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Financial Distress Analysis During the Pandemic: A Study of Retailer and Tourism Companies Listed in Bursa Malaysia Using the Grover Model

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ABSTRACT

A corporation enters financial distress when its cash flows are insufficient to cover its debts to stakeholders, both financial and non-financial. When the Coronavirus Disease 2019 (COVID-19) pandemic struck the world and caused lockdowns that impacted many businesses, particularly those in the tourism and retail industries, the likelihood of financial distress increased. Thus, the Grover model is used to determine and analyse the financial distress prediction in retail and tourist companies listed on Bursa Malaysia. The Grover model categorises companies as financially distressed with a G-Score equal to or less than -0.02. Meanwhile, the G-Score for companies in the safe zone is equal to or greater than 0.01. Four companies were chosen, and a sample of data was collected from 2017 to 2021. The findings showed that during the COVID-19 pandemic from 2020 to 2021, three companies were under financial distress, especially those in the tourism and hospitality sectors. Meanwhile, retailer companies, especially those in food manufacturing, were not affected by this pandemic.

Keywords: Financial Distress, Grover Score, Retailer, Tourism, COVID-19 pandemic.

1 INTRODUCTION

In the business world, bankruptcy or financial distress is a common occurrence. Bankruptcy is a circumstance in which a company's cash flows fail to pay its obligations to its financial and non-financial partners [1]. This indicates that the company's earnings and cash flows are now glaringly inadequate to maintain business as usual [2]. Company failures negatively affect stakeholders. This situation arose when the COVID-19 pandemic hit the world, starting in Wuhan, China, on December 31, 2019 [3]. The epidemic of COVID-19 in 2020 resulted in lockdowns worldwide, a severe drop-in corporate activity, and negative economic growth. As a result, starting in 2020, many businesses—regardless of their industry or country—are dealing with the issue of bankruptcy. This pandemic forces the temporary closure of many businesses; those who leveraged their balance sheets to benefit from near-zero interest rates might find it challenging to maintain their financial stability [4].

In Malaysia, during the COVID-19 pandemic from March 2020 to July 2021, 1,246 businesses were forced to close, and 10,317 people declared bankruptcy [5]. Despite the pandemic, factors such as inaccurate revenue projections, inexperienced management, rapidly evolving technology, shifting consumer preferences, and the company's failure to adapt as a leader in these developments can all contribute to bankruptcy [6]. Therefore, predicting corporate bankruptcy is crucial for safeguarding stakeholders' interests [7]. Much research has been conducted on predicting corporate financial distress since Altman's groundbreaking introduction of the bankruptcy prediction model in 1968. Furthermore, researchers have introduced numerous methods and models, which can be broadly classified into two groups: statistical models, and machine learning and artificial intelligence models [8].

In the literature on financial distress, the most commonly used statistical models based on accounting variables are those developed by Altman [9], Ohlson [10], and Zmijewski [11], which fall under multiple discriminant analysis. These financial distress models employ various explanatory variables and statistical methodologies, leading to differences in their predictive power [7]. Consequently, each model has its own advantages and weaknesses. Despite these existing models, Jeffrey S. Grover introduced the Grover model (G-score) for bankruptcy prediction or financial distress by designing and reassessing the Altman Z-Score method. Jeffrey S. Grover expanded upon the Altman Z-Score model with five financial ratios by introducing three new financial ratios [12].

The Grover model has currently been applied for bankruptcy prediction or assessing financial distress across various sectors showing promising results. Examples include banking [13-14], transportation subsectors [15-16], consumer goods companies [17], coal mining subsectors [18], and manufacturing [19]. In Malaysia, the Grover model has been applied to energy companies [20] and technology companies [21] listed on Bursa Malaysia.

In a comparison with the Altman Z-Score model for retail companies in Indonesia, the Grover model demonstrated its ability to predict bankruptcy, although the Altman model was found to be more accurate [22]. Another study on Indonesian banks revealed that the Grover model, incorporating financial ratios like ROA, CAR, and firm size, was effective in measuring bank health [23]. During the COVID-19 pandemic, the Grover model emerged as the most accurate among several models, with a 60% accuracy rate in predicting bankruptcy for banking companies [24]. Similarly, in a study of textile and ceramic companies listed on the Tehran Stock Exchange, the Grover model outperformed Altman, Springate, and Zmijewski models in predicting financial crises [25].

The main goal of this paper is to determine the financial distress of companies and provide benchmarking references during the COVID-19 pandemic using the Grover model. This pandemic may have had a significant impact, especially on tourism and retail companies due to lockdowns. Additionally, analysing a company's financial performance is crucial for organizational and investor decision-making processes in preparing for future pandemics.

The structure of the paper is as follows: Section 2 outlines the methodology used in this study. Section 3 presents the results and discussion. Finally, conclusions are drawn at the end of this paper.

2 METHODOLOGY

The research design and data analysis of the study will be explained upon in this section, commencing with a discussion on data collection, followed by an exploration of data sources and subsequent data analysis methodologies.

2.1 Data collection

The data comprised two sectors, each represented by two companies: the retail sector and the travel, leisure, and hospitality sector. The sample for this study includes MYNEWS Holdings Berhad, AEON CO. (M) Berhad, Shangri-La Hotels (M) Berhad, and Genting Malaysia Berhad. Analysing financial market trends on Bursa Malaysia from 2017 to 2021 reveals that MYNEWS Holdings Berhad experienced a gradual slump, AEON CO. (M) Berhad showed fluctuations with a notable fall and subsequent rise, Shangri-La Hotels (M) Berhad experienced a steep decline, and Genting Malaysia Berhad mirrored AEON CO. (M) Berhad's fluctuating performance over the five-year period. The sampling method is justified based on sector representation, diverse financial performance trends, alignment with study objectives, and availability of comprehensive data sources. This approach ensures that the selected companies offer meaningful insights into the financial market trends of the retail and travel leisure sectors from 2017 to 2021 on Bursa Malaysia.

2.2 Source of Data

Financial statements for these four companies were retrieved from Bursa Malaysia due to the financial disclosure that is performed by most corporations nowadays. The annual reports of corporations received from the Bursa Malaysia website are the secondary sources of data for financial ratios.

2.3 Data Analysis

Financial analysis begins with extracting key data from annual reports of companies listed on Bursa Malaysia. Subsequently, these values are used to calculate financial ratios, such as the G-Score, aiding in the assessment of a company's stability and risk of collapse. The outlined steps are as follows:

Step 1: Value extraction from the annual reports of company which listed in Bursa Malaysia for the following: working capital, net profit before interest and tax, net income, and total assets.

Step 2: Calculation of the financial ratios of G-Score by using value from Step 1.

Therefore, financial ratio analysis enables us to gain a better knowledge of a company's financial status and design an effective strategy for dealing with its financial challenges. As a result, it's becoming increasingly typical for analysts to foresee a company's collapse. Three ratios utilised in the G-Score are investigated. G-Score method formula cited from [12] is shown below:

$$G = 1.650x_1 + 3.404x_2 - 0.016x_3 + 0.057, \quad (1)$$

where

$$x_1 = \frac{\text{Working Capital}}{\text{Total assets}}$$

$$x_2 = \frac{\text{Earning before interest and tax}}{\text{Total assets}}$$

$$x_3 = \frac{\text{Net Income}}{\text{Total assets}}$$

Working Capital to Total Assets (x_1)

Working Capital to Total Assets is a financial ratio which shows the ability of company to generate net working capital from all assets owned. If the value of this ratio is negative, it is likely that the company has difficulty in repaying its short-term liabilities by using its current assets. Conversely, if the value is positive, it shows that the company has ability to pay off its short-term liabilities using its current asset.

Earnings Before Interest and Tax to Total Assets (x_2)

Earnings Before Interest and Tax to Total Assets is a part of profitability ratio where it shows the ability of a company to generate profit before interest and tax deducted from all assets owned.

Net income to Total Assets (x_3)

Net income to Total Assets is also part of profitability ratio where it shows the ability of a company to generate profit after interest and tax deducted from all assets owned.

Table 1 shows three numerical ranges illustrating the company's financial position in terms of bankruptcy for the G-Score Range:

Table 1. G-Score Range

No	Range of G-Score	Interpretation
1	G ≤ −0.02	The company is having financial distress
2	−0.02 < G < 0.01	Grey Area
3	G ≥ 0.01	The company is in the safe zone

3 RESULT AND DISCUSSION

Table 2 displays the Annual Financial Data from 2017 to 2021 of four companies listed on Bursa Malaysia. Meanwhile, Table 3 shows the financial ratios working capital to total assets (x_1), earnings before interest and tax to total assets (x_2) and net income to total assets (x_3) using the data from Table 2.

Table 2. Annual Financial Data (2017-2021) of Four Companies Listed on Bursa Malaysia

	Working Capital, RM '000				
	2017	**2018**	**2019**	**2020**	**2021**
MYNEWS Holdings Berhad	34,184	37,378	81,949	55,877	16,380
AEON CO. (M) Berhad	545,714	574,892	864,004	756,386	738,664
Shangri-La Hotels (M) Berhad	192,182	182,892	151,540	-75,427	-45,398
Genting Malaysia Berhad	2,294,800	2,813,600	2,608,100	113,200	501,100
	Net Profit before Interest and Tax, RM '000				
	2017	**2018**	**2019**	**2020**	**2021**
MYNEWS Holdings Berhad	30,696	32,222	32,966	-14,098	-53,434
AEON CO. (M) Berhad	193,806	187,038	196,887	101,756	131,014
Shangri-La Hotels (M) Berhad	109,660	107,948	91,468	-137,861	-126,474
Genting Malaysia Berhad	1,319,800	-4,000	1,489,400	-2,137,500	-1,147,700
	Net Income, RM '000				
	2017	**2018**	**2019**	**2020**	**2021**
MYNEWS Holdings Berhad	24,021	26,013	24,324	-15,900	-49,971
AEON CO. (M) Berhad	105,007	105,123	109,292	41,423	85,287
Shangri-La Hotels (M) Berhad	82,020	79,469	71,360	-108,690	-103,048
Genting Malaysia Berhad	1,072,600	-86,300	1,332,200	-2,361,500	-1,051,000

	Total Assets, RM '000				
	2017	**2018**	**2019**	**2020**	**2021**
MYNEWS Holdings Berhad	289,828	340,550	481,039	528,580	501,366
AEON CO. (M) Berhad	4,409,564	4,646,706	6,537,774	6,093,391	5,862,795

Table 3 displays three financial ratios (x_1, x_2 and x_3) for four companies listed on Bursa Malaysia from 2017 to 2021. The analysis of Working Capital/Total Assets (x_1) for the four companies reveals distinct trends. MYNEWS Holdings Berhad demonstrates fluctuations in this ratio, with a noticeable decrease in recent years. In contrast, AEON CO. (M) Berhad maintains stability, showing consistent performance over the period. Shangri-La Hotels (M) Berhad experiences fluctuations in x_1, marked by a significant decline in recent years, suggesting potential challenges in managing working capital. On the other hand, Genting Malaysia Berhad exhibits relative steadiness in its working capital relative to total assets, indicating a consistent financial position throughout the period.

The analysis of the Net Profit before Interest and Tax/Total Assets (x_2) and Net Income/Total Assets (x_3) ratios for the four companies yields notable insights into their financial performance. MYNEWS Holdings Berhad experiences a decline in both x_2 and x_3, with these ratios turning negative in recent years, indicating a downturn in profitability relative to total assets. AEON CO. (M) Berhad demonstrates a decreasing trend in both ratios, suggesting a decline in profitability over the period. Shangri-La Hotels (M) Berhad exhibits fluctuations in x_2 and x_3, with these ratios turning negative in recent years, indicating challenges in maintaining profitability relative to total assets. Similarly, Genting Malaysia Berhad's x_2 and $x_3$ratios fluctuate, with a negative trend emerging in recent years, highlighting volatility in profitability relative to total assets across the period.

In summary, the financial performance of the companies varies, with some experiencing declines in profitability and stability in recent years.

Table 3. Financial ratios x_1 , x_2 and x_3

	Working Capital/Total Assets				
	2017	**2018**	**2019**	**2020**	**2021**
MYNEWS Holdings Berhad	0.1179	0.1098	0.1704	0.1057	0.0327
AEON CO. (M) Berhad	0.1238	0.1237	0.1322	0.1241	0.1260
Shangri-La Hotels (M) Berhad	0.1294	0.1212	0.1002	-0.0568	-0.0369
Genting Malaysia Berhad	0.0766	0.0887	0.0783	0.0040	0.0165

	Net Profit before Interest and Tax/Total Assets				
	2017	**2018**	**2019**	**2020**	**2021**
MYNEWS Holdings Berhad	0.1059	0.0946	0.0685	-0.0267	-0.1066
AEON CO. (M) Berhad	0.0440	0.0403	0.0301	0.0167	0.0223
Shangri-La Hotels (M) Berhad	0.0738	0.0715	0.0605	-0.1038	-0.1029
Genting Malaysia Berhad	0.0440	-0.0001	0.0447	-0.0756	-0.0377
	Net Income/Total Assets				
	2017	**2018**	**2019**	**2020**	**2021**
MYNEWS Holdings Berhad	0.0829	0.0764	0.0506	-0.0301	-0.0997
AEON CO. (M) Berhad	0.0238	0.0226	0.0167	0.0068	0.0145
Shangri-La Hotels (M) Berhad	0.0552	0.0527	0.0472	-0.0818	-0.0838
Genting Malaysia Berhad	0.0358	-0.0027	0.0400	-0.0835	-0.0346

Source: Annual Report (2017-2021), Bursa Malaysia.

Hence, their respective G-Scores are as follows:

Table 4. G-scores for the year 2017 until 2021

	$G = 1.650X_1 + 3.404X_2 - 0.016X_3 + 0.057$				
	2017	**2018**	**2019**	**2020**	**2021**
MYNEWS Holdings Berhad	0.6108	0.5590	0.5706	0.1411	-0.2503
AEON CO. (M) Bhd	0.4104	0.3978	0.3773	0.3186	0.3407
Shangri-La Hotels (M) Berhad	0.5209	0.4996	0.4274	-0.3885	-0.3529
Genting Malaysia Berhad	0.3327	0.2030	0.3377	-0.1923	-0.0437

Based on the findings presented in Table 4, it is evident that MYNEWS Holdings Berhad experienced financial distress in the year 2021, as indicated by its G-Score. Conversely, AEON CO. (M) Berhad exhibited a G-Score exceeding 0.01 throughout the five-year period, indicating a healthy financial status and a diminished risk of bankruptcy. Additionally, Shangri-La Hotels (M) Berhad and Genting Malaysia Berhad demonstrated stability from 2017 to 2019, with no indication of financial distress. However, the decline in their G-Scores in 2020 and 2021 suggests a potential risk of financial strain. It is plausible that these fluctuations were influenced by the impact of lockdown measures, particularly on the tourism and hospitality sector during those years.

4 CONCLUSION

During the COVID-19 pandemic in 2020 and 2021, the tourism and hospitality sector appeared to experience notable impacts on financial performance. The analysis using the Grover Model on companies listed on Bursa Malaysia during the pandemic highlighted significant findings. MYNEWS Holdings Berhad exhibited financial distress in 2021 only, evident from its declining G-Score. In contrast, AEON CO. (M) Berhad consistently maintained a healthy financial status, reflected in its G-Score consistently above 0.01 throughout the period. Shangri-La Hotels (M) Berhad and Genting Malaysia Berhad showed stability until 2019 but experienced potential financial strain in 2020 and 2021, likely aggravated by pandemic-related challenges in the tourism sector. Importantly, these companies were not listed under PN17 by Bursa Malaysia, indicating they were not under financial distress according to the exchange's criteria. These findings underscore both sector-specific vulnerabilities and the resilience of companies with strong financial fundamentals during economic disruptions like the pandemic.

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