies to improve its financial decision and helps the company to excel in future.

CONCLUSION / SUMMARY:

H0 is selected which means that the hypothesis stating Zmijewaki model is accurate in predicting the financial distress condition of the firm. According to the current research we can say that in predicting the bankruptcy of any company this model will be more helpful in future as well.

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