Migration Letters

Volume: 21, No: S4 (2024), pp. 978-988

ISSN: 1741-8984 (Print) ISSN: 1741-8992 (Online)

www.migrationletters.com

An In-Depth Examination Of The ALTMAN-Z Score's Applicability In Gauging The Financial Health Of Fintech Companies Operating In The Indian Market

[1]Dr Anand Kumar, [2]Dr. Daya Shanker Kanaujia, [3]Dr. Seema Tripathi, [4]Dr. Prayank Sharma, [5]Ashok Sengupta, [6]Dr. Pratibha Yadav

Abstract

In the financial world, the decision models and analytics play an important role and in today's scenario of digital era, it becomes more important to use it effectively. As our economy is heading towards the digital road of transactions, it becomes essential to check the viability of classical model like ALTMAN-Z SCORE on FINTECH companies. These companies are becoming revenue generators for investors and other stakeholders at large, due to the increased use of digital transactions. Maximum of them are listed in stock exchange and are attracting prospective investors easily for huge gains. Though the gains are high, the risk is as well, and we all know uncertainty about future existence of the company play an important role and this lays the foundation of our study. The study is conducted on secondary data available of some FINTECH companies to predict its existence based on popular tool known as ALTMAN- Z SQUARE test.

Keywords: *Altman -Z score, Fintech, Financial Soundness, Analytics.*

INTRODUCTION

Altman was the assistant professor of finance in the University of New York. In 1968 he developed the formula to pred[1]ict the bankruptcy. He claimed that the formula can forecast the chances of insolvency for coming two years. It is used to predict corporate defaults and an easy to-trace out the area of control to overcome financial distress. The formula uses various ratios from profit and loss account and balance sheet to evaluate the financial health of the company.

The Altman's z-score have five components
- X1 = TA to WC ratio
- This ratio measures the liquidity position in the short term of the firm.
- X2 = RE to TA ratio
- X3 =EBIT to TA ratio.

[1]Assistant Professor, School of Business Management, Maharishi University of Information Technology, Lucknow (U.P.)-India.
[2]Assistant Professor, Department of Commerce, Lucknow Public College of Professional Studies, Lucknow (U.P.)-India.
[3]Assistant Professor, Department of Management, IISE Group of Institutions, Lucknow (U.P.)-India.
[4]Assistant Professor, Himalayan School of Management Studies, SRHU, Dehradun-India
[5]Assistant Professor, School of Management and Sciences, Lucknow (U.P.)-India
[6]Assistant Professor, School of Business Management, Maharishi University of Information Technology, Lucknow (U.P.)-India.

• This ratio reveals the ability of the company to generate profits from operations by using the assets of company. Better utilization of assets and higher profitability is the interpretation of higher value of this ratio.
• X4 = Market Capitalization to TL ratio.
This ratio measures the potential downside in equity market value given the risk of default. Negative sentiments about the company are the result of low market capital in relation to the liabilities.

• X5 = Sales Total to Assets ratio.

This ratio provides the comparison of sales to the assets of the company. Higher value of this ratio indicates the greater efficiency in revenue generation. TA does not includes any intangible assets.

Altman Z-Score Formula

- Altman Z-Score is equals to (1.2 × X1) + (1.4 × X2) + (3.3 × X3) + (0.6 × X4) + (0.99 × X5) (prep, n.d.)
- Although the formula above is the most common variation of the Altman z-score, each model includes different variables and weighing systems that affect the score.
- As a result, it is critical to select the best model for the company under consideration (and also to understand the limitations of the model).
- The formulas for some of the more common model variations:

Private Manufacturing Companies → Z-Score = 0.717 × X1 + 0.847 × X2 + 3.107 × X3 + 0.42 × X4 + 0.998 × X5 (Aayushi Pandya, 2021)

Private General Non-Manufacturing Services Companies → Z-Score = 6.56 × X1 + 3.26 × X2 + 6.72 × X3 + 1.05 × X4 (Aayushi Pandya, 2021)

New Companies → Z-Score = 3.25 + 6.56 × X1 + 3.26 × X2 + 6.72 × X3 + 1.05× X4

Interpreting of the Z-Score

The Altman z-score measures the financial ability of the company and the chances to become bankrupt. The risk to become bankrupt is very high if the value of Z –score is low and vice versa. While a high z-score does not always indicate good financial health and long-term viability, a low z-score is a potential red flag indicating the need to delve deeper into a company's fundamentals.

For public non-manufacturing organizations, the bench mark to categories the company in safe zone, green zone and distress zone are like this if the company have the Z score is greater than 2 it is considered as in sage zone and the chances of bankruptcy of such company is very low and if the company have the Z score ranging between 1.10 to 2.60 they fall under the category of grey zone and have the moderate risk of bankruptcy but if the Z score is less than 1.10 the company is in the distress zone and have high chances of bankruptcy.

In this study the authors used these standards as base to predict the financial position in terms of the chances of bankruptcy of fintech companies.

Limitations to the Z-Score

The Z score is only a suggestive score it does not take into consideration the various types of situations like the companies which requires low WC may result in low z score but it does not means that it will absolutely result in insolvency. Mismanagement of financials may result in the lower Z score again it may not be taken as the indicator of insolvency it may be corrected with in the span of time. Similarly companies which are in growing stage are not suitable for this model because it will reflect loss in that span of times due to heavy capital expenditure.

Literature Review

This study was conducted from the investor's point of view to judge the prediction regarding the solvency of the firms and it is concluded that the the Altman model is a beneficial tool for the long term investment. (Ali Abusalah Elmabrok Mohammed, 2012).In this paper the authors looked into the Validity of Altman z-score model to predict the soundness of the companies of insurance sector listed in amman stock exchange this data is collected from the period of 2011-2016. The findings disclose that Z-Score model could be precious tool to understand and take appropriate decisions to avoid such failure. (Al-Manaseer & Al-Oshaibat, 2018). Altman's Z score model can provide a basis for decision to comment on the financial distress in organizations in variety of industries. The authors applied decision basis of the Z-Score and apply it to several pairs of firms (N=17) from diverse companies particularly from retail sector ranging two consecutive years. The studies conducted before this study indicated the ninety percent of the firms can face financial distress in future. In this study, approx 94 percent of the bankruptcies were accurately anticipated. It can be stated that the model can reveal financial distress despite some criticism.

In this study the authors came up with the conclusion that two manufacturing and two non-manufacturing companies had already filed for insolvency. The z score is model is able to generate the cautious alarm with reference to the manufacturing and non-manufacturing firms. (Aayushi Pandya, 2021).The study revealed that the company was facing the financial problems from 2001 due to which finally it went into grey zone in the year 2005 and finally removed from NSE This model clearly revealed the true picture of financial distress and therefore the findings from this model is significant (Adam Shisia, 2014) The study was conducted to examine the possibility of insolvency forecasting of the private hotels in Greece and in this study for which companies estimates were done went into liquidation concerned forecasts for one year before bankruptcy realization by each of Altman's models. After categorization of distress zone into 3 areas, it became clear to interpret the results, a cut-off of a Z is equal to 1 score below 0.8 most closely reached the number of enterprises that went bankrupt, among those for whom bankruptcy was forecasted. Companies that actually filed for bankruptcy in 2008 were predicted. (Diakomihalis, 2012) This study was conducted on the private and government banks of Bangladesh to compare the z scores of between two. The t test was used. The Z score revealed that the government banks are improving their performance on the other hand private banks are at the constant stage. (Parvin, Rahman, & Nitu, 2016) This study was conducted on the nifty 50companies to check out their financial viability and indicate the target companies to take corrective actions for improvement of financial condition and the management can succeed in improving matters. But, for the smart investor, it's better to keep an eye on the numbers of financials and have an in-depth into a company's solvency. (C, 2016) This study was conducted to check the effectively and accuracy of the Altman or Springate, or Zmijewski, or Grover, and as per the studies grover model is comparatively better in predicting

the bankruptcy of the firms. (Aminian, Mousazade, & Khoshkho, 2016). The study was conducted to find out ore predict the bankruptcy predictions using Altman (Z-Score) model and Zmijewski (X-Score) model of four cigarette companies which are listed in the Indonesia Stock Exchange. It was revealed both the models provide same results. (Prabowo, 2019)

Fintech Industry

Financial technology (better referred to as Fin tech) is used to describe new tech that seeks to improve and automate the delivery and use of financial services. At its core, fin tech is employed to help companies, business owners, and consumers better manage their financial operations, processes, and lives by utilizing specialized software and algorithms that are used on computers and, increasingly, smart phones. Fin tech, the word, may be a combination of "financial technology."

When fin tech emerged in the 21st century, this term was initially applied to the technology backed systems of financial institutions. (Samantarary, n.d.) Since then, however, there has been a shift to more consumer-oriented services and thus a more consumer-oriented definition. Fin tech now includes different sectors and industries like education, retail banking, fundraising and nonprofit, and investment management, to call a few.

Fin tech also includes the event and use of crypto currencies, like Bit coin. While that segment of fin tech may even see the most headlines, the large money still lies in the traditional global banking industry and its multi-trillion-dollar market capitalization.

The companies taken into consideration for the purpose of study are the top six performers of the fin tech industry.

TANLA PLATFORM - Tanla Platforms Limited, previously known as Tanla Solutions Ltd, is a cloud communications company based in Hyderabad, India. The company provides value-added services in the cloud communications space. The company is listed in BSE and NSE in India. The company is India's largest Communications Platform as a Service (CPaaS) company.

• BAJAJ FINANCE- Firstly incorporated as Bajaj Auto Finance Limited on March 25, 1987, as a NBFC, primarily concentrated on furnishing two and three- wheeler finance. After 11 times in the bus finance request, Bajaj Auto Finance Ltd launched its original public issue of equity share and was listed on the Bombay Stock Exchange and National Stock Exchange of India.
• PAY TM- Paytm (acronym for" pay through mobile") is an Indian digital payments and fiscal services company, grounded in Noida. It was innovated in 2010 by Vijay Shekhar Sharma under One97.

• CAMS- Computer Age Management Services Limited (CAMS) is a SEBI Registered Category I Registrar to an Issue and Share Transfer Agent and is acting as RTA for numerous collective finances.

• CDSL-Central Depository Services Limited(" CDSL ") was set up in 1999 to fulfill one thing Accessible, reliable and secured repository services. Over two decades latterly, everything we've done – the values we've erected on, dematerialization of colorful asset classes, e-services – have all been in support of that singular thing, at an affordable cost.
• HDFC AMC- Housing Development Finance Corporation Limited(HDFC) is an Indian private development finance institution grounded in Mumbai. It's a major casing finance

provider in India. It also has a presence in banking, life and general insurance, asset operation, adventure capital, garden, education, deposits and education loans**.**

Analysis and Interpretation

Table 1: 31/3/2021 (Standalone) TANLA PLATFORMS	
PARAMETERS	
Income statement	Rs. Lakhs
Net Sales	891.9
Operating Income	158.56
Balance sheet	
Current Assets	579.9
Total Assets	993.1
Current Liabilities	325.6
Total Liabilities	993.1
Retained Earnings	117.86
Private companies	
Book Value OF EQUITY	666.5

Table 2: CALCUATIONS			Z
		Factor	General use
Working Capital/Total Assets	X1	0.2560669	6.56
Retained Earnigs /Total Assets	X2	0.1186789	3.26
EBIT/Total Assets	X3	0.1596617	6.72
Book Value of EQUITY/Total Liabilties	X4	0.6711308	1.05
		Z-Score	**3.84**

Table 3: Reference Table (As per Altman Z score model)

Z - Score	**Interpretation**
Greater than 2.60	Safe Zone – Low chances of Bankruptcy
Ranging between 1.10 - 2.60	Grey Zone – Moderate chance of Bankruptcy
Less than 1. 10	Distress Zone – High chances of Bankruptcy

Interpretation of Z score of Tandla Platforms

As the Z- score of Tandla platforms is 3.84 which is greater than 2.60. It can be predicted that the company is in safe zone and have very low chances of bankruptcy. It can also be interpreted that the organization is very well managing their financials.

Table 4: 31/3/2021 (Standalone) BAJAJ FINANCE
PARAMETERS

Income statement	Rs. Crores
NS	23532.16
OI	3955.51
Balance sheet	
CA	165152.25
TA	138283.55
CL	101639.74
TL	138283.55
RE	13487.19
Private companies	
BV OF EQUITY	120.32

Table 5: CALCUATIONS			Z
		Factor	General use
WC/TA	X1	0.4592919	6.56
RE /TA	X2	0.0975329	3.26
EBIT/TA	X3	0.0286043	6.72
BV OF EQUITY/TL	X4	0.0008701	1.05
		Z-Score	**3.52**

Table 6: Reference Table (As per Altman Z score model)

Z - Score	**Interpretation**
Greater than 2.60	Safe Zone – Low chances of Bankruptcy
Ranging between 1.10 - 2.60	Grey Zone – Moderate chance of Bankruptcy
Less than 1. 10	Distress Zone – High chances of Bankruptcy

Interpretation of Z score of Bajaj Finance

As the Z- score of Bajaj finance is 3.52 which is greater than 2.60. It can be predicted that the company is in safe zone and have very low chances of bankruptcy. It can also be interpreted that the organization is very well managing their financials.

Table 7: 31/3/2021 (Standalone) PAYTM	
PARAMETERS	
Income statement	Rs. Crores
NS	2667.08
OI	-1560.2
Balance sheet	

CA	7017.94
TA	9479.57
CL	2036.59
TL	9479.57
RE	12381.42
Private companies	
BV OF EQUITY	60.48

Table 8: CALCUATIONS			Z
		Factor	General use
WC/TA	X1	0.7098023	6.56
RE /TA	X2	-1.764253	3.26
EBIT/TA	X3	-0.222316	6.72
BV OF EQUITY/TL	X4	0.00638	1.05
		Z-Score	**-2.58**

Table 9: Reference Table (As per Altman Z score model)

Z - Score	**Interpretation**
Greater than 2.60	Safe Zone – Low chances of Bankruptcy
Ranging between 1.10 - 2.60	Grey Zone – Moderate chance of Bankruptcy
Less than 1. 10	Distress Zone – High chances of Bankruptcy

Interpretation of Z score of Bajaj Finance

As the Z- score of Bajaj finance is -2.58 which less than 2.60 is. It can be predicted that the company is not in safe zone and have very high chances of bankruptcy. It can also be interpreted that the organization is not able to manage their financials.

Table 10: 31/3/2021 (Standalone) CAMS

PARAMETERS	
Income statement	Rs. Crores
NS	673.75
OI	218.97
Balance sheet	
CA	386.18
TA	777.62
CL	175.92
TL	777.62

RE	303.94
Private companies	
BV OF EQUITY	48.97

Table 11: CALCUATIONS			Z
		Factor	General use
WC/TA	X1	0.2703891	6.56
RE /TA	X2	0.3908593	3.26
EBIT/TA	X3	0.28159	6.72
BV OF EQUITY/TL	X4	0.0629742	1.05
		Z-Score	**5.01**

Table 12: Reference Table (As per Altman Z score model)

Z - Score	**Interpretation**
Greater than 2.60	Safe Zone – Low chances of Bankruptcy
Ranging between 1.10 - 2.60	Grey Zone – Moderate chance of Bankruptcy
Less than 1. 10	Distress Zone – High chances of Bankruptcy

Interpretation of Z score of Bajaj Finance

As the Z- score of Bajaj finance is 5.01 which is beyond the reference table of z score .It can be predicted that the company is not in the safe hands of expert financial gurus and have no chances of bankruptcy in near future. Such an organization is the best place to park the investor's savings for long tenure for good return.

Table 13: 31/3/2021 (Standalone) CDSL

PARAMETERS	
Income statement	Rs. Crores
NS	270.58
OI	160.06
Balance sheet	
CA	523.41
TA	833.44
CL	147.52
TL	833.44
RE	566.73
Private companies	
BV OF EQUITY	104.5

Table 14: CALCUATIONS			Z
		Factor	General use
WC/TA	X1	0.4510103	6.56
RE /TA	X2	0.679989	3.26
EBIT/TA	X3	0.1920474	6.72
BV OF EQUITY/TL	X4	0.125384	1.05
		Z-Score	**6.60**

Table 15: Reference Table (As per Altman Z score model)

Z - Score	**Interpretation**
Greater than 2.60	Safe Zone – Low chances of Bankruptcy
Ranging between 1.10 - 2.60	Grey Zone – Moderate chance of Bankruptcy
Less than 1. 10	Distress Zone – High chances of Bankruptcy

Interpretation of Z score of Bajaj Finance

As the Z- score of Bajaj finance is 6.60 which is beyond the reference table of z score .It can be predicted that the company is not in the safe hands of expert financial gurus and have no chances of bankruptcy in near future. Such an organization is the best place to park the investor's savings for long tenure for good return.

Table 16: 31/3/2021 (Standalone) HDFC AMC

PARAMETERS	
Income statement	Rs. Crores
NS	1852.53
OI	1325.76
Balance sheet	
CA	4871.71
TA	5094.7
CL	230.01
TL	5094.7
RE	3862.63
Private companies	
BV OF EQUITY	106.48

Table 17: CALCUATIONS			Z
		Factor	General use
WC/TA	X1	0.9110841	6.56
RE /TA	X2	0.7581663	3.26
EBIT/TA	X3	0.2602234	6.72
BV OF EQUITY/TL	X4	0.0209002	1.05

Z-Score	10.22

Table 18: Reference Table (As per Altman Z score model)

Z - Score	Interpretation
Greater than 2.60	Safe Zone – Low chances of Bankruptcy
Ranging between 1.10 - 2.60	Grey Zone – Moderate chance of Bankruptcy
Less than 1. 10	Distress Zone – High chances of Bankruptcy

Interpretation of Z score of Bajaj Finance

As the Z- score of Bajaj finance is 10.22 which is beyond the reference table of z score .It can be predicted that the company is not in the safe hands of expert financial gurus and have no chances of bankruptcy in near future. Such an organization is the best place to park the investor's savings for long tenure for good return.

Conclusion and Findings

The study revealed that all the companies taken into study have good Z score except paytm the z value of the paytm is negative which is due to the negative value of RE which is the effect of continuous loss. A caution is there to become a bankrupt but timely financial management may improve the situation and during the last financial year i.e 2021-22 the financial performance of the paytm is improved and they are coming out from the situation of bankruptcy. It means that if the company analyses its financial position on continuous basis then it will be better for the company as well as for the economy.

References:

Aayushi Pandya, D. B. (2021). APPLICATION OF ALTMAN Z SCORE MODEL ON SELECTED INDIAN COMPANIES AND PUBLIC AND PRIVATE SECTOR BANKS TO PREDICT BANKRUPTCY. International Journal of Creative Research Thoughts, 2511-2518.

Adam Shisia, W. S. (2014). An In-Depth Analysis of the Altman's Failure Prediction Model on Corporate Financial Distress in Uchumi Supermarket in Kenya . European Journal of Business and Management, 27-41.

Ali Abusalah Elmabrok Mohammed, N. K.-S. (2012). Using Altman's Model and Current Ratio to Assess the Financial Status of Companies Quoted In the Malaysian stock exchange. Volume 2(7).

Al-Manaseer, S. R., & Al-Oshaibat, S. D. (2018). Validity of Altman Z-Score Model to Predict Financial Failure:Evidence From Jordan. International Journal of Economics and Finance; Vol. 10, No. 8; 2018, 181-189.

Aminian, A., Mousazade, H., & Khoshkho, O. I. (2016). Investigate the Ability of Bankruptcy Prediction Models of Altman and Springate and Zmijewski and Grover in Tehran Stock Exchange . Mediterranean Journal of Social Sciences , 208-214.

C, S. (2016). The analytical study of Altman Z score on NIFTY 50 Companies. IRA-International Journal of Management & Social Sciences, 433-438.

Diakomihalis, M. (2012). The accuracy of Altman's models in predicting hotel bankruptcy . International Journal of Accounting and Financial Reporting, 1-18.

Parvin, A., Rahman, B., & Nitu, A. A. (2016). PREDICTION OF FINANCIAL HEALTH OF BANKING INDUSTRY IN BANGLADESH USING ALTMAN'S Z SCORE: A COMPARISON BETWEEN STATE-OWNED COMMERCIAL BANKS AND PRIVATE COMMERCIAL BANKS. Proceedings of the International Conference for Bankers and Academics , 335-344.

Prabowo, S. C. (2019). ANALYSIS ON THE PREDICTION OF BANKRUPTCY OF CIGARETTE COMPANIES LISTED IN THE INDONESIA STOCK EXCHANGE USING ALTMAN (Z-SCORE) MODEL AND ZMIJEWSKI (X-SCORE). Journal of Applied management, 254-260.

prep, w. (n.d.). Retrieved from wall stree prep: https://www.wallstreetprep.com/knowledge/altman-z-score/

Samantarary, P. (n.d.). Retrieved from www.legalserviceindia.com: https://www.legalserviceindia.com/legal/article-6014-emergence-of-fin-tech.html