

Analysis of the Altman Z-Score and Springate Methods for Predicting Financial Distress at PT Adhi Karya (Persero) TBK for the Period 2019-2024

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Abstract: This study aims to analyze the potential level of financial distress at PT Adhi Karya (Persero) Tbk during the period 2019–2024 using two prediction methods, namely Altman Z-Score and Springate. This research also aims to compare the differences in results between the two methods in predicting financial distress conditions. Financial distress is an early stage prior to bankruptcy that may cause significant losses if not properly anticipated. Therefore, an analysis that provides early warning signals regarding a company's financial condition is required. The research method employed is a descriptive and comparative quantitative approach using secondary data in the form of annual financial statements of PT Adhi Karya (Persero) Tbk obtained from the company's official website, www.adhi.co.id. The results indicate that based on the Altman Z-Score method, PT Adhi Karya (Persero) Tbk is classified in the grey area, which means the company is in a risky condition but has not yet been categorized as bankrupt. Meanwhile, based on the Springate method, the company is identified as experiencing financial distress. Based on descriptive statistical analysis, the differences in results produced by both methods indicate that no single approach is fully capable of representing the company's financial condition comprehensively. Each method has its own characteristics and limitations. Therefore, the use of more than one analytical method is necessary to obtain a more comprehensive understanding of the company's financial health.

Keywords: Altman Z-Score; Financial Distress; Period 2019–2024; PT Adhi Karya; Springate.

1. INTRODUCTION

The construction sector is one of the main drivers of national infrastructure development and plays an important role in promoting economic growth in Indonesia. In recent years, state-owned construction companies in Indonesia, such as PT Adhi Karya, have faced increasingly complex financing dynamics due to their involvement in large-scale strategic projects. These companies often experience financial instability as a result of heavy reliance on debt financing and long project cycles. Wibowo et al. (2024) highlight the significant structural challenges faced by these companies, noting that their ability to manage external dynamics and infrastructure demands is crucial for maintaining long-term financial stability. Additionally, Fardhiani (2025) emphasizes that the financial performance of PT Adhi Karya and other state-owned construction companies has been heavily impacted by the pressure of large projects and fluctuating cash flows, which further complicate their financial health. The longitudinal study conducted by Study on the Financial Health (2025) also reveals that these companies are at a heightened risk of financial distress due to their dependency on external funding, requiring stronger debt management strategies to ensure sustainable operations. Furthermore, Kautsar (2024) argues that the increased financial distress within state-owned construction companies is tied to the escalating costs associated with large-scale strategic projects, making it necessary

for these firms to adopt more effective financial management and risk mitigation strategies. High funding requirements often result in an increase in short-term and long-term liabilities, which can potentially put pressure on the company's liquidity.

PT Adhi Karya (Persero) Tbk, as one of the state-owned construction companies, has made a significant contribution to the implementation of National Strategic Projects (PSN), such as the construction of Light Rail Transit (LRT), trans-regional toll roads, and the Nusantara Capital City (IKN) project. Involvement in long-term projects with installment payment patterns can cause a mismatch between cash inflows and financing obligations, thereby increasing the risk of financial distress. Financial distress is a condition of declining financial performance that occurs before formal bankruptcy. This condition is characterized by the company's weak ability to meet its financial obligations, declining profitability, and increasing liquidity pressure. Early detection of potential distress is crucial so that management can take corrective measures before conditions worsen.

The Altman Z-Score and Springate methods are quantitative approaches widely used in predicting bankruptcy risk based on financial ratios. However, the effectiveness of each method may vary depending on industry characteristics and corporate financial structure. Therefore, this study aims to examine the relevance and comparison of these two methods in state-owned construction companies.

Although the construction sector is showing signs of recovery, companies still face various challenges, such as high interest-bearing debt, cash flow instability, and dependence on government projects, which can increase the risk of financial distress (Kasmir, 2018:386). To assess the financial health and potential bankruptcy of a company, the Altman Z-Score and Springate methods are widely used as analytical tools. The Altman Z-Score method uses five financial ratios that reflect liquidity, profitability, leverage, and activity, while the Springate method relies on four financial ratios in determining the level of distress risk.

Every construction company has an obligation to maintain the health of its business in accordance with the provisions of Law Number 40 of 2007 concerning Limited Liability Companies. This law regulates management's responsibility in managing the company professionally, transparently, and accountably, including in the preparation and presentation of financial reports. Financial reports are one of the main indicators in assessing the health of a company, as they are able to reflect the company's financial condition and operational performance objectively and systematically.

Financial distress generally begins with a company's inability to meet its financial obligations, particularly short-term obligations, which are influenced by weak cash flow

management, high debt burdens, and low profitability (Hernadianto et al. 2020:80). In addition, according to Kristanti (2019:13), this condition is influenced by internal and external factors. Internal factors relate to management quality, capital structure, and operational efficiency, while external factors include economic conditions, regulations, and the level of industry competition.

According to a rating report by PEFINDO Credit Rating Agency (2024), PT Adhi Karya (Persero) Tbk still has a number of bonds and sukuk that will mature in the coming years, while its cash position depends on government project receipts and bank loan facilities. This condition indicates potential liquidity pressure if project payments are delayed. This risk factor highlights the importance of applying the Altman Z-Score and Springate methods as initial diagnostic tools for financial distress symptoms.

Table 1. Cash Flow Statement of PT Adhi Karya (Persero) Tbk for the Period 2019-2024.

Year	Operating Cash Flow (Rp)	Investing Cash Flow (Rp)	Financing Cash Flow (Rp)	Total Cash Flow (Rp)
2019	496.197.490.895	1.514.892.130.158	1.010.667.876.639	8.026.762.624
2020	1.378.098.474.761	518.541.144.157	1.750.918.130.185	891.360.799.581
2021	1.556.007.000.000	569.171.000.000	198.206.000.000	788.630.000.000
2022	1.224.436.816.989	1.329.394.367.215	1.289.579.832.728	1.184.622.282.502
2023	83.852.724.255	382.346.692.396	465.324.658.768	166.830.690.627
2024	1.467.031.639.037	15.167.228.347	3.742.100.036.105	2.259.901.168.721

Source: PT Adhi Karya (Persero) Tbk www.adhi.co.id

As shown in the table above, the fluctuations in PT Adhi Karya (Persero) Tbk's cash flow during the 2019–2024 period indicate instability in the company's cash management. Inconsistent cash flow, especially when it is negative, can be an early indication of liquidity pressure and increased risk of financial distress. Therefore, the application of the Altman Z-Score and Springate methods is considered relevant to analyze the company's financial condition more comprehensively, so as to provide an accurate picture of its financial health and potential for bankruptcy.

Financial distress is generally preceded by a company's inability to meet its financial obligations, particularly short-term obligations, which is influenced by weak cash flow management, high debt burdens, and low profitability (Hernadianto et al. 2020:80). In addition, according to Kristanti (2019:13), this condition is influenced by internal and external factors. Internal factors relate to management quality, capital structure, and operational efficiency, while external factors include economic conditions, regulations, and the level of industry competition.

2. THEORETICAL STUDY

Financial Distress

According to Brigham and Daves (2019), financial distress occurs when a company is unable to meet its financial obligations, both short-term and long-term. Financial distress is a phase of decline in a company's financial health characterized by difficulties in meeting obligations before legal bankruptcy occurs (Kristanti, 2019). This condition is generally caused by weak cash flow, high debt burdens, and operational inefficiencies (Hernadianto et al., 2020).

Altman Z-Score Method

According to Altman (1968), a financial ratio-based discriminant method was developed to predict bankruptcy. Tazkia et al. (2023), through their Z-Score method, showed that a combination of certain financial ratios can serve as an early warning system for potential bankruptcy. The modified Z-Score method is used for non-manufacturing companies with the following formula:

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

This Z-Score method measures the liquidity, profitability, and solvency aspects of a company.

Springate Method

Springate Method (1978). Both methods combine certain financial ratios such as profitability, liquidity, solvency, and activity to estimate the probability of bankruptcy. The Springate Method (1978) developed a regression-based prediction method with the formula:

$$S = 1,03X_1 + 3,07X_2 + 0,66X_3 + 0,40X_4$$

The Springate Method places greater emphasis on profitability and asset utilization effectiveness.

3. RESEARCH METHOD

The type of research is descriptive and comparative quantitative. Data was obtained from secondary data in the form of PT Adhi Karya (Persero) Tbk financial reports for the 2019-2024 period using:

a. Modified Altman Z-Score Method

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

The criteria used are as follows:

$Z'' < 1,1$ = Indicates that the company will go bankrupt.

$1,11 < Z'' < 2,6$ = Indicates that the company is in a grey area.

$Z > 2,6$ = Indicates that the company is in a healthy financial condition.

b. Springate Method

$$(S = 1,03 X_1 + 3,07 X_2 + 0,66 X_3 + 0,4 X_4)$$

The criteria used are as follows:

$S < 0,862$ = Indicates that the company will go bankrupt.

$S > 0,862$ = Indicates that the company is healthy.

The results of the calculations were then compared with the score limits of each method and tested using descriptive statistics to see the differences between the two methods. Descriptive statistical analysis was used in this study to provide an overview of the characteristics of the data results of the Altman Z-Score and Springate methods at PT Adhi Karya (Persero) Tbk for the 2019-2024 period. Through this analysis, researchers can understand the patterns and trends of the scores obtained before further discussion. The descriptive statistics used in this study include minimum and maximum values. The minimum and maximum values indicate the lowest and highest limits of the score calculation results.

The population in this study includes all financial reports of PT Adhi Karya (Persero) Tbk. The research sample was obtained from the company's financial position reports, income statements, and notes to the financial statements for the period 2019–2024. These data were used as the basis for analysis to assess the company's financial condition and potential financial distress.

Table 2. Data Analys.

No	Description	Independent Variabel	Dependent Variabel
1	Analysis using the Altman Z-Score method for the 2019-2024 period	Net Working Capital to Total Assets, Retained Earning to Total Assets, EBIT to Total Assets, and Book Value of Equity to Total Liabilities.	Financial Distress
2	Analysis using the Springate method for the 2019-2024 period	Net Working Capital to Total Assets, EBIT to Total Assets, Earnings Before Tax to Current Liabilities and Sales to Total Assets.	Financial Distress
3	Comparison of prediction results between the Altman Z-Score and Springate methods	Z-Score and S-Score values	Distress/Non-Distress

Source: explained, 2026

The data obtained will be calculated according to the formula for each method and compared with the standard threshold to determine the company's level of financial distress.

4. RESULTS AND DISCUSSION

In this study, PT Adhi Karya (Persero) Tbk was chosen as the research subject because it is one of the State-Owned Enterprises (SOEs) engaged in construction and national strategic infrastructure. The analysis method used is the Modified Altman Z-Score, which consists of

four key financial ratios. This method was chosen because it is considered relevant for measuring the level of financial health and potential financial distress in non-manufacturing companies, including those in the construction sector.

Results and Discussion of the Altman Z-Score Method Financial Distress Prediction

Analysis Calculation at PT Adhi Karya (Persero) Tbk for the 2019-2024 Period

Net Working Capital to Total Assets Ratio

Table 3. Net Working Capital to Total Assets Ratio PT Adhi Karya (Persero) Tbk Period
2019-2024.

Year	Current Assets (Rp) A	Current Liabilities (Rp) B	Net Working Capital (Rp) C (A-B)	Total Assets (Rp) D	X ₁ C/D
2019	30.315.155.278.021	24.493.176.968.328	5.821.978.309.693	36.515.833.214.549	0,1594
2020	30.090.503.386.345	27.069.198.362.836	3.021.305.023.509	38.093.888.626.552	0,0793
2021	31.600.942.926.217	31.127.451.942.313	473.490.983.904	39.900.337.834.619	0,0119
2022	29.593.503.866.970	24.618.080.064.517	4.975.423.802.453	39.986.417.216.654	0,1244
2023	28.580.550.763.597	24.981.176.224.581	3.599.374.539.016	40.492.030.620.079	0,0889
2024	22.518.357.522.316	20.049.429.384.176	2.468.928.138.140	35.042.781.072.073	0,0705

Source: Processed by the Author (2026)

Retained Earnings to Total Assets Ratio

Table 4. Retained Earnings to Total Assets Ratio PT Adhi Karya (Persero) Tbk Period
2019-2024

Year	Retained Earnings (Rp) A	Total Assets (Rp) B	X ₂ A/B
2019	533.424.534.540	36.515.833.214.549	0,0146
2020	-1.471.606.750.407	38.093.888.626.552	-0,0386
Year	Retained Earnings (Rp) A	Total Assets (Rp) B	X ₂ A/B
2021	-1.420.000.000.000	39.900.337.834.619	-0,0356
2022	1.846.495.443.456	39.986.417.216.654	0,0462
2023	2.052.886.350.173	40.492.030.620.079	0,0507
2024	2.224.189.208.851	35.042.781.072.073	0,0635

Source: Processed by the Author (2026)

Earnings Before Interest and Tax to Total Assets Ratio

Table 5. Earnings Before Interest and Tax to Total Assets Ratio PT Adhi Karya (Persero)
Tbk Period 2019-2024.

Year	Earnings Before Interest and Tax (Rp) A	Total Assets (Rp) B	X ₃ A/B
2019	1.441.986.307.340	36.515.833.214.549	0,0395
2020	1.008.032.859.535	38.093.888.626.552	0,0265
2021	1.121.060.745.373	39.900.337.834.619	0,0281
2022	1.069.919.829.414	39.986.417.216.654	0,0268
2023	1.444.124.639.006	40.492.030.620.079	0,0357
2024	702.100.847.973	35.042.781.072.073	0,0200

Source: Processed by the Author (2026)

Book Value of Equity to Total Liabilities Ratio

Table 6. Book Value of Equity to Total Liabilities Ratio PT Adhi Karya (Persero) Tbk Period

2019-2024.

Year	Book Value of Equity (Rp) A	Total Liabilities (Rp) B	X ₄ A/B
2019	6.834.297.680.021	29.681.535.534.528	0,2303
2020	5.026.702.590.941	25.690.928.247.129	0,1957
Year	Book Value of Equity (Rp) A	Total Liabilities (Rp) B	X ₄ A/B
2021	5.657.707.202.425	34.242.630.632.194	0,1652
2022	8.823.791.463.516	31.162.625.753.138	0,2832
2023	9.218.792.381.077	31.273.238.239.002	0,2948
2024	9.675.190.188.162	25.367.590.883.911	0,3814

Source: Processed by the Author (2026)

Prediction of Financial Distress Using the Altman Z-Score Methode

The following is a calculation table using the Modified Altman Z-Score method for PT Adhi Karya (Persero) Tbk.

Table 7. Calculation of the Altman Z-Score Method to Predict Financial Distress at PT Adhi Karya (Persero) Tbk for the Period 2019-2024.

Year	6,56 X ₁	3,26 X ₂	6,72 X ₃	1,05 X ₄	Z-Score	Z-Score Criteria
2019	1,0459	0,0476	0,2654	0,2418	1,6007	Grey Area
2020	0,5203	-0,1259	0,1778	0,2054	0,7776	Bankruptcy Zone
2021	0,0778	-0,1160	0,1888	0,1735	0,3241	Bankruptcy Zone
2022	0,8162	0,1505	0,1798	0,2973	1,4439	Grey Area
2023	0,5831	0,1653	0,2397	0,3095	1,2976	Grey Area
2024	0,4622	0,2069	0,1346	0,4005	1,2042	Grey Area

Source: Processed by the Author (2026)

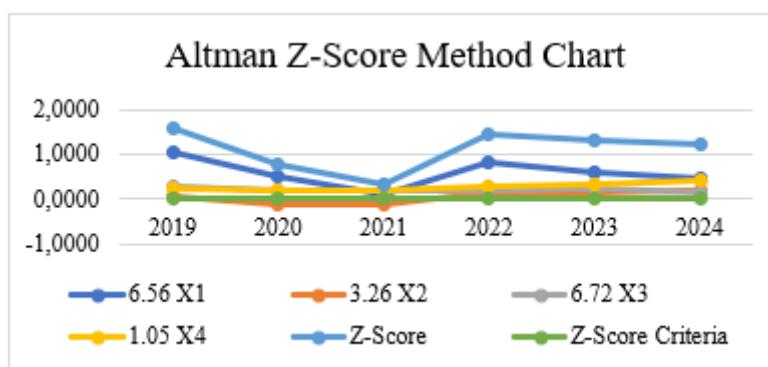


Figure 1. Altman Z-Score Calculation Chart.

Source: Processed by the Author (2026)

Based on the calculation table and graph above, PT Adhi Karya (Persero) Tbk's Z-Score for the 2019-2024 period shows fluctuating results and has not yet reached the category of a healthy financial condition. In 2019, the company was in the grey area with a Z-Score of 1.6007, which means that the company's financial condition was not yet stable and still needed to be monitored.

Then in 2020 and 2021, the Z-Score value decreased significantly to 0.7776 and 0.3241, indicating that the company was in the distress zone. This signifies that PT Adhi Karya's financial condition during that period was unhealthy and had a high potential for financial risk, due to a decline in profits and operational efficiency.

However, from 2022 to 2024, the company showed signs of improvement. The Z-Score increased to 1.4439 (2022), 1.2976 (2023), and 1.2042 (2024), respectively, although it was still in the grey area. This condition indicates a gradual improvement in financial performance, but it is not yet strong enough to achieve a healthy and stable financial condition.

Overall, the results of the Altman Z-Score financial distress prediction calculation show that PT Adhi Karya (Persero) Tbk was in the grey area during the 2019-2024 period, with the exception of 2020 and 2021, which fell into the bankruptcy zone. This means that the company's financial condition cannot yet be categorized as healthy, but it has begun to show a trend of improvement after 2022. Therefore, PT Adhi Karya (Persero) Tbk needs to continue to improve asset utilization efficiency, improve its financial structure, and maintain profitability in order to get out of the vulnerable zone and achieve a more stable financial condition in the future.

Results and Discussion of the Springate Method Financial Distress Prediction Analysis Calculations for PT Adhi Karya (Persero) Tbk for the Period 2019-2024

Net Working Capital to Total Assets Ratio

Table 8. Net Working Capital to Total Assets Ratio PT Adhi Karya (Persero) Tbk Period 2019-2024.

Year	Current Assets (Rp) A	Current Liabilities (Rp) B	Net Working Capital (Rp) C (A-B)	Total Assets D	X ₁ C/D
2019	30.315.155.278.021	24.493.176.968.328	5.821.978.309.693	36.515.833.214.549	0,1594
2020	30.090.503.386.345	27.069.198.362.836	3.021.305.023.509	38.093.888.626.552	0,0793
2021	31.600.942.926.217	31.127.451.942.313	473.490.983.904	39.900.337.834.619	0,0119
2022	29.593.503.866.970	24.618.080.064.517	4.975.423.802.453	39.986.417.216.654	0,1244
2023	28.580.550.763.597	24.981.176.224.581	3.599.374.539.016	40.492.030.620.079	0,0889
2024	22.518.357.522.316	20.049.429.384.176	2.468.928.138.140	35.042.781.072.073	0,0705

Source: Processed by the Author (2026)

Earnings Before Interest and Tax to Total Assets Ratio

Table 9. Nilai Rasio Earnings Before Interest and Tax to Total Assets PT Adhi Karya (Persero) Tbk Periode 2019-2024.

Year	Earnings Before Interest and Tax (Rp) A	Total Assets (Rp) B	X ₃ A/B
2019	1.441.986.307.340	36.515.833.214.549	0,0395
2020	1.008.032.859.535	38.093.888.626.552	0,0265
Year	Earnings Before Interest and Tax (Rp) A	Total Assets (Rp) B	X ₃ A/B
2021	1.121.060.745.373	39.900.337.834.619	0,0281
2022	1.069.919.829.414	39.986.417.216.654	0,0268
2023	1.444.124.639.006	40.492.030.620.079	0,0357
2024	702.100.847.973	35.042.781.072.073	0,0200

Source: Processed by the Author (2026)

Earnings Before Tax to Current Liabilities Ratio

Table 10. Earnings Before Tax to Current Liabilities Ratio PT Adhi Karya (Persero) Tbk Period 2019-2024.

Year	Earnings Before Tax (Rp) A	Current Liabilities (Rp) B	X ₃ A/B
2019	686.491.539.347	24.493.176.968.328	0,0280
2020	39.735.297.098	27.069.198.362.836	0,0015
2021	99.232.995.537	31.127.451.942.313	0,0032
2022	183.299.716.266	24.618.080.064.517	0,0074
2023	316.103.850.145	24.981.176.224.581	0,0127
2024	306.752.267.696	20.049.429.384.176	0,0153

Source: Processed by the Author (2026)

Sales to Total Assets Ratio

Table 11. Sales to Total Assets Ratio PT Adhi Karya (Persero) Tbk Period 2019-2024.

Year	Sales (Rp) A	Total Assets (Rp) B	X ₄ A/B
2019	15.307.860.220.494	36.515.833.214.549	0,4192
2020	10.827.682.417.205	38.093.888.626.552	0,2842
2021	11.530.471.713.036	39.900.337.834.619	0,2890
2022	13.549.010.228.584	39.986.417.216.654	0,3388
2023	20.072.993.428.021	40.492.030.620.079	0,4957
Year	Sales (Rp) A	Total Assets (Rp) B	X ₄ A/B
2024	13.351.717.203.356	35.042.781.072.073	0,3810

Source: Processed by the Author (2026)

Prediction of Financial Distress Using the Springate Method

Table 12. Calculation of the Springate Method to Predict Financial Distress at PT Adhi Karya (Persero) Tbk for the Period 2019-2024.

Year	1,03 X ₁	3,07 X ₂	0,66 X ₃	0,40 X ₄	S-Score	S-Score Criteria
2019	0,1642	0,1212	0,0185	0,1677	0,4716	Bankruptcy Zone
2020	0,0817	0,0812	0,0010	0,1137	0,1137	Bankruptcy Zone
2021	0,0122	0,0863	0,0021	0,1156	0,2162	Bankruptcy Zone
2022	0,1282	0,0821	0,0049	0,1355	0,3508	Bankruptcy Zone
2023	0,0916	0,1095	0,0084	0,1983	0,4077	Bankruptcy Zone
2024	0,0726	0,0615	0,0101	0,1524	0,2966	Bankruptcy Zone

Source: Processed by the Author (2026)

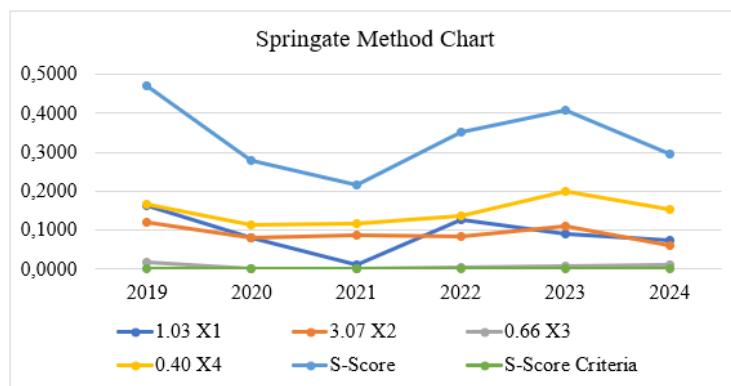


Figure 2. Springate Method Calculation Chart.

Source: Processed by the Author (2026)

Based on the results of the Springate method calculation, the financial score (S-Score) of PT Adhi Karya (Persero) Tbk during the 2019-2024 period was consistently below the threshold of 0.862, which means that the company is in the bankruptcy zone. This shows that the financial condition of PT Adhi Karya (Persero) Tbk during the research period was not healthy and still faced a fairly high level of financial distress.

In 2019, the S-Score was recorded at 0.4716, indicating that the company's financial condition was at a significant level of bankruptcy risk, although it still showed the ability to maintain operational performance. Entering 2020 and 2021, the S-Score decreased to 0.2776 and 0.2162, which were the lowest points during the research period. This decline indicates a weakening of the company's financial performance, mainly due to a decrease in pre-tax profit and asset utilization efficiency, which had an impact on profitability.

Furthermore, in 2022, the S-Score value increased to 0.3508, indicating efforts to improve financial performance, although it was still in the bankruptcy zone. This positive trend continued until 2023, where the S-Score value increased to 0.4077, indicating an improvement in the company's profitability and operational efficiency. However, in 2024, the S-Score value declined again to 0.2966, indicating that the company's financial condition had weakened again and showing signs of instability in asset management and profit-generating capabilities.

Overall, the results of the Springate method calculation show that PT Adhi Karya (Persero) Tbk was in the bankruptcy zone ($S < 0.862$) during the 2019-2024 period. This condition reflects that the company has not been able to achieve an ideal level of financial health. Although there was a slight improvement in 2022-2023, the company experienced another decline in 2024, indicating that its financial stability is still vulnerable to operational pressures and performance fluctuations. Therefore, the company needs to strengthen its

efficiency strategy, improve profitability, and optimize asset management in order to get out of the bankruptcy zone and achieve a healthier financial condition in the future.

Results of Descriptive Statistical Analysis and Discussion of Differences between the Altman Z-Score and Springate Methods for Predicting Financial Distress at PT Adhi Karya (Persero) Tbk for the Period 2019-2024

This study presents a descriptive statistical analysis of PT Adhi Karya (Persero) Tbk's Altman Z-Score and Springate S-Score values for the period 2019–2024. This analysis aims to provide an overview of the company's financial condition based on the characteristics of the data observed.

The statistical indicators used are limited to minimum and maximum values to determine the range of financial performance fluctuations and identify periods with the highest and lowest levels of financial distress risk based on each analysis method.

Table 13. Descriptive Statistics of Z-Score and Springate Values PT Adhi Karya (Persero) Tbk Period 2109-2024.

Method	Minimum Value	Maximum Value
Altman Z-Score	0,3241	1,6007
Springate S-Score	0,2162	0,4716

Source: Processed by the Author (2026)

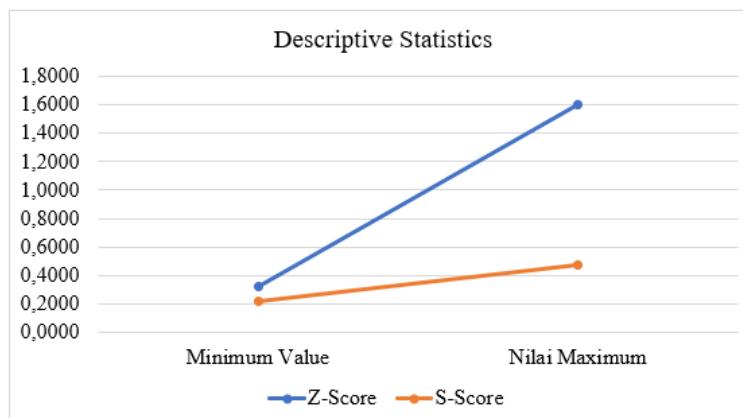


Figure 3. Descriptive Statistics of Z-Score and Springate Values PT Adhi Karya (Persero) Tbk Period 2109-2024.

Source: Processed by the Author (2026)

Based on the results of descriptive statistical analysis in Table 12, the minimum Altman Z-Score value of PT Adhi Karya (Persero) Tbk during the 2019–2024 period was recorded at 0.3241 in 2021, which falls into the bankruptcy category. This condition indicates significant financial pressure during that period. Meanwhile, the maximum value of 1.6007 occurred in 2019 and is still in the gray zone category, indicating that the company has not yet achieved a completely secure financial condition.

In the Springate method, the minimum value of 0.2162 also occurred in 2021 and is well below the safety limit, reflecting a serious financial distress condition. The maximum S-Score value of 0.4716 was recorded in 2019, but it remained in the unhealthy category. This shows that the Springate method consistently classified the company's financial condition as risky during the research period.

Overall, the analysis results show considerable fluctuations in financial conditions, but these fluctuations tend to be at a high level of risk. A comparison of the two methods shows that the Altman Z-Score produces a wider range of assessments, from bankruptcy to the gray zone. In contrast, the Springate method provides a more conservative assessment by classifying the entire period as financial distress.

The difference in prediction results is influenced by the composition of the financial ratios used. The Altman method integrates aspects of liquidity, profitability, activity, and solvency, resulting in a more diverse assessment. Meanwhile, the Springate method focuses more on profitability and operational efficiency, making it more sensitive to declines in profit performance and cash flow pressures.

Considering the characteristics of PT Adhi Karya (Persero) Tbk, which faces cash flow fluctuations, increased debt burdens, and liquidity pressures, the Springate method is considered more responsive in detecting potential financial distress. On the other hand, the Altman method remains relevant as a supporting tool for observing the dynamics of financial conditions between periods. Therefore, the simultaneous use of both methods can provide a more comprehensive picture of the company's financial health and bankruptcy risk during the 2019–2024 period.

5. CONCLUSION AND RECOMMENDATIONS

Conclusion

Based on the results of the analysis using two prediction methods, it can be concluded that PT Adhi Karya (Persero) Tbk was in a risky financial condition during the 2019–2024 period. The Altman Z-Score method showed varying classifications between the distress zone and the grey area, while the Springate method consistently indicated financial distress. The difference in results shows that the sensitivity of the methods to financial ratio variables is not uniform. The Altman method tends to provide a variety of assessments because it combines solvency and activity indicators more broadly. Meanwhile, the Springate method is more responsive to profitability pressures and short-term liabilities.

Therefore, the use of a combination of prediction methods is considered more effective in providing an early warning system for potential bankruptcy risks. For company management, these results can be used as a basis for strengthening working capital management, improving operational efficiency, and implementing sustainable financial restructuring.

Recommendations

Based on the research results and existing limitations, the author offers several suggestions for consideration by relevant parties.

For the management of PT Adhi Karya (Persero) Tbk, it is recommended to strengthen financial performance management, particularly in terms of liquidity, profitability, and working capital, given the indications of financial distress during the research period. Management also needs to improve operational efficiency, tighten project implementation supervision, and optimize debt management. These measures are expected to maintain cash flow stability, reduce financial burdens, and improve the company's competitiveness in a sustainable manner.

For future researchers, it is recommended to expand the research object by involving more companies, particularly in the construction sector and state-owned enterprises, so that the analysis results can be compared more comprehensively. In addition, the use of other prediction methods, such as Zmijewski, Grover, or Ohlson, as well as the addition of external variables, such as macroeconomic conditions, government policies, and national strategic projects, should be considered to enrich the research results.

For academics and practitioners, the results of this study are expected to serve as a reference in the development of studies on the prediction of financial distress in construction companies and SOEs. For practitioners in the field of finance and investment, this study is expected to raise awareness of the importance of early evaluation of a company's financial condition so that strategic decisions can be made more accurately in order to maintain business sustainability.

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