

TOURISM INDUSTRY BANKRUPTCY ANALYSIS OF IMPACT COVID-19 PANDEMIC

Rieska Maharani¹, Tyasha Ayu Melynda Sari²

^{1,2} Fakultas Ekonomi dan Bisnis, Universitas Muhammadiyah Surabaya
Email: Rieska.maharani@fe.um-surabaya.ac.id¹, tyasha.ams28@gmail.com²

Abstract: This study aims to determine the bankruptcy analysis used in tourism industry companies due to the impact of Covid-19 in Indonesia. This study uses four bankruptcy analyzes, namely Springate (S-Score), Zmijewski analysis (X-Score), Grover analysis (G-Score), and Altman analysis (Z-Score). The sample used is a restaurant, hotel, and tourism company listed on the IDX during 2018-2020. The sampling technique was purposive sampling with a total sample of 27 companies. The results showed that the analysis, namely Springate (S-Score) there were 25 companies in a state of bankruptcy and two companies in good health, Zmijewski analysis (X-Score) there were four companies in bankruptcy and 23 companies in good health, Grover analysis (G-Score) Score) there are 14 companies in bankruptcy and 13 companies in good health, and Altman analysis (Z-Score) there are 18 companies in a state of bankruptcy, five companies in a state of a gray area (gray), and four companies in a state not bankrupt. The occurrence of Covid-19 in Indonesia also has an impact on tourism and its supporting sectors such as restaurants and hotels. The reason is the policies that have been set by the government to suppress the growth of Covid-19.

Keywords: *Covid-19, Bankruptcy, Tourism*

1. INTRODUCTION

COVID-19 pandemic is a virus that causes illnesses ranging from mild flu to more severe respiratory infections such as MERS-CoV and SARS-CoV (Usman, 2020). WHO declared Covid-19 a pandemic and declared a global health emergency and called for action to break the chain of transmission internationally. The spread of this disease is very fast, marked by the increase in the number of cases and the number of deaths. From February 2020 to July 2020, the number of cases that occur continues to increase in Indonesia (Elgaputra, et al., 2020).

Along with the spread of the Corona Virus Disease-2019 (Covid-19) outbreak to almost more than 210 countries in the world until April 27, 2020, more than 3,000,000 cases and resulted in more than 200,000 people dying and 878,000 patients having recovered from the first Covid-19 outbreak. It was first detected in Wuhan City, China, in December 2019 and was designated a Covid-19 Pandemic by the World Health Organization (WHO) on March 11, 2020. Covid-19 is suspected of spreading through people who have been contaminated with the coronavirus (Andaka, 2020).

Tourism is one of the sectors most affected by the COVID-19 pandemic. The pressure on the tourism industry is most evident in the massive decline in foreign tourist arrivals with massive cancellations and a drop in bookings. The decline also occurred due to the slowdown

in domestic travel, mainly due to the reluctance of Indonesians to travel, worried about the impact of Covid-19. The decline in the tourism and travel business has an impact on MSME businesses and disrupts employment opportunities. Whereas so far, tourism is a labor-intensive sector that absorbs more than 13 million workers. This figure does not include the derivative impact or the multiplier effect that follows, including the derivative industry formed under it.

Based on data from the Central Statistics Agency, there was a significant decrease in the number of tourists, both local and foreign tourists. Total foreign tourist visits to Indonesia in 2020 amounted to 4.02 million visits. When compared to 2019, the number of foreign tourists decreased by 75.03 percent. Based on nationality, five countries visited Indonesia the most in 2020, namely Timor Leste, Malaysia, Singapore, Australia, and China (Egsgaum, 2021).

The Indonesian economy is in a difficult condition due to government policies to stop the spread of the Covid-19 pandemic (Silalahi & Ginting, 2020). The government is aware of the economic demands that are getting weaker with the paralysis of various economic sectors. Restrictions on the world of work cannot be carried out continuously; the wheels of the economy must keep turning. A strong desire also emerged from the community to return to carrying out activities as usual (Suprihatin, 2020). Based on the results of a survey conducted by the Ministry of Tourism and Creative Economy, nationally, the Covid-19 pandemic has resulted in 92% of the 5,242 tourism sector workers feeling the loss of their jobs and the types of businesses most affected are accommodation by 87.3%, transportation 9.4 %, restaurants are 2.4%, and the remaining 0.97% are other types of businesses that have suffered losses due to the Covid-19 pandemic, such as souvenir shops, spa homes and other tourism services (Sugihamretha, 2020).

This pandemic has changed consumer behavior in determining the purchase of tourism products and services. Tourists need comfort when traveling in the form of ensuring cleanliness, health, and safety from Covid-19 infection. Comfortness not only for tourists but also for workers and the community environment. All stakeholders of the tourism industry must anticipate changes in behavior in traveling. Consumer behavior is very important for companies. Its purpose is to predict, explain and control consumers. By predicting consumer behavior, companies can design appropriate patterns to influence consumers and can produce goods according to consumer tastes (Suprihatin, 2020).

The company is an entity established by individuals or institutions with the main objective of maximizing shareholder wealth. The main purpose of establishing a company, in general, is to seek profit or profit, increase sales, and prosper the stakeholders (Ben, 2015). Currently, the declining tourism conditions make the company has the potential to go bankrupt. The bankruptcy of the company certainly makes investors and creditors feel worried about the state of the company. Therefore the actual risk of corporate bankruptcy can be seen and measured through the financial statements issued by the company. The company's financial condition can be a benchmark for a company to what extent the company can maintain the smooth operation of the company so that it is by the company's initial goals. To achieve goals, companies need to conduct analysis and evaluation of financial statements. Financial Statements are reports that are expected to provide information about the company's description and risks (Arum dan Handayani, 2018).

Several studies have been done before. Fatmawati (2012) states that the Zmijewski model is a predictive model that is more accurate than the Altman Z-Score analysis and Springate analysis. Imanzadeh, et al. (2011) that the Springate model is more conservative than the Zmijewski model. The highest level of accuracy achieved by the Grover model was followed

by the Springate model, the Zmijewski model, and finally, the Altman Z-score model (Prihanthini dan Sari, 2013). The difference in the results of the research above, this study predicts bankruptcy using Springate analysis (S-Score), Zmijewski analysis (X-Score), Grover analysis (G-Score), and Altman analysis (Z-Score). This research is expected to be useful in adding empirical evidence about the impact of the Covid-19 pandemic on restaurant, hotel, and tourism sector companies so that it can be a reference for decision-making by the government, investors, and management.

2. LITERATURE REVIEW

Bankruptcy

Financial condition is a complement that is used to see the level of company health through financial statements and at the same time can be used to predict company bankruptcy (Thohari, et al., 2015). Bankruptcy is a condition where a company is no longer able to operate the company properly because the financial difficulties experienced by the entity are already very severe (Prihanthini & Sari, 2013). To minimize the occurrence of bankruptcy, companies can analyze financial conditions using financial analysis techniques (Chrisnawan & Norita, 2017). Financial statements are information that describes the condition of a company, which in turn will become information that describes financial performance (Purnomo dan Hendratno, 2019).

Gamayuni (2011) the cause of bankruptcy can come from internal and external factors of the company. Internal factors between the lack of effective use of assets and liabilities. Meanwhile, external factors are inflation, tax system, and law which cannot maintain the company's performance, so that it can affect the condition of the company's operational activities. Some parties will be harmed if a company goes bankrupt. Adriana & Rusli (2012) explained that the aggrieved parties are those who have an interest in the company, such as investors and creditors. For this reason, we need a predictive tool or model that can be used to detect the potential for bankruptcy of the company.

Tourist

Tourism is a trip that is carried out for holiday recreation or includes all preparations made to carry out this activity. Tourism cannot be separated from two things, namely tourists as people who carry out tourism activities and tourism products in the form of goods/services that will be enjoyed by tourists (Suprihatin, 2020). The tourism industry plays an important role in Indonesia as the face and ambassador of the nation who proclaims its existence to the international community. Indonesia has a great culture and natural potential and is a capital for the development of the tourism sector, which is closely related to the development of a region (Pradipta, 2021).

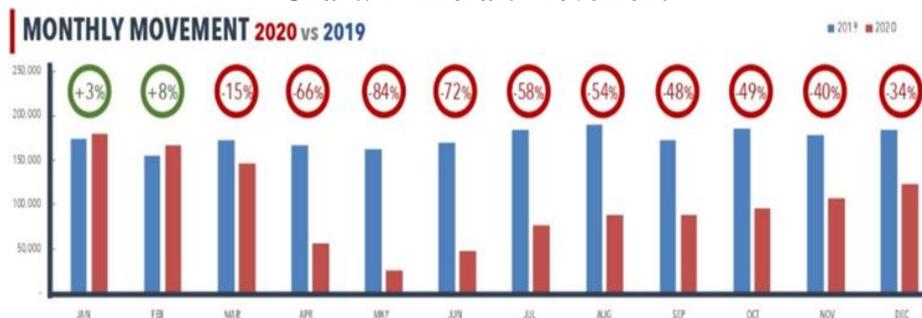
Impact of Covid-19 on the Tourism Sector

The ongoing Covid-19 pandemic has forced many transportation sectors, including air transportation, to face turbulence that they have never faced before. The worsening pandemic conditions have resulted in the implementation of Emergency PPKM. Covid-19 has dealt many blows to the aviation industry not only in Indonesia but throughout the world. The International Air Transport Association (IATA) predicts that the aviation industry's cash flow will remain negative during 2021, with a potential cash burn of up to USD75 billion.

According to the BPS report, the growth of the aviation sector in the first quarter of 2020 contracted by 13.3 percent compared to the previous year. Meanwhile, foreign tourist arrivals

in the first quarter also contracted by 31 percent, compared to the same period last year as well as domestic tourists. This situation is supported by the policy that has been put in place to travel by air transportation through the Covid-19 test rules that have been determined by the government.

Chart. 1 Aircraft Movement



Source: Air Nav Indonesia, 2021

In the first two months of 2020, aircraft movements increased compared to 2019. After that, there was a process of decreasing aircraft movements in March 2020 when the COVID-19 pandemic began to spread in Indonesia. In year to year (YoY) 2020 compared to 2019, there was an accumulated decline of -43%. The most significant declines occurred in April, namely -66%, May -84%, and June -72%. This has happened since there were restrictions on air transportation movements during the Eid al-Fitr homecoming period in 1441 H to prevent the spread of Covid-19.

Impact of COVID-19 on the Hospitality Accommodation Provider Sector

The decline in foreign tourists also has an impact on supporting sectors such as hotels.

Chart. 2 Star Hotel Room Occupancy Level



Source: Central Bureau of Statistics (BPS)

In September 2020, the average Room Occupancy Rate (TPK) reached 32.12 percent. This achievement decreased from 53.52 percent, which indicated a decrease of 21.40 percent. The decline in the Room Occupancy Rate (TPK) occurred in all provinces in Indonesia. The highest decline occurred in the province of Bali, which is one of the popular destinations in Indonesia, amounting to 57.94 percent. The decline in tourism will affect supporting sectors such as Indonesian star hotels. The policy that has been set by the government is to always keep your distance and not leave the house if it is not necessary.

Previous Research

Several studies have been conducted regarding the impact of Covid-19 on the tourism sector. Suprihatin (2020) on the Analysis of Tourist Consumer Behavior in the Era of the Covid-19 Pandemic (Case Study of Tourism in West Nusa Tenggara). The results show that for tourists as consumer behavior in the Covid-19 pandemic era, producers need to understand well the motivations of consumers as tourists to make it easier to find out the desired needs—Armani, etc., (2021) regarding the Analysis of Company Bankruptcy Ratios during the Covid-19 Pandemic. The results state that the company is experiencing financial and liquidity difficulties as a result of low company growth, which allows the company's condition to be unhealthy. Wulandari dan Maslichah (2021) states the use of the Springate, Ohlson, Altman Z-Score, and Grover Score models to predict financial distress during the Covid-19 pandemic. The results state that using Springate analysis, 45 manufacturing companies are experiencing financial difficulties and 28 companies not experiencing financial difficulties, Ohlson analysis 24 manufacturing companies experiencing financial difficulties and 49 not experiencing financial difficulties, Altman Z-Score analysis identifies 12 companies experiencing financial difficulties, and 15 are in a gray area condition, and 46 are in a healthy condition, and the Grover Score analysis shows that eight companies are in financial distress and 65 companies are in good health.

3. RESEARCH METHOD

Research and Description of the Research Population (Object)

This type of research is descriptive research. Descriptive research is research to determine the value of independent variables, either one or more (independent) variables, without making comparisons or connecting with other variables (Sugiyono, 2012).

Sampling Technique

The sampling method in this research is purposive sampling. Purposive sampling is a sampling technique of data sources with certain considerations. The purposive sampling in this study is the restaurant, hotel, and tourism sub-sector companies listed on the Indonesia Stock Exchange, the restaurant, hotel, and tourism sub-sector companies that publish consecutive annual financial reports on the Indonesia Stock Exchange for the 2018-2020 period, and restaurant, hotel, and tourism sub-sector companies that do not have a share price in the market.

Data Analysis Technique

1. Data was collected in the form of financial statements of restaurant, hotel, and tourism sub-sector companies listed on the Indonesia Stock Exchange in 2018-2020.
2. Data were calculated using models, the Springate analysis bankruptcy analysis model (S-Score), Zmijewski analysis (X-Score), Grover analysis (G-Score), and Altman analysis (Z-Score). After knowing the calculation results, it will determine the prediction of the model on the condition of the company (whether it is healthy or has the potential to go bankrupt).

Springate (S-Score) Analysis

The Springate Analysis Model was developed in 1978 at Simon Fraser University by Gordon L.V. Springate. Gordon uses discriminant analysis with multiple steps to identify four financial ratios.

The Springate model equation (S-Score) is formulated as follows (Rajasekar dkk., 2014):

$$S\text{-Score} = 1,03X_1 + 3,07X_2 + 0,66X_3 + 0,4X_4$$

Where:

X1 = Working Capital / Total Assets

X2 = EBIT / Total Assets

X3 = EBIT / Current Liabilities

X4 = Sales / Total Assets

The Springate (S-Score) model has a standard where to predict company bankruptcy is (Peter & Yoseph., 2011):

1. S-Score > 0.862 is classified as a healthy company or not bankrupt.
2. S-Score < 0.862 is classified as a potentially bankrupt company.

Zmijewski (X-Score) Analysis

Zmijewski conducted an expanded study in bankruptcy prediction. Zmijewski adds to the validity of financial ratios as a company failure detection tool.

The Zmijewski model equation (X-Score) is formulated as follows(Peter dan Yoseph., 2011):

$$X\text{-Score} = -4,3 - 4,5X_1 + 5,7X_2 - 0,004X_3$$

Where:

X1 = EAT / Total Assets

X2 = Total Debt / Total Assets

X3 = Current Assets / Current Liabilities

Zmijewski model (X-Score) has a standard where to predict company bankruptcy is(Djameluddin, etc., 2017):

1. If X-Score < 0 or negative = the company can be classified as healthy or not bankrupt.
2. If X-Score > 0 = company can be classified in no condition healthy or potentially bankrupt.

Grover (G-Score) Analysis

The Grover model (G-Score) is a model created by designing and reassessing the Altman model (Z-Score).

The Grover model equation (G-Score) is formulated as follows(Prihanthini dan Sari, 2013):

$$G\text{-Score} = 1,650X_1 + 3,404X_2 - 0,026X_3 + 0,057$$

Where:

X1 = Working Capital / Total Assets

X2 = EBIT / Total Assets

X3 = EAT / Total Assets

The Grover model (G-Score) has a standard in which to predict company bankruptcy are:

1. If the G-Score -0.02 = the company can be classified as bankrupt.
2. If the G-Score 0.01 = the company can be classified as healthy.

Altman (Z-Score) Analysis

Altman (Z-score) is a method used to measure the bankruptcy of a company seen from the company's financial statements. This method is often used because it is easier to use 5 (five) financial ratios to measure performance and predict the potential for bankruptcy of the company. This model can be applied to a modern economy that can predict bankruptcy (Anjum, 2012). The level of prediction accuracy using Altman Z-score analysis is up to 95 percent (Sari dan Arif, 2020).

The Altman model equation (Z-score) is formulated as follows (Hanafi, 2015):

$$Z\text{-Score} = 1,2X_1 + 1,4X_2 + 3,3X_3 + 0,6X_4 + 1,0X_5$$

Where:

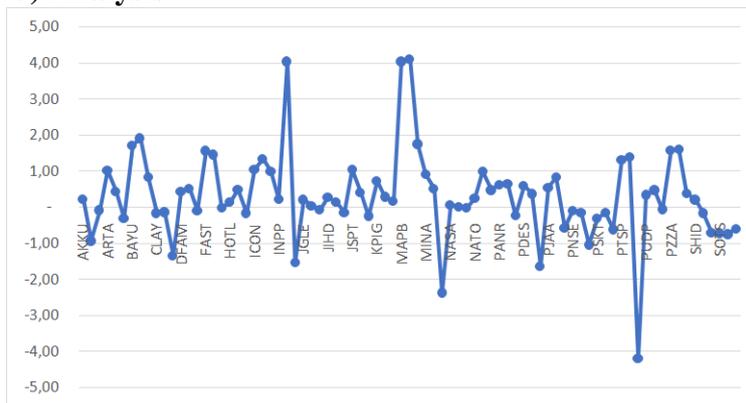
- X1 = Working Capital / Total Assets
- X2 = Retained Earnings / Total Assets
- X3 = EBIT / Total Assets
- X4 = Market Value of Shares / Total Debt
- X5 = Sales / Total Assets

The Altman model (Z-score) has a standard in which to predict company bankruptcy are:

1. Z-score > 2.675 = the company can be classified as healthy.
2. Z-Score 1.81 – 2.675 = the company can be classified as gray.
3. Z-score < 1.81 = the company can be classified as bankrupt.

4. RESULTS AND DISCUSSION

Springate (S-Score) Analysis

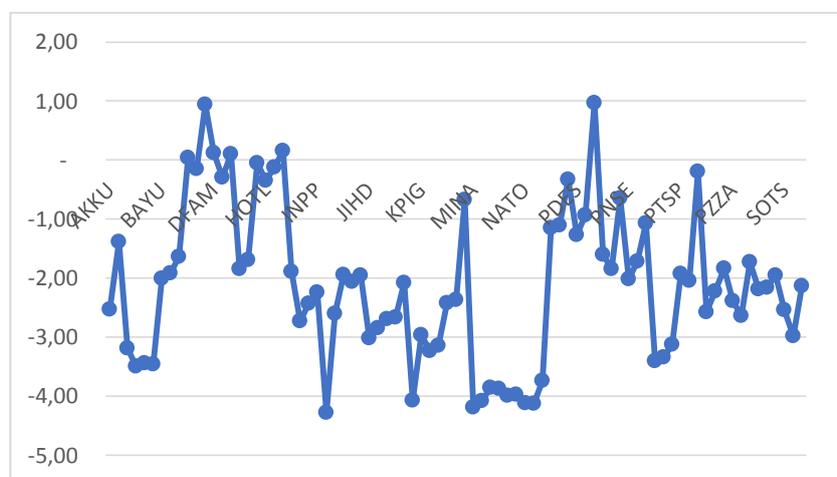


Graph 3. Springate Analysis (S-Score)

Based on the results of the graph above shows that companies in the restaurant, hotel and tourism sub-sector in 2018-2020 of 27 companies experienced bankruptcy with an S-Score value < 0.862. Almost all companies went bankrupt. There were only a few companies that indicated they were in good health. In 2020 many companies experienced unhealthy conditions due to Covid-19. The Company Arthavest Tbk (ARTA) had a Springate value (S-Score) in 2018, which has a value of 1.01, which indicates that it is not bankrupt. Bayu Buana Tbk (BAYU) and Fast Food Indonesia Tbk (FAST) companies in the last three years have an average score of 1.48 and 1.00, which indicates the company is in good health although, in

2020, the company has a Springate score (S-Score) 0.84 and -0.03. Respectively. The company Island Concepts Indonesia Tbk (ICON) during 2018-2020 had an average score of 1.12 and a Springate (S-Score) value of 1.05, 1.32, and 0.99, which indicated that the company was in good health. In 2019 the Indonesian Paradise Property Tbk (INPP) company had a Springate (S-Score) of 4.03, and the Jakarta Setiabudi Internasional Tbk (JSPT) company had a Springate (S-Score) of 1.05, which indicates the company is in good health. The Boga Adiperkasa Tbk (MAPB) Company in 2018-2020 has a Springate (S-Score) of 4.04, 4.10, and 1.74 and has an average value of 3.29, indicating that the company's condition is healthy. In 2018 the Sanurhasta Mitra Tbk (MINA) Company had a Springate value (S-Score) of 0.90, and the Nusantara Properti International (NATO) company had a Springate value (S-Score) of 0.98, which indicates the company is in good health. In 2018 and 2019, the Indonesian Pioneerindo Gourmet International Tbk (PTSP) company had a Springate value (S-Score) of 1.31 and 1.38, and the Sarimelati Kencana Tbk (PZZA) company had a Springate value (S-Score) of 1.57 and 1,61, which indicates the company is in good health.

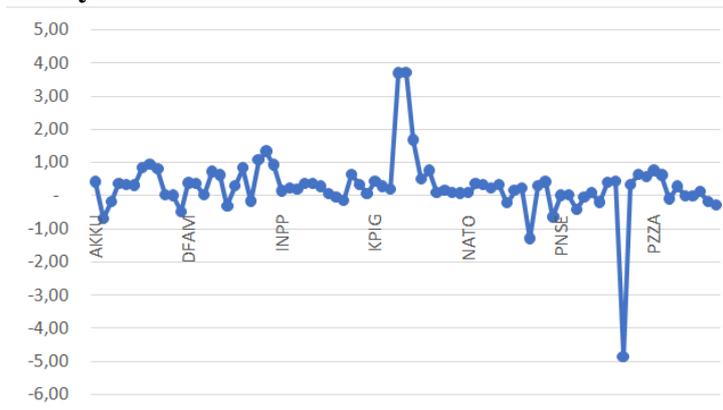
Zmijewski (X-Score) Analysis



Graph 4. Zmijewski Analysis (X-Score)

Using the Zmijewski (X-Score) analysis, several companies indicated that they were in bankruptcy with the X-Score criteria > 0 . The Citra Putra Realty Tbk (CLAY) company in 2018-2020 was in bankruptcy with a Zmijewski (X-Score) value of 0, 04, and 0.94, and the average score was 0.28, although, in 2019, Zmijewski's score (X-Score) was -0.15. The company Dafam Property Indonesia Tbk (DFAM) has a Zmijewski (X-Score) 0.04 and 0.94 and an average of 0.28 in 2018 and 2020, which indicates the company's condition is unhealthy or bankrupt. In 2020, the company Saraswati Griya Lestari Tbk (HOTEL) and the Destinasi Tirta Nusantara Tbk (PDES) company had a Zmijewski value (X-Score) of 0.16 and 0.97, respectively, indicating the company was in a state of bankruptcy. This shows that in 2020 the company will feel the impact of Covid-19 so that many experience bankruptcy.

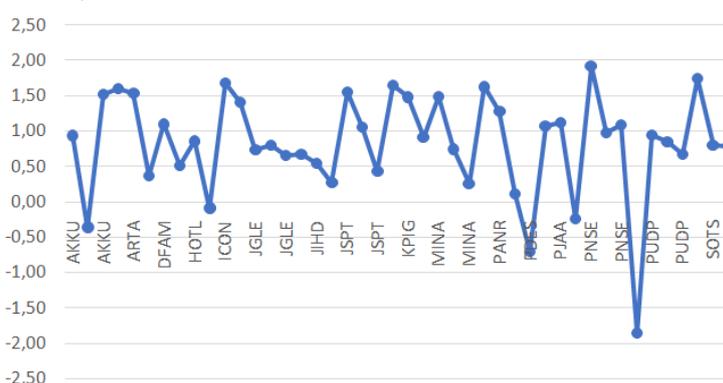
Grover (G-Score) Analysis



Graph 4. Grover's Analysis (G-Score)

Grover's analysis (G-Score) shows the criteria of G-Score -0.02 the company is in a state of bankruptcy. In 2020, the restaurant, hotel, and tourism sub-sector companies experienced a shock due to Covid-19. It is proven that the Anugerah Kagum Karya Utama Tbk (AKKU) company in 2019 and 2020 experienced an unhealthy condition or went bankrupt with a G-Score of -0.70 and -0.18 with an average of -0.15 . Citra Putra Realty Tbk (CLAY), Fast Food Indonesia Tbk (FAST), and Saraswati Griya Lestari Tbk (HOTEL) companies in 2020, each with G-Score values of -0.49 , -0.32 , and -0.17 shows the company's condition has been affected by Covid-19. The company Jakarta International Hotels Tbk (JIHD) in 2019 and 2020 also experienced an unhealthy condition with G-Score values of -0.04 and -0.15 with an average of -0.04 . Panorama Sentrawisata Tbk (PANR), Destinasi Tirta Nusantara Tbk (PDEs), and Pembangunan Jaya Ancol Tbk (PJAA) as the tourism sector in 2020 were greatly affected by Covid-19 as a result of the government's policy that prohibits social distancing and does not go out if not there is a need to have G-Score values of -0.23 , -1.29 , and -0.64 . Pudjiadi and Sons Tbk (PNSE) and Red Planet Indonesia Tbk (PSKT) companies in 2018 and 2020 were in an unhealthy condition with G-Score values of -0.00 and 0.42 and -0.04 and -0 , respectively. 20 with a mean of -0.13 and -0.05 . The companies Pioneerindo Gourmet International Tbk (PTSP) and Sarimelati Kencana Tbk (PZZA) in the restaurant sector, Hotel Sahid Jaya International Tbk (SHID), and Satria Mega Kencana Tbk (SOTS) in the hotel sector in 2020 are very influential due to Covid-19 as a tourism support sector due to Covid-19 with G-Score values of -4.85 , -0.10 , -0.02 , and -0.28 respectively.

Altman (Z-Score) Analysis



Altman analysis (Z-Score) has the criteria that companies that have a Z-score <1.81 are categorized as bankrupt. Using this analysis, almost all companies are in an unhealthy condition which is mostly affected by Covid-19. Anugerah Kagum Karya Utama Tbk (AKKU) company during 2018-2020 has an average value of 0.70, which describes the company in an unhealthy condition. The Arthavest Tbk (ARTA) company in 2019-2020 has a Z-Score value of 1.60 and 1.54, which indicates that the company is in a state of bankruptcy. Citra Putra Realty Tbk (CLAY) in 2018 showed an indication that the company was in an unhealthy condition with a Z-Score of 0.37. The company Dafam Property Indonesia Tbk (DFAM), which is engaged in the hotel sector in 2020, has had an impact due to Covid-19 by having a Z-Score of 1.10. The company Saraswati Griya Lestari Tbk (HOTEL) in 2018-2020, as a provider of lodging facilities, experienced unhealthy conditions with Z-Score values of 0.52, 0.85, and -0.09 with an average value of 0.43. The company Destinasi Tirta Nusantara Tbk (PDES) is engaged in providing tourism agencies, and Pioneerindo Gourmet International Tbk (PTSP) is engaged in restaurants each having a Z-Score of -0.70 and -1.85 experiencing unhealthy conditions due to policies that implemented due to the emergence of Covid-19 which was limits activities outside the home, among others, to travel and to buy food that must take away which causes the company to experience a decline in sales.

5. CONCLUSION

Analysis using Springate (S-Score), Zmijewski (X-Score), Grover (G-Score), and Altman (Z-Score) have different criteria. Altman analysis (Z-Score) has three conditions to analyze the state of bankruptcy, namely a healthy state, a gray area (gray), and bankruptcy, but for the other three analyzes, it has two conditions to analyze bankruptcy, namely healthy and unhealthy conditions (bankrupt). The results showed that each analytical method used resulted in different conditions, but some companies were in the same condition even though they used different analytical methods. The Covid-19 pandemic has had a major impact on the tourism sector and its supporting sectors such as restaurants and hotels. Policies were set by the government to suppress the increase in the number of Covid-19 patients, such as keeping a distance and not leaving the house if there is no urgent need to make people stay at home.

Suggestions

1. Companies categorized as experiencing bankruptcy improve their financial condition, and companies categorized as in good health to maintain and improve their financial condition so that they do not experience a decline.
2. Further researchers are expected to use other methods to predict the condition of the company's bankruptcy so that it can be developed and find out the advantages and disadvantages of each method of analysis used.

REFERENCES

- Adriana, A. N., & Rusli, N. (2012). Analisis Prediksi Kebangkrutan Menggunakan Metode Springate Pada Perusahaan Foods and Beverages yang Terdaftar di Bursa Efek Indonesia periode 2006-2010. *E-journal Repository Akuntansi Universitas Riau*, 4(1), 5–20.
- Andaka, D. (2020). Dampak Pelarangan Mudik Akibat Pandemi Covid19 Terhadap Bisnis Angkutan Udara Di Indonesia. *Journal Of Civil Engineering And Planning*, 1(2), 116–129.

- Anjum, S. (2012). Business bankruptcy prediction models: A significant study of the Altman's Z-score model. *Asian Journal of Management Research*, 3(1).
- Armadani, A., Fisabil, A. I., & Salsabila, D. T. (2021). Analisis Rasio Kebangkrutan Perusahaan pada Masa Pandemi Covid-19. *Jurnal Akuntansi*, 99–108.
- Arum, D. P., & Handayani, S. R. (2018). Analisis Perbandingan Metode Altman (Z-Score), Springate (S-Score), dan Zmijewski (X-Score) dalam Memprediksi Kebangkrutan Perusahaan (Studi pada Perusahaan Tekstil dan Garmen yang Terdaftar di Bursa Efek Indonesia Periode 2012-2016). *Jurnal Administrasi Bisnis*, 60(1), 109–118.
- Ben, D. A. (2015). Analisis Metode Springate (S-Score) Sebagai Alat Untuk Memprediksi Kebangkrutan Perusahaan (Studi pada Perusahaan Property dan Real estate yang listing di Bursa Efek Indonesia pada Tahun 2011-2013). *Jurnal Administrasi Bisnis*, 21(1).
- Chrisnawan, R., & Norita, N. (2017). Analisis Prediksi Kebangkrutan Menggunakan Metode Altman Z-score, Grover Dan Fulmer Pada Industri Sub Sektor Perkebunan Yang Terdaftar Di Bursa Efek Indonesia (studi Kasus Perusahaan Perkebunan Kelapa Sawit Periode 2011-2015). *eProceedings of Management*, 4(1).
- Novita, D., & Mochklas, M. (2021). Performance of Private Universities Lecturers During Covid-19 Pandemic: Webinars And Online Training. *Turkish Online Journal of Qualitative Inquiry*, 12(9): 3005-3017
- Djamaluddin, S., Putridan, M. J., & Ali, H. (2017). Financial distress comparative analysis of Japanese electronic manufacture after financial global crisis 2008 using Altman, Ohlson, and Zmijewski Model. *The International Journal of Business and Management*, 5(7), 131–141.
- Egsaugm. (2021). *Pariwisata Indonesia di Tengah Pandemi*. EGSA (Environmental Geography Student Association) Universitas Gadjah Mada.
- Elgaputra, R. R., Sakti, E. Y. A., Widyandri, D. B., Azhari, A. R., Renatta, C., Rainasya, K., & Musta'ina, S. (2020). Implementasi Sosialisasi Covid-19 Dalam Upaya Meningkatkan Kesadaran masyarakat terhadap Protokol Kesehatan di kota Jakarta. *Jurnal Layanan Masyarakat (Journal of Public Services)*, 4(2), 423–433.
- Fatmawati, M. (2012). Penggunaan the Zmijewski Model, the Altman Model, dan the Springate Model sebagai prediktor delisting. *Jurnal Keuangan dan Perbankan*, 16(1).
- Gamayuni, R. R. (2011). Analisis Ketepatan Model Altman sebagai Alat untuk Memprediksi Kebangkrutan (Studi Empiris pada Perusahaan Manufaktur di BEI). *Jurnal Akuntansi dan Keuangan*, 16(2), 158–176.
- Hanafi, M. M. (2015). *Manajem Edisi 1*. BPF.
- Imanzadeh, P., Maran, J.-M., & Petro, S. (2011). A Study of the Application of Springate and Zmijewski Bankruptcy Prediction Models in Firms Accepted in Tehran Stock Exchange. *Australian Journal of Basic and Applied Sciences*, 5(11), 1546–1550.
- Lufitasari, E., Mochklas, M. & Soelistya, D. (2020). Employee Performance PT. Millenium Pharmacon International Tbk: Quality Of Human Resources (HR) And Information Systems Of Millenium Pharmacon International (SIMPI). *International Journal of Economics, Business, and Accounting Research*, 4(3):256-264
- Peter, & Yoseph. (2011). Analisis kebangkrutan dengan metode Z-Score Altman, Springate, dan Zmijewski pada PT. Indofood Sukses Makmur Tbk periode 2005-2009. *Jurnal Ilmiah Akuntansi*, 4(2).

- Pradipta, M. P. Y. (2021). Pengaruh New Normal terhadap Kegiatan Pariwisata di Indonesia. *SABBHATA YATRA: Jurnal Pariwisata dan Budaya*, 2(1), 28–42.
- Prihanthini, N. M. E. D., & Sari, M. M. R. (2013). Prediksi Kebangkrutan Dengan Model Grover, Altman Z-Score, Springate Dan Zmijewski Pada Perusahaan Food And Beverage Di Bursa Efek Indonesia. *E-jurnal akuntansi Universitas Udayana*, 5(2), 417–435.
- Purnomo, A. F., & Hendratno, H. (2019). Analisis Prediksi Kebangkrutan Menggunakan Metode Altman Z-score, Grover, Dan Zmijewski Pada Perusahaan Minyak Dan Gas Bumi Yang Terdaftar Di Bursa Efek Indonesia Periode 2013-2017. *eProceedings of Management*, 6(2).
- Rajasekar, T., Ashraf, S., & Deo, M. (2014). An empirical inquiry on the financial distress of Navratna Companies in India. *Journal of Accounting and Finance*, 14(3), 100–110.
- Sari, N. R., & Arif, M. F. (2020). Mendeteksi Financial Distress dengan Model Altman Z-Score. *Jurnal Ilmiah Akuntansi Dan Humanika*, 10(1), 93–102.
- Sembiring, M.J., Fatihudin, D., Mochklas, M., & Holisin, I. (2020). Banking Employee Performance During Pandemic Covid-19: Remuneration And Motivation. *Journal of Xi'an University of Architecture & Technology*, 12(7): 64-71
- Sugihamretha, I. D. G. (2020). Respon Kebijakan: Mitigasi Dampak Wabah Covid-19 Pada Sektor Pariwisata. *The Indonesian Journal of Development Planning*, 4(2), 191–206.
- Sugiyono. (2012). *Metode Penelitian Kuantitatif Kualitatif dan R&B*. Alfabeta.
- Suprihatin, W. (2020). Analisis Perilaku Konsumen Wisatawan Era Pandemi Covid-19 (Studi Kasus Pariwisata di Nusa Tenggara Barat). *BESTARI*, 1(1), 56–66.
- Thohari, M. Z., Sudjana, N., & A, Z. Z. (2015). Prediksi kebangkrutan menggunakan analisis model Z-score (studi pada subsektor textile mill products yang terdaftar di Bursa Efek Indonesia periode 2009-2013). *Jurnal Administrasi Bisnis*, 28(1), 149–157.
- Usman, R. A. (2020). Sosialisasi hidup sehat di tengah wabah virus corona. *Pengabdian Masyarakat*, 1(2).
- Wulandari, E. Y., & Maslichah, M. (2021). Penggunaan Model Springate, Ohlson, Altman Z-Score, Dan Grover Score Untuk Memprediksi Financial Distress Pada Masa Pandemi Covid 19 (Studi Pada Perusahaan Manufaktur Yang Terdaftar Di Bursa Efek Indonesia). *Jurnal Ilmiah Riset Akuntansi*, 10(5).