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Financial Distress in the Tourism and Leisure Industry: The Accuracy of Altman, Springate, Zmijewski, and Grover Models

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A B S T R A C T

This study aims to determine the difference in results and accuracy of Altman, Springate, Zmijewski, and Grover's models in predicting Financial Distress. A quantitative model was applied to this study using a purposive sampling technique with a sample of 35 companies. The object of the research is tourism and leisure industry companies listed on the Indonesia Stock Exchange (IDX) for the 2020-2022 period. The results showed that Grover was the model with the highest accuracy rate of 89%, type error of 11%. Then followed by Altman with an accuracy rate of 80%, type error of 9%, Zmijewski with an accuracy rate of 74%, type error of 26%, and Springate with the lowest accuracy rate of 63% and type error of 37%. So that grover is the most accurate prediction model to predict financial distress in tourism and leisure industry companies listed on the Indonesia Stock Exchange (IDX).

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INTRODUCTION

The emergence of health problems caused by the covid-19 virus has an impact on the economic contraction that affects the company's financial performance. Fluctuations in demand due to restrictions on business operations that occurred during Covid-19 caused an economic recession in various business sectors. The enactment of travel bans, closure of tourist accommodations, and quarantine restrictions as a form of government efforts to reduce the spread of covid-19 caused the tourism industry to be completely paralyzed (Gössling et al., 2020). This has led to a decrease in income and an increase in unemployment, so this crisis has also led to a high budget deficit and debt (Dahari et al., 2023)

The Covid-19 pandemic caused a decrease in the number of foreign tourist visits in 2020, which was 74.84% (Kemenparekraf, 2021). So that this phenomenon can pose a threat of bankruptcy to the tourism and leisure industry. Bankruptcy can be indicated by a decline in financial condition or can be called financial distress (Platt & Platt, 2002;Marselina et al., 2023)

Financial Distress is a stage of financial decline characterized by the inability of companies to meet their obligations, especially short-term debt. So that this stage can result in bankruptcy (Supriati et al., 2019; Alvionita et al., 2021). Financial distress conditions are often characterized by a continuous decline in corporate profits, which ultimately leads to a lack of sufficient funding sources to meet its operational needs. (K. Sari & Subarjo, 2022) Companies need to be vigilant and take anticipatory steps against this situation, as it can have a significant impact on operational activities. Therefore, it is important to carry out a bankruptcy analysis to get early warnings (signals) about potential bankruptcy in the future. (Ananto et al., 2020)

One method to lower the likelihood of bankruptcy is to recognize early and predict the symptoms that can cause financial distress. To predict the threat of bankruptcy, a tool or model is needed. Several analytical models have been widely developed, including Altman, Springate, Zmijewski, Grover, Fulmer, Ohlson, and others. In the research conducted (Fikri et al., 2024; Fauzan & Sutiono, 2017) revealed that Grover's model most accurately predicts financial distress. Meanwhile, according to (Wijaya, 2020; Al-Rahma et al., 2021) In the hotel, restaurant and tourism sub-sector companies, Zmijewski's model is the most accurate model for predicting bankruptcy. Another study conducted by (Arum Sari & Parulian, 2023) found that the Altman and Springate Model is the most accurate model applied to predict financial distress in companies in the tourism and leisure sub-sector is the most accurate model in predicting bankruptcy.

Based on the literature review that has been conducted, it is found that the results of previous studies tend to state that the altaman model is the most accurate model for predicting financial distress. So that the altman model is expected to provide the highest accuracy results. To achieve these results, it is important to make comparisons between models, so this study will compare the Altman, Springate, Zmijewski and Grover models to predict financial distress in companies engaged in the tourism and leisure industry. It is hoped that this

study will provide accurate results in the analysis and comparison of predictions related to financial difficulties.

According to (Wijaya, 2020) each model has different differences and different levels of accuracy in each sector. The observation period and the number of samples are also factors in the difference in the accuracy level of each model used. This difference in accuracy is a challenge to be more careful in the process of selecting prediction models. This is important in order to determine which model is the best and accurate to apply in tourism and leisure industry companies, so as to support wiser decision-making. The existence of differences in models and industry sectors in previous studies led to inconsistent results. So that the prediction model taken to be researched in this study is the Altman, Springate, Zmijewski and Grover model.

LITERATURE REVIEW

Signaling Theory

Signals in bankruptcy analysis are closely related to signal theory. This theory describes how management (agents) communicate signals about their success or failure to the owner ((Masdiantini & Warasniasih, 2020). According to research conducted by (Khairudin & Wandita, 2017) signal theory serves as important information needed by investors in making decisions regarding whether to invest in the shares of a particular company or not.This signal can be used as a consideration for the company's financial decision-making as an appropriate preventive measure. However, if the signals conveyed are not handled appropriately, bankruptcy becomes difficult to avoid.

Financial Distress

Financial distress refers to a condition in which a company experiences a significant decline in its economic activity. (Platt & Platt, 2002) states that Financial Distress is considered a financial decline that occurs before the company is declared bankrupt or liquidated. One of the early signs of a company's financial difficulties is the inability to meet its obligations, related to short-term obligations such as liquidity and solvency. Financial Distress is also defined as a situation in which a company experiences a shortage or absence of funds to run or continue its operations (Octavera & Syafel, 2022)

Altman Z-Score

This model was introduced by Altman in 1968 which focused on the financial structure of manufacturing companies. This model developed by Altman is often used to predict the possible financial difficulties faced by manufacturing companies, with an emphasis on the accumulation of assets in their calculations. Over time, as various types of companies grew, Altman made modifications to his model by removing the X5 variable due to the variation in size between different types of companies. This change makes the modified formula applicable to non-manufacturing companies as well (Abadi & Misidawati, 2023). Research conducted by (Windasari & Zakiyah, 2020; Anisa & Suhermin, 2016) Regarding the use of Altman's model in identifying financial

difficulties, it shows that the ratios developed in this model are effective in measuring the financial condition of companies.

Springate

The Springate model is an extension of the Altman Z-score model introduced by Gordon L. V. Springate in 1978. This model uses four financial ratios that are considered effective in assessing the level of financial difficulty of a company. The main focus of springate is to measure liquidity, profitability, solvency and efficiency in the use of assets. The four financial ratios used as the calculation formula for this model play a very important role in predicting bankruptcy (Abadi, 2021). Based on research conducted by (Meiliawati & Isharijadi, 2017; Marli & Widanarni, 2021) Springate's model proved to be the most accurate at predicting potential financial hardship.

Zmijewski

Zmijewski's model was first introduced in 1984 using Debt to Assets Ratio, Current Ratio and as a ratio to identify *financial distress*. ROA is an important variable in this proxy to assess profitability which reflects the company's ability to generate net profit from its assets. The Debt to Assets Ratio is used to calculate the level of leverage of a company that focuses on the financial risks associated with the company's capital structure. The Current Ratio is used to measure the level of liquidity as a determinant of short-term operational sustainability. Regarding the ratio used, research has been carried out by (Sumani, 2019; Antikasari & Djuminah, 2017) that the ROA and Debt to Assets Ratio used in Zmijewski's calculation are important and influential variables in predicting financial distress. Liquidity measured using Current Ration has a significant impact on financial distress conditions (Yunika & Rahmizal, 2022). Several other studies, such as those conducted by (Masdiantini & Warasniasih, 2020; M. P. Sari & Yunita, 2019; Al-Rahma et al., 2021) found that Zmijewski was the model with the best accuracy for identifying financial distress.

Grover

Grover was first developed by Jeffrey S. Grover by utilizing ROA, EBIT, Total Assets and Working Capital as its calculation instruments. Research conducted by (Miftahul Ihsan & Hendrani, 2022) revealed that the four calculation instruments have a stimulant effect on financial distress. Several other studies, including those conducted by (Fauzan & Sutiono, 2017; Octavera & Syafel, 2022; Arini, 2021; Fikri et al., 2024) found that grover is the most appropriate model in predicting financial distress.

Hypothesis and Research Framework

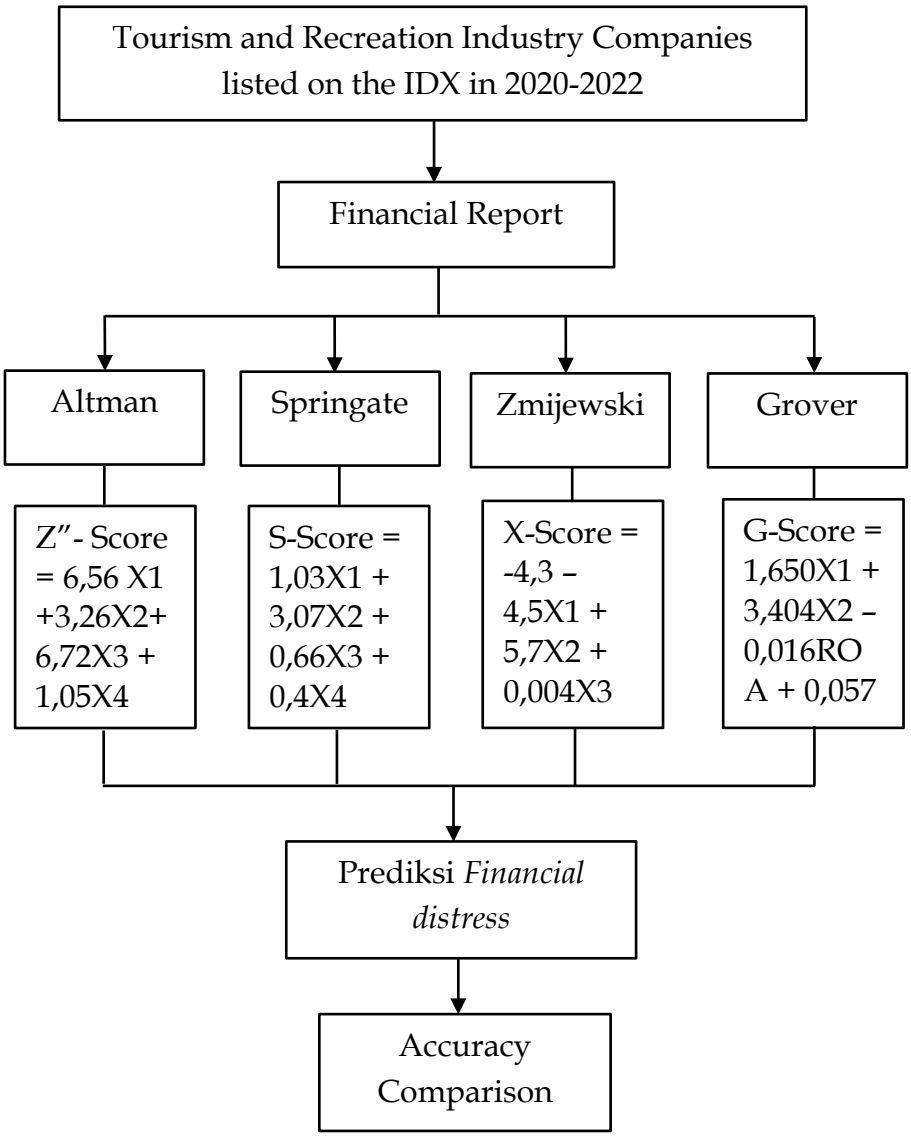

Figure 1. Conceptual Framework
Source: Data processed, 2024

METHODOLOGY

This study applies a quantitative approach that utilizes secondary data in the form of financial statements to measure financial distress and measure the accuracy of the Altman, Springate, Zmijewski and Grover model in assessing *financial distress* in the tourism and leisure industry listed on the Indonesia Stock Exchange (IDX). By using the purposive sampling method, where the selection of samples is based on certain criteria and considerations that have been set previously. The sampling process is focused on companies in the tourism and leisure industry for the 2020-2022 period, provided that these companies have published audited financial statements in rupiah and have complete financial data in accordance with the variables to be tested on each model.

Table 1. Sample of Tourism and leisure Industry Companies on the IDX for the 2020-2022 Period

No	Code	Company	No	Code	Company
1	AKKU	Anugerah Kagum Karya Utama	19	JIHD	Jakarta International Hotels & Development
2	ARTA	Arhavest	20	JSPT	Jakarta Setiabudi International
3	BAYU	Bayu Buana	21	KPIG	MNC Land
4	BLTZ	Graha Layar Prima	22	MAPB	Map Boga Adiperkasa
5	BOLA	Bali Bintang Sejahtera	23	MINA	Sanurhasta Mitra
6	BUVA	Bukit Uluwatu Villa	24	PANR	Panorama Sentrawisata
7	CLAY	Citra Putra Realty	25	PDES	Destinasi Tirta Nusantara
8	CSMI	Cipta Selera Murni	26	PGLI	Pembangunan Graha Lestari Indah
9	DFAM	Dafam Property Indonesia	27	PJAA	Pembangunan Jaya Ancol
10	EAST	Eastparc Hotel	28	PLAN	Planet Properindo Jaya
11	ENAK	Champ Resto Indonesia	29	PNSE	Pudjiadi & Sons
12	ESTA	Esta Multi usaha	30	PSKT	Red Planet Indonesia
13	FAST	Fast Food Indonesia	31	PTSP	Pioneerindo Gourmet International
14	FITT	Hotel Fitra International	32	PZZA	Sarimelati Kencana
15	HAJJ	Arsy Buana Travelindo	33	SHID	Hotel Sahid Jaya International
16	HOTL	Saraswati Griya Lestari	34	SNLK	Sunter Lakeside Hotel
17	HRME	Menteng Heritage Realty	35	SOTS	Satria Mega Kencana
18	JGLE	Graha Andrasentra Propertindo			

Source: Data processed, 2024

From the total population of 49 companies obtained through the www.idx.co.id website as secondary data, a sample of 35 companies in the tourism and leisure industry listed on the Indonesia Stock Exchange in the 2020-2022 period was taken. Descriptive statistical analysis techniques are used in this study to describe the results of financial distress prediction calculations based on the Altman, Springate, Zmijewski, and Grover models.

The Altman Z"-Score model was developed using the Multivariate Discriminant Analysis (MDA) method and is formulated in the following equation

Z”-Score= 6,56 X1 + 3,26X2+ 6,72X3 + 1,05X4.....(1)

Information:
X1= Working Capital / Total Asset
X2= Retained Earning / Total Asset
X3= Earning Before Interest And Tax / Total Asset
X4= Book Value Of Equity / Book Value Of Debt

L. V. Springate finds the Proxiated Springate S-Score Model with the following formula

S-Score= 1,03X1 + 3,07X2 + 0,66X3 + 0,4X4.....(2)

Information:
X1= Working Capital / Total Asset
X2= Earning Before Interest And Tax / Total Asset
X3= Earning Before Tax / Current Liabilities
X4= Total Asset Turnover

The Zmijewski model is proxied using 3 calculation variables with the following formula

X-Score= -4,3 – 4,5X1 + 5,7X2 + 0,004X3.....(3)

Keterangan:
X1= Net Income / Total Asset
X2= Total Liabilities / Total Asset
X3= Current Asset / Current Liabilities

The grover model is a development of the altman model invented in 1968 so the model is proxied as follows

G-*Score:* 1,650X1 + 3,404X2 – 0,016ROA + 0,057.....(4)

Information:
X1= Working Capital / Total Asset
X2= Earning Before Interest And Tax / Total Asset
ROA= Net Income / Total Asset

Table 2. Cut Off Value Category

Model	Score	Category
Altman	Out of > 2.6	Healthy
	1,1<Z<2,6	Grey Area
	OUT < 1.1	Distress
Springate	S > 0,862	Healthy
	S < 0,862	Distress
Zmijewski	X < 0	Healthy
	X > 0	Distress
Grover	G ≥ 0,01	Healthy
	G ≤ -0,02	Distress

To find out the accuracy of each prediction model, it can be measured through financial statements by comparing the results of the prediction with the real conditions experienced by the company one year after the research period,

namely in 2023. The accuracy and *type error* level of each model is calculated using the following formula:

Accuracy rate = (number of correct predictions/number of samples) x 100%..... (5)

Error type = (number of wrong predictions/number of samples) x 100%..... (6)

RESEARCH RESULT

The results of the analysis of Financial Distress predictions in tourism and leisure industry companies listed on the Indonesia Stock Exchange (IDX) during the 2020-2022 period show that there is a significant difference in prediction results between the various models used.

Table 3. Results of Financial Distress Analysis

No	Code	Altman		Springate		Zmijewski		Grover	
		Score	Result	Score	Result	Score	Result	Score	Result
1	AKKU	-0.37	Distress	-0.51	Distress	-1.42	Healthy	-0.45	Distress
2	ARTA	21.04	Healthy	-0.02	Distress	-3.29	Healthy	0.69	Healthy
3	BAYU	5.19	Healthy	0.99	Healthy	-1.95	Healthy	0.77	Healthy
4	BLTZ	-3.30	Distress	-0.83	Distress	0.50	Distress	-0.76	Distress
5	BOLA	15.59	Healthy	2.01	Healthy	-4.12	Healthy	1.41	Healthy
6	BUVA	-9.46	Distress	-1.93	Distress	2.37	Distress	-2.25	Distress
7	CLAY	-4.06	Distress	-0.61	Distress	1.63	Distress	-0.42	Distress
8	CSMI	-5.41	Distress	-0.90	Distress	1.07	Distress	-1.14	Distress
9	DFAM	0.84	Distress	0.03	Distress	-0.62	Healthy	0.23	Healthy
10	EAST	15.07	Healthy	1.24	Healthy	-4.09	Healthy	0.32	Healthy
11	ENAK	-1.08	Distress	0.10	Distress	0.00	Distress	-0.36	Distress
12	ESTA	3.72	Healthy	0.36	Distress	-2.63	Healthy	0.37	Healthy
13	FAST	0.41	Distress	0.13	Distress	0.05	Distress	-0.25	Distress
14	FITT	-0.51	Distress	-0.87	Distress	-1.20	Healthy	-0.14	Distress
15	HAJJ	8.53	Healthy	0.86	Healthy	-2.93	Healthy	1.16	Healthy
16	HOTL	0.53	Distress	-0.17	Distress	-0.93	Healthy	-0.15	Distress
17	HRME	1.71	Grey area	-0.96	Distress	-2.54	Healthy	0.02	Healthy
18	JGLE	2.23	Grey area	-0.89	Distress	-1.53	Healthy	-0.05	Distress
19	JIHD	3.11	Healthy	0.02	Distress	-2.71	Healthy	0.01	Healthy
20	JSPT	2.26	Grey area	-0.08	Distress	-1.18	Healthy	0.19	Healthy
21	KPIG	4.95	Healthy	0.13	Distress	-3.15	Healthy	0.16	Healthy
22	MAPB	0.04	Distress	0.26	Distress	-1.10	Healthy	-0.22	Distress
23	MINA	18.25	Healthy	-1.16	Distress	-3.70	Healthy	0.22	Healthy
24	PANR	0.01	Distress	-0.28	Distress	-0.44	Healthy	-0.11	Distress
25	PDES	-2.68	Distress	-0.94	Distress	1.10	Distress	-0.76	Distress
26	PGLI	3.20	Healthy	1.46	Healthy	-2.47	Healthy	0.32	Healthy

27	PJAA	0.60	Distress	-0.17	Distress	-0.65	Healthy	-0.18	Distress
28	PLAN	0.33	Distress	-0.18	Distress	-2.61	Healthy	-0.33	Distress
29	PNSE	0.31	Distress	-0.57	Distress	-1.04	Healthy	-0.28	Distress
30	PSKT	3.08	Healthy	-0.33	Distress	-3.26	Healthy	-0.09	Distress
31	PTSP	-0.34	Distress	0.22	Distress	-0.73	Healthy	-0.29	Distress
32	PZZA	1.08	Distress	0.52	Distress	-1.43	Healthy	-0.04	Distress
33	SHID	2.00	Grey area	-0.29	Distress	-1.91	Healthy	0.17	Healthy
34	SNLK	3.87	Healthy	1.43	Healthy	-2.82	Healthy	0.30	Healthy
35	SOTS	1.07	Distress	-0.64	Distress	-2.02	Healthy	-0.09	Distress

Source: Data processed, 2024

The results of the financial distress calculation above are the average score of the number of prediction scores for each model during 2020-2022. After the companies are categorized based on their conditions, then a comparison is carried out to determine the prediction ability of each model.

Table 4. Descriptive Statistical Test

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Altman	105	-9.959	28.361	2.62328	6.578037
Springate	105	-2.740	5.182	-.07302	1.114896
Zmijewski	105	-4.939	2.585	-1.47765	1.683331
Grover	105	-2.831	1.831	-.05895	0.663130

Source: SPSS, 2024

The table above presents the descriptive statistical results of the Altman, Springate, Zmijewski, and Grover models based on the calculation results during the 2020-2022 period.

Table 5. Comparison of Financial Distress Analysis Results

No	Model	Comparison Results			Sum
		Distress	Grey Area	Non Distress	
1	Altman	19 (54%)	4 (11%)	12 (34%)	35
2	Springate	29 (83%)	0 (0%)	6 (17%)	35
3	Zmijewski	7 (20%)	0 (0%)	28 (80%)	35
4	Grover	20 (57%)	0 (0%)	15 (43%)	35

Source: Data processed, 2024

From the results of the accuracy calculations carried out using the Altman, Springate, Zmijewski, and Grover models, it can be seen that there is a significant difference in the results obtained from the four models, as shown in table 5.

Table 6. Accuracy Calculation Results

Model	Accuracy Level	*Type error*
Altman	80%	9%
Springate	63%	37%
Zmijewski	74%	26%
Grover	89%	11%

Source: Data processed, 2024

The accuracy rate and *type of error* calculated in table 6 are based on the company's financial condition in 2023.

DISCUSSION

The springate model is the model with the highest financial distress calculation results with a total of 29 companies and 6 companies in the non-distress category. Followed by Grover with the next highest number of financial distress predictions as many as 20 companies, 15 companies in a non-distress. Then Altman calculated that there were 19 companies in financial distress, 12 companies in non-distress conditions state and 4 in a gray area condition that cannot be used as part of the calculation of accuracy and *type of error*. Zmijewski's model is the model with the lowest financial distress calculation of 7 companies and 28 companies in non-distress conditions. Zmijewski emphasizes on the liability ratio in his calculation, causing a low liability score to depress the X-Score so that the company is more likely to be declared in a non-distress condition.

Based on the data that has been presented and processed, it shows that in Table 3, the average value of financial distress prediction using the Altman method is 2.62328 with a standard deviation of 6.578037. This shows that the average score of the Altman model to predict financial distress in this study is 2.62328. So it can be concluded that Altman's model predicts that the average company in the tourism and leisure industry tends to be in a healthy condition. PT Arthavest Tbk (ARTA) became the company that obtained the maximum value in 2022 of 28.361. This is due to the low debt book value of PT Surya Permata of IDR 14,064,729,498 compared to its equity book value of IDR 346,665,171,727. This results in an increase in the X4 ratio, namely Book Value of Equity / Book Value of Debt.

PT Sunter Lakeside Hotel Tbk (SNLK) in 2020 became a company with a maximum value of 5,182 using the Springate model. This is due to the high results of the X3 ratio calculation, namely Earning Before Tax/Current Liabilities which is caused by SNLK profit in 2020 which tends to be high compared to the other 34 companies which mostly experienced deficits. Springate recorded an average of -0.07302. So it can be said that companies tend to experience financial distress if they use the springate model.

PT Bukit Uluwatu Villa Tbk (BUVA) in 2020 is a company with a maximum value of 2,585 using the zmijewski model. The biggest factor in the high X-Score of BUVA 2020 is the X1 ratio with the formula Net Income / Total Asset. This is due to the low total net income of IDR -1,189,598,412,341 when

compared to its total assets of IDR 2,277,220,195,895. Zmijewski's model recorded an average of -1.47765 so it can be concluded that Zmijewski's model predicts that the average tourism and leisure company tends to experience healthy conditions.

PT Bali Bintang Sejahtera Tbk (BOLA) in 2021 became the company with the maximum value of financial distress calculation using the Grover model of 1,831. The main cause of BOLA's high G-Score in 2021 is the X2 ratio with the formula Earning Before Interest and Taxes / Total Assets. This is due to the high total Earning Before Interest and Taxes of IDR 188,663,577,163 when compared to other companies that mostly have negative EBIT. The grover model shows an average value of -0.05895 which indicates that grover's model predicts companies in the tourism and leisure sector tend to be in a financial distress state.

The reality is that of the 35 companies involved in the tourism and leisure sector, there are 16 companies in the category of financial distress, while the other 19 companies are in a non-distress condition. The determination of companies experiencing financial difficulties is based on the existence of negative profits or decreased dividends paid to shareholders in the company's annual financial statements for 2023. Most companies stated a decrease in profit to deficit in the 2020-2022 period. This is due to fluctuations in demand during the Covid-19 pandemic which peaked in 2020 and 2021. Companies that experience an increase in profit in 2022 are companies that can maximize their performance so that they can bounce back.

The Grover model shows the highest level of accuracy with an accuracy percentage of 89%. This finding is in line with the results of research conducted by (Rizkyansyah & Laily, 2018; Fikri et al., 2024; Fauzan & Sutiono, 2017). Furthermore, the Altman model recorded an accuracy of 80%, followed by the Zmijewski model with an accuracy of 74%, and the Springate model which had the lowest accuracy percentage, which was 63%. From this data, it can be concluded that Grover, with an accuracy of 89%, is the most effective model in predicting financial difficulties for companies in the tourism and leisure sector. In contrast, the Springate model is not recommended for use in this context, given its lowest accuracy among all models, at 63%.

Altman is the model with the lowest *type error* of 9%. This is contrary to the second highest level of accuracy of altman. With the grover as the model with the highest level of accuracy but has a larger type error of 11%. This is due to the results of Altman's prediction which states that there are 4 companies that are in the *gray area*, namely HRME, JGLE, JSPT, and SHID. These four companies cannot be taken into account in the analysis of accuracy and type error, because the *gray area* category does not provide clarity about the financial health of the company or whether the company is in financial distress or not.

The variety of models available to predict financial difficulties is a crucial consideration for companies in choosing the most appropriate approach to assess their financial situation. Each prediction model to identify financial distress gives varying results. Variable differences, weights or coefficients in the model, cut-off values, and various assumptions in other analyses are the causes

of these results. So that these differences can affect the level of accuracy produced.

CONCLUSIONS AND RECOMMENDATIONS

This study compares the accuracy of four financial distress prediction models, namely, Altman, Springate, Zmijewski and Grover in tourism and leisure industry companies for the 2020-2022 period. The results showed that Grover had the highest level of accuracy, followed by Altman, Zmijewski and Springate. These findings show that Grover's model has the highest level of accuracy, followed by Altman, Zmijewski, and Springate. These findings indicate that the Grover model is the most suitable for companies in the tourism and leisure industry listed on the Indonesia Stock Exchange (IDX). Therefore, the Grover model can be used as a key tool in analyzing the financial condition of companies in the industry. In contrast to Altman, Zmijewski and Springate who showed prediction results that were not in accordance with the facts so that they had a low level of accuracy and a high *type of error*. This makes the three models inappropriate when applied to tourism and leisure industry companies.

ADVANCED RESEARCH

Based on the research that has been carried out, there are several limitations faced by researchers in carrying out this research. One of these limitations is that this study only focuses on financial distress analysis with the Altman, Springate, Zmijewski, and Grover models. So it is necessary to add models in future research. The observation period was carried out in a three-year period, starting from 2020-2022. The sample of this study is only based on tourism and leisure industry companies so that the results of the study cannot be generalized to other industry groups.

For the next researcher, it is hoped that it can expand the prediction model. Given the limited number of samples available in tourism and leisure industry data, it is recommended for other researchers to test company objects in other sectors, outside the tourism and leisure industry. In addition, it is also recommended to expand the range of observation periods so that the research results become more and increase the range of observation periods so that the research results are more comprehensive and accurate.

For companies, testing the accuracy of these prediction models can be an important aspect in formulating future strategies as well as to identify factors that cause companies to experience financial distress. Meanwhile, predictions regarding financial difficulties are very beneficial for investors. This information can help them choose the right forecasting model to understand the financial condition of companies in the tourism and leisure sector. Thus, investors can use these predictions as a reference in making better investment decisions.

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