Financial Performance of Telecommunications Companies Before and During the Covid-19 Pandemic

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Abstract. This study aims to investigate whether there are differences in the Financial Performance of Telecommunication Companies before and during the Covid-19 pandemic. The research sample consists of telecommunication companies from six Southeast Asian countries, namely Indonesia, Malaysia, Singapore, Thailand, Philippines, and Vietnam. Because the research data is not normally distributed, the hypothesis test uses the Wilcoxon Sign Test method. The results show that there are differences in the Current Ratio and Total Asset Turnover Ratio before and during the Covid-19 pandemic. Meanwhile, there are differences in the Debt to Assets Ratio, Return on Assets Ratio, and Return on Equity Ratio between the period before and during the Covid-19 pandemic. The Current Ratio, Total Asset Turnover Ratio, and Debt to Assets Ratio have decreased, while the Return on Assets Ratio and Return on Equity Ratio have increased.

Keywords: Financial Performance, Covid-19, Current Ratio, Total Assets Turnover, Debt to Assets, Return on Assets, Return on Equity.

1 Introduction

The Covid-19 pandemic, a rapidly spreading coronavirus disease, gripped the world in early 2020, including Southeast Asia. Its impact was far-reaching, threatening public health and significantly impacting the region's economies. To curb the Covid-19 pandemic, governments-imposed lockdowns and remote work regulations. This, while dampening the economy, had the unintended consequence of dramatically increasing internet usage. This surge in online activity presented a golden opportunity for telecommunication companies to step in as essential service providers, capitalizing on the shift towards a digital world even amidst the pandemic's overall negative impact.

As Covid-19 kept people indoors, the internet transformed from a convenience to a necessity. Millions turned to online platforms for learning and work, creating a tidal wave of demand for internet services. Telecommunication companies, scrambling to meet this unprecedented surge, witnessed a boom in new subscribers. In 2020, a staggering 40 million new users joined the internet, dwarfing the previous five years' growth. This pandemic-driven digital revolution fueled a dramatic rise in telecommunication companies' fortunes, proving that even amidst crisis, innovation can thrive.

Beyond the anecdotal stories of increased demand, the true impact of the Covid-19 pandemic on telecommunication companies lies within the pages of their financial statements.

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These detailed reports serve as a treasure trove of information, offering crucial insights into a company's financial well-being. By analyzing key indicators like liquidity, activity, solvency, and profitability, we can see the pandemic's positive influence on the industry, not just in theory, but in hard numbers.

Research conducted by [2] on the impact of the covid-19 pandemic on the financial performance of companies on the Indonesia stock exchange shows that there are no differences in liquidity ratios and leverage ratios, but profitability ratios and short-term activity ratios of public companies differ significantly between before and during the Covid-19 pandemic. The result of [8] examined how the real effects of the covid-19 pandemic damaged company performance. The results show that the average ROA of company performance has decreased due to the increase in cumulative cases skyrocketing and the effect is also large in economic terms. In addition, companies operating in countries with better healthcare, finance, and governance systems can survive better in the face of a pandemic. Next is an analysis [5] that assesses how global companies performed amid the Covid-19 pandemic. The findings indicate the importance of acknowledging and addressing the susceptibility of private enterprises, industrial sectors, and certain nations to infectious diseases like Covid-19. Policymakers and corporate professionals play a crucial role in managing this vulnerability through the provision of diverse subsidies and preferential policies. Despite the reassertion of state authority during the Covid-19 crisis, there appears to be a need for a redesign of corporate and government financial responsibilities and their impact on corporate performance outcomes once the crisis subsides.

A study conducted by [11] explored the significance of corporate flexibility in responding to disasters and the profound crisis of Covid-19. The findings indicate that companies possessing high operational flexibility exhibit superior stock performance compared to those with low operational flexibility. This is attributed to the risk mitigation provided by contraction options embedded in the company's operational flexibility. Moreover, the hedging effect is more pronounced for firms located in provinces experiencing severe shocks and those with fewer fixed assets. Another investigation by [12] delved into the repercussions of the Covid-19 pandemic on the financial performance of Chinese issuers. The results underscored a severe negative impact, manifested through declines in revenue, profitability, and overall investment across various industries. Furthermore, research conducted by [13] on the influence of the Covid-19 pandemic on company performance revealed a detrimental effect on listed Chinese companies, evidenced by a reduction in investment scale and total revenue.

According of the research [16] that examined the impact of the Covid-19 pandemic on manufacturing and service sector companies listed in China showed that Covid-19 resulted in a decrease in sales-related profitability. Based on the mechanism, the results show that Covid- 19 decreases cash flow efficiency, makes the inventory turnover ratio lower and causes a higher probability of receivables so that it can cause increased costs and make operations longer. The result of [7] conducted research to measure and analyze the company's financial performance at PT Aneka Tambang before and during the Covid-19 pandemic, which showed that the financial performance of PT Aneka Tambang during the pandemic and before the Covid-19 pandemic was considered poor because the ROE value decreased. This suggests that PT Aneka Tambang demonstrates a lower level of effectiveness in utilizing the company's capital to generate shareholder profits. A study carried out by [4] comparing the financial performance and value of manufacturing companies before and during the Covid-19 pandemic revealed a decline in leverage ratio, activity ratio, and company value amid the pandemic. Nevertheless, profitability and liquidity ratios experienced an upturn during the Covid-19 period.

Research of the [15] on differences in financial performance between companies in 44 subsector companies of cosmetics and household appliances, food and beverage, household appliances, pharmaceuticals and tobacco producers. During the Covid-19 pandemic period, some subsectors showed that company performance had decreased, while some other subsectors showed an increase. There are differences in company performance before and during Covid-19. Research conducted by [14] analyzing the financial performance of PT Unilever Indonesia by comparing the financial performance conditions of the period before and during the Covid-19 pandemic shows that public consumption of consumer goods products tends to be constant and stable during the Covid-19 pandemic. Therefore, the Covid-19 pandemic did not have a major impact on the consumer goods industry sector. Research [1] on the effect of the Covid-19 pandemic on the financial performance of PT Jembo Cable Company, which is engaged in the manufacture of electricity and telecommunications cables. The results showed that there were increases and differences in the current ratio and the ratio of total equity to total assets.

This research is an idea derived from previous research [2]. In contrast to previous research involving all industrial sectors in Indonesia, this study will focus on the Telecommunication Company industry in Southeast Asian countries. We focused in this industry because Telecommunication's company have significant growth during Covid 19 Pandemic. Our main purpose in this research to find out whether there are differences in the Financial Performance of Telecommunication Companies before and during the Covid-19 period for various country in Southeast Asian.

2 Theory, Literature Review and Hypotheses

Agency Theory

Agency theory is the theory of the relationship of interests between members in the company. An agency relationship is defined as an agreement in which one or more people (principals) hire others (agents) to perform certain services on behalf of the principals which includes the delegation of authority to the agents for decision-making. When both parties have the same goal of maximizing firm value, there is reason to believe that the agent will act in an appropriate manner in the principal's interest. Agency theory is the relationship between principals, namely shareholders, and agents, namely management [9]. The management of the company who is authorized over the company's activities is obliged to report the condition and condition of the company to the principal based on the financial statements and the actual condition of the company. So that both parties can monitor and maximize the value of company performance.

Literature Review

According to a study conducted by [2] on the impact of the Covid-19 pandemic on the financial performance of companies listed on the Indonesian Stock Exchange, a sample of 214 companies across nine industries or 49 sub-industries was examined. The study employed the Wilcoxon signed-rank test for data analysis. The findings indicate that, amid the COVID-19 pandemic, listed companies witnessed an increase in debt ratio and short-term activity ratio, while experiencing a decrease in liquidity ratio and profitability ratio. No significant differences were observed in liquidity and debt ratios. However, there were notable variations in the profitability and short-term activity rates of public companies before and during the COVID-19 pandemic. Specifically, the consumer goods industry saw an increase in liquidity ratios, profitability ratios, and short-term activity ratios, accompanied by a decline in leverage ratios. On the other hand, sectors such as property, real estate, building construction, finance, trade, services, and investment exhibited a reduction in liquidity and profitability ratios during the pandemic period.

The research of [8] examined how the real effects of covid-19 damage company performance. This study collected data on cumulative cases and new cases of COVID-19 from the World Health Organization (WHO) website. The sample period used is 2020Q1 to 2020Q3. The results show that the average ROA of company performance has decreased due to the increase in cumulative cases skyrocketing and the effect is also large economically. In addition, firms operating in countries with better healthcare, finance and governance systems can better withstand the pandemic.

In a research study [5] utilizing financial data from 13 companies gathered between May 19 and July 17, 2020, the findings emphasize the importance of acknowledging and addressing the vulnerability of private companies, industrial sectors, and specific countries to infectious diseases such as Covid-19. The study suggests that policymakers and corporate professionals should take proactive measures by providing various subsidies and preferential policies. Additionally, the Covid-19 pandemic has prompted researchers to recognize the dependence of companies on the broader environment, including government support and intervention. Despite the reassertion of state authority during the Covid-19 crisis, there appears to be a need for a redesign of corporate and government financing responsibilities and their impact on corporate performance outcomes after the crisis has subsided. This recognition underscores the evolving dynamics between government support, corporate responsibilities, and overall corporate performance.

As indicated by [11], their examination of the significance of corporate flexibility in addressing the challenges posed by Covid-19 disasters and extreme crises involved the inclusion of all Chinese A-share companies listed on the Shanghai and Shenzhen stock exchanges. The findings reveal that companies characterized by high operational flexibility demonstrated more favorable market responses to the effects of Covid-19. Moreover, the study shows a positive correlation between operating flexibility and stock cumulative abnormal returns, a result in line with the outcomes of portfolio analysis.

According to the findings of [12], which investigated the repercussions of the Covid-19 pandemic on the financial performance of Chinese issuers, the study utilized financial reports released by companies listed in China spanning the period from 2013 to 2019. The results indicated a substantial adverse impact of Covid-19 on the financial performance of Chinese issuers, evidenced by a decline in revenue, profitability, and overall investment across various industries.

Examination of the influence of the Covid-19 pandemic on corporate performance in Literature [13] reveals a detrimental effect on the performance of Chinese listed companies, marked by a reduction in investment levels and total sales. Industries such as tourism, hotels, and transportation, impacted by the epidemic, witnessed a decline in performance during the initial quarter of 2020. To anticipate the performance of companies during the t+1 period (2014 to 2020), this study utilizes financial data from Chinese listed companies sourced from the China Stock Market and Accounting Research (CSMAR) database covering the period from 2013 to 2019.

Research of [16] that examines the impact of the pandemic on manufacturing and service sector companies listed in China using the main data source of companies listed in the CSMAR database, which is widely used for most corporate financial periods in China, shows that Covid-19 reduces sales-related profitability. Based on the mechanism, the results show that Covid-19 decreases cash flow efficiency, makes inventory turnover ratio lower and causes a higher probability of receivables that can lead to increased costs and make operations longer.

According to [7], a study was conducted using the DuPont system to measure and analyze the corporate financial performance of PT Aneka Tambang during the pandemic and before the Covid-19 pandemic. The study used secondary data in the form of financial statements for 2018-2020 obtained from the official website of PT Aneka Tambang. The results show that PT Aneka Tambang's financial performance during the pandemic and before the Covid-19 pandemic was not satisfactory due to a decline in ROE value. The decrease in ROE value is due to the decrease in ROI and EM value. The decrease in ROI value is due to the decrease in NPM value and TATO value. The decrease in EM value is due to the company's failure to generate total assets from total equity. This suggests that PT Aneka Tambang is less efficient at managing the company's capital in generating profits for shareholders.

Research of [4] on the comparison of financial performance and the value of manufacturing companies before and during the COVID-19 pandemic showed that there was a decrease in the leverage ratio, activity ratio and company value during the COVID-19 pandemic, while the profitability and liquidity ratios increased during the Covid-19 pandemic. The results of the t-test in this study show that there is a difference in the activity ratio, while there is no difference in the profitability ratio, liquidity ratio, leverage ratio and firm value. The study used secondary data, namely financial reports from 108 manufacturing companies listed on the IDX in 2019-2020.

Research by [15] in his research on differences in financial performance in 44 companies in the subsectors of cosmetics and household appliances, food and beverages, household appliances, pharmaceuticals and tobacco producers. During the Covid-19 pandemic, several subsectors showed that company performance had decreased, while several other subsectors showed an increase and there were differences in company performance before and during the Covid-19 pandemic. This study uses company financial statement data obtained from the Indonesia Stock Exchange which is tested using the Multivariate Analysis of Variance (MANOVA) data analysis technique.

The study conducted by [14], which assessed and scrutinized the financial performance of PT Unilever Indonesia by comparing conditions before and during the Covid-19 pandemic using the average difference analysis technique, revealed that there is no discernible difference in the financial performance of PT Unilever Indonesia between the periods before and during the pandemic. This implies that consumer consumption of consumer goods products remained relatively constant and stable amid the Covid-19 pandemic. Consequently, it suggests that the impact of the Covid-19 pandemic on the consumer goods industry sector, and specifically on PT Unilever Indonesia, was not substantial. The consistent consumption patterns among the Indonesian populace during the pandemic significantly contributed to Unilever Indonesia's financial performance, resulting in statistical similarity to the period before the Covid-19 pandemic.

Research by [1] examines the impact of the Covid-19 pandemic on the financial performance of PT Jembo Cable Company, which is engaged in the manufacturing of power and telecommunications cables. The study used PT Jembo Cable Company's financial reports for the first quarter (Q1), first quarter (Q2) and third quarter (Q3) of 2019 and 2020, which were obtained from the company's official website. The results show that both the current ratio and the ratio of total equity to total assets show increases and differences. Although the asset-liability ratio and the asset-liability ratio have declined, the gap has also narrowed. Furthermore, the results also show that there is no difference between quick ratio, ROIC, ROE, ROA, inventory turnover and total asset turnover. This proves that PT Jembo Cables is able to manage its finances well, even though PT Jembo Cables' revenue fell due to project delays during the Covid-19 pandemic.

The Covid-19 pandemic has dealt a double blow to the country's economy and the telecommunications subsector. While financial turmoil has impacted performance, responsible company management prioritizes stakeholder interests, including transparency about financial health. As agency theory dictates, management owes information to its principal, the shareholders, regarding company activities, particularly the financial state. Regardless of the situation, shareholder awareness is crucial for informed decision-making. Decreased revenue during the pandemic, a natural consequence of the economic crisis, inevitably affects overall financial health, including current assets. Cash flow, generated from sales, is the primary current asset impacted by revenue fluctuations. Significant changes in current assets ultimately influence the current ratio, a measure of liquidity. While research by [1] suggests an increase and variation in the current ratio during the pandemic, [2] finds a decrease in the same period. This conflicting evidence leads to our first hypothesis:

H1: There is a difference in the Financial Performance of Telecommunication Companies before and during the Covid-19 Pandemic in terms of Current Ratio.

The Covid-19 pandemic has undoubtedly thrown a wrench in companies' profit-generating abilities. To weather the storm and maximize shareholder value, both management and shareholders, as the principal, must make informed decisions. One key metric for measuring a company's efficiency in generating income from its assets is Total Asset Turnover (TATO). A higher TATO indicates faster asset turnover, leading to increased sales and profitability. However, research presents conflicting data on the pandemic's impact on TATO. While [7] suggests a decrease due to an unbalanced increase in total assets without corresponding revenue growth, [4] finds varied TATO ratios during the pandemic period. This contrasting evidence leads to our second hypothesis:

H2: There is a difference in the Financial Performance of Telecommunication Companies before and during the Covid-19 Pandemic in terms of Total Asset Turnover Ratio.

The Covid-19 pandemic's grip on sales directly impacts profits and cash flow from transactions, hindering a company's ability to meet debt obligations. This lack of readily available cash strains debt repayment, a crucial factor for both management and shareholders (principals) as per agency theory. Research by [1] in electrical and telecommunications cable manufacturers reveals a decrease and variation in the debt-to-assets ratio during the pandemic, suggesting a potential decline in debt-servicing capacity. Furthermore, the absence of sales revenue reduces the company's ability to cover operational costs, potentially leading to losses.

This evidence leads to our third hypothesis:
H3: There is a difference in the Financial Performance of Telecommunication Companies before and during the Covid-19 Pandemic in terms of the Debt to Asset Ratio.

The Covid-19 pandemic's double blow of weakened purchasing power and rising interest rates has dealt a severe blow to telecommunications companies' profitability. Lower consumer spending directly impacts total revenue, and without corresponding cost reduction, profits inevitably suffer. This decline in revenue also dilutes the company's net profit as a percentage of its assets, a critical measure of overall financial health. Transparency about this financial health is crucial for both management and shareholders (principals) to make informed decisions, as dictated by agency theory. Research confirms this impact on profitability. Studies like [2] show a decrease in the Return on Assets (ROA) ratio for public companies during the pandemic period, highlighting the widespread nature of the decline. Others, like [16] and [13], specifically focus on telecommunications companies, finding a significant drop in ROA due to plummeting revenue caused by the pandemic. Therefore, our fourth hypothesis emerges:
H4: There is a difference in the Financial Performance of Telecommunication Companies before and during the Covid-19 Pandemic in terms of Return on Assets Ratio.

The Covid-19 pandemic's grip on company income directly affects Return on Equity (ROE), a measure of the profit generated per unit of shareholder investment. As income dwindles, the percentage of profit relative to equity shrinks, impacting shareholder returns. After all, the core purpose of companies is to generate substantial profits for shareholders, their primary stakeholders. To ensure transparency and uphold agency theory, management must keep shareholders informed about the company's financial health. Ultimately, the success in delivering shareholder value is reflected in the ROE achieved. Research confirms the pandemic's negative impact on ROE. Studies like [12] show a decrease in ROE for Chinese companies due to Covid-19-induced revenue decline. Similarly, [15] finds a significant difference in ROE values before and during the pandemic period. Based on this evidence, we can formulate the fifth hypothesis:
H5: There is a difference in the Financial Performance of Telecommunication Companies before and during the Covid-19 Pandemic in terms of Return on Equity Ratio.

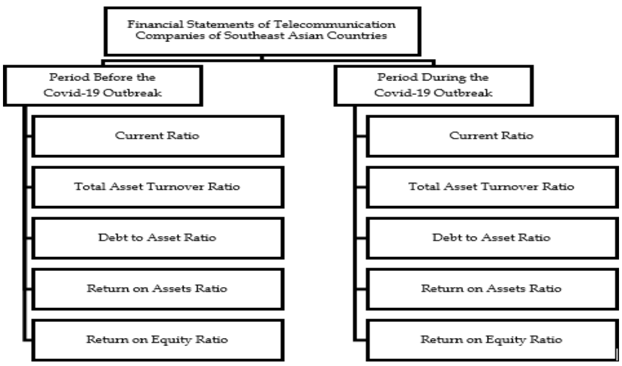

Figure 1. Research Model

3 Research Methods

This research uses a comparative method with a quantitative approach. This study uses the type of ratio data and secondary data with data sources in the form of company financial reports from the Stock Exchange website of each country. In this study, descriptive data processing techniques were used which will be processed and presented in tabular form using numbers.

Research Variable

a. Current Ratio

Current Ratio (CR) is a ratio used to measure the company's ability to meet short-term obligations or debts that will soon be due when collected as a whole [10]. The formula for calculating the Current Ratio is as follows:

$$\text{Current Ratio} = \frac{Current\ Assets}{Current\ Liabilities}$$

b. Total Asset Turnover Ratio

Total Asset Turnover Ratio (TATO) is a ratio used to measure the company's ability to utilize its assets to generate sales revenue obtained from each asset [10]. The formula for calculating the Total Asset Turnover Ratio is as follows:

$$Total\ Asset\ Turnover\ Ratio = \frac{Revenue}{Total\ Assets}$$

c. Debt to Asset Ratio

Debt to Asset Ratio (DAR) is a debt ratio used to measure the ratio of the company's total debt to its total assets [10]. The formula for calculating the Debt to Asset Ratio is as follows:

$$\text{Debt to Asset Ratio} = \frac{Total\ Liabilities}{Total\ Assets}$$

d. Return on Assets Ratio

Return on Assets Ratio (ROA) is a ratio that shows the return on all assets used in the company [10]. The formula for calculating the Return on Assets Ratio is as follows:

$$\text{Return on Assets Ratio} = \frac{Net\ Profit\ after\ Tax}{Total\ Assets}$$

e. Return on Equity Ratio

Return on Equity Ratio (ROE) is a ratio that measures net profit after tax on the capital owned by the company [10]. The formula for calculating the Return on Equity Ratio is as follows:

$$\text{Return on Equity Ratio} = \frac{Net\ Profit\ after\ Tax}{Total\ Equity}$$

Population and Sample
In this study, the population used is Telecommunication companies located in 6 (six) Southeast Asian countries, namely Indonesia, Malaysia, Singapore, Thailand, the Philippines and Vietnam. Sampling is done using purposive sampling technique, with the criteria that the telecommunications company sector is listed on the Stock Exchange in Southeast Asia in 2018-2021, there is a complete company annual financial report from 2018-2021 and has complete variable data to be used in the study. Based on these criteria, 80 (eighty) companies can be sampled and tested.

Data Analysis Technique
Testing and analysis of research data was carried out using the Differential Test by analyzing differences in several variables in two different periods, namely the period before and during the Covid-19 Pandemic.

Descriptive Statistics
Before testing, descriptive statistical analysis can be carried out which provides an overview of the average value, maximum value and minimum value of the variable data obtained and used in the study.

4 Result and Discussion

In this study, data testing and analysis includes descriptive statistics and a different test of the financial performance of telecommunications companies before and during the Covid-19 pandemic. First, descriptive statistical analysis was conducted to obtain an overview of the variable data obtained and will be used in the study. Descriptive statistical analysis of all variables in the study is as follows:

Table 1. Descriptive Statistics

Variable	N	Before Covid-19			During Covid-19		
		Min	Maks	Average	Min	Maks	Average
CR	80	0.02	5.42	1.5246	0.03	4.28	1.1994
TATO	80	0.06	3.17	0.7958	0.03	3.44	0.7441
DAR	80	0.11	12.98	0.6979	0.09	0.95	0.5514
ROA	80	-4.36	0.21	-0.0817	-0.27	0.40	0.0387
ROE	80	-1.06	2.23	0.1071	-0.61	1.93	0.1114

According to the findings from the descriptive statistical analysis presented in table 1, it is evident that Southeast Asian telecommunications companies experienced a decline in the average current ratio during the period of the covid-19 pandemic in comparison to the period preceding it. The average current ratio was 1.5246 before the covid-19 pandemic, whereas it decreased to 1.1994 during the pandemic. This indicates a reduction of 0.3252 in the current ratio from the pre-pandemic period to the pandemic period. Consequently, it can be inferred that the financial performance of Southeast Asian telecommunications companies, specifically in terms of current ratio, was adversely affected by the covid-19 pandemic.

From the table 1 it can be seen that not only the current ratio, but the average total asset turnover ratio in Southeast Asian telecommunications companies also decreased in the period after the covid-19 pandemic compared to before. The average total asset turnover ratio before the covid-19 pandemic period was 0.7958, while the average value of the total asset turnover ratio during the covid-19 pandemic was 0.7441. There was a decrease in the total asset turnover ratio of 0.0517 from the period before to the period after the covid-19 pandemic. This shows that the covid-19 pandemic has a negative impact on the financial performance of Southeast Asian telecommunication companies in terms of the total asset turnover ratio.

The average debt to asset ratio of Southeast Asian telecommunications companies shown in table 1 decreased during the covid- 19 pandemic compared to before. The average value of the debt to asset ratio before the covid- 19 pandemic period was 0.6979, while during the covid-19 pandemic the average debt to asset ratio decreased to 0.5514. The decrease in the debt to asset ratio from the period before the covid-19 pandemic to the period during the covid-19 pandemic amounted to 0.1465. This shows that the covid-19 pandemic has a positive impact on the financial performance of Southeast Asian telecommunication companies in terms of the debt to asset ratio.

There was an increase in the average asset return ratio of Southeast Asian telecommunications companies in the period during the covid-19 pandemic compared to before. The average value of the asset return ratio before the covid-19 pandemic period was -0.0817, while the average value of the asset return ratio during the covid-19 pandemic was 0.0387. There was an increase in the asset return ratio from the period before the covid-19 pandemic to during the covid-19 pandemic of 0.1204. This shows that the covid-19 pandemic has had a positive impact on the financial performance of Southeast Asian telecommunications companies in terms of the return on assets ratio.

In addition, the average value of the return on equity ratio in Southeast Asian telecommunications companies as shown from the results of descriptive statistical analysis in table 1 also increased in the period during the covid-19 pandemic compared to before the covid-19 pandemic. The average value of the return on equity ratio before the covid-19 pandemic period was 0.1071, while the average value of the return on equity ratio during the covid-19 pandemic was 0.1114. The increase in the average value of the return on equity ratio is 0.0043, which means that the covid-19 pandemic has a positive effect on the financial performance of Southeast Asian telecommunications companies in terms of the return on equity ratio.

Wilcoxon Sign Test

Because the research data used is not normally distributed, hypothesis testing is carried out using non-parametric methods, namely through the Wilcoxon Sign Test.

Table 2. Wilcoxon Sign Test

Variable		N	Mean Rank	Sum of Ranks	Z	Asymp. Sig. (2-tailed)
CR	Negative Ranks	60	42.29	2537.50	-4.680a	0.000
	Positive Ranks	19	32.76	622.50		
	Ties	1				
	Total	80				
TATO	Negative Ranks	23	34.00	782.00	-3.397a	0.001
	Positive Ranks	52	39.77	2068.00		
	Ties	5				
	Total	80				
DAR	Negative Ranks	44	36.18	1592.00	-0.668a	0.504
	Positive Ranks	32	41.69	1334.00		
	Ties	4				

	Total	80				
ROA	Negative Ranks	28	38.98	1091.50	-0.090a	0.928
	Positive Ranks	38	29.46	1119.50		
	Ties	14				
	Total	80				
ROE	Negative Ranks	36	39.11	1408.00	-0.475a	0.634
	Positive Ranks	41	38.90	1585.00		
	Ties	3				
	Total	80				

Based on the results of testing the Wilcoxon Sign Test hypothesis in Table 2, it shows that there are 60 Southeast Asian telecommunications companies that have decreased in the company's current ratio with an average value of 42.29. There are 19 companies that have increased in the company's current ratio with an average increase of 32.76. In addition, there is 1 company that has no change in the company's current ratio, which means that the value of the company's current ratio before and during covid-19 is the same. The significance value is 0.000 or <0.05, which means there is a difference in the current ratio before and during the Covid-19 pandemic. So, it can be concluded that H1 is accepted.

The results of testing the Wilcoxon Sign Test hypothesis in Table 2 show that there are 23 Southeast Asian telecommunications companies experiencing a decrease in the company's total asset turnover ratio, the average value of the decrease is 782.00. There are 52 companies that have increased the company's total asset turnover ratio with an average increase of 2068.00. In addition, there are 5 companies whose total asset turnover ratio has not changed, which means that the value of the company's total asset turnover ratio before and during covid-19 is the same. The Significance value is 0.001 or <0.05, meaning that there is a difference in the total asset turnover ratio before and during the Covid-19 pandemic. So, it can be concluded that H2 is accepted.

There are 44 Southeast Asian telecommunications companies experiencing a decrease in the company's debt to asset ratio, the average value of the decrease is 1592.00. There are 32 companies that have increased in the company's debt to asset ratio, the average value of an increase of 1334.00. In addition, there are 4 companies that have no change in the company's debt to asset ratio, which means that the value of the company's debt to asset ratio before and during covid-19 is the same. The Significance value is 0.504 or> 0.05 which means there is no difference in the ratio of debt to assets before and during the Covid-19 pandemic. So, it can be concluded that H3 is rejected.

The hypothesis 4 also indicate the same with hypothesis 3. There are 28 Southeast Asian telecommunications companies experiencing a decrease in the company's return on assets ratio with an average value of 1091.50. There are 38 companies that have increased in the company's return on assets ratio with an average increase of 1119.50. In addition, 14 companies did not experience changes in the company's asset return ratio, which means that the value of the company's asset return ratio before and during covid- 19 is the same. The Significance value is 0.928 or> 0.05 which means there is no difference in the return on assets ratio before and during the Covid-19 pandemic. So, it can be concluded that H4 is rejected.

Based on the results of testing the Wilcoxon Sign Test hypothesis in Table 2, it shows that there are 36 Southeast Asian telecommunications companies whose return on equity ratio has decreased by an average value of 1408.00. There are 41 companies that have increased in the company's return on equity ratio with an average increase of 1585.00. In addition, there are 3 companies that have no change in the company's equity return ratio, which means that the value of the company's equity return ratio before and during covid-19 is the same. The Significance value is 0.634 or> 0.05, meaning that there is no difference in the return on equity ratio before and during the Covid-19 pandemic. So, it can be concluded that H5 is rejected.

Analysis and Discussion

Financial Performance of Telecommunication Companies before and during the Covid- 19 Pandemic in terms of Current Ratio

This study confirms Hypothesis 1, demonstrating a significant difference in the Current Ratio of Telecommunications Companies before and during the Covid-19 pandemic. Data analysis of financial statements reveals a decline in current assets during the pandemic, while current liabilities have increased. This imbalance has resulted in a lower Current Ratio, suggesting a weakened ability of companies to meet their short-term obligations with readily available assets. Despite this challenge, company management remains obligated to transparently disclose the actual financial condition to shareholders, empowering them to make informed decisions. This aligns with the findings of [1], which also highlighted differences in the Current Ratio during the pandemic period.

Financial Performance of Telecommunication Companies before and during the Covid- 19 Pandemic in terms of Total Asset Turnover Ratio.

This study further confirms Hypothesis 2, revealing a significant difference in the Total Asset Turnover Ratio (TATO) of Telecommunications Companies before and during the Covid-19 pandemic. Analysis of both the study's test results and financial statements data confirms a decline in TATO during the pandemic. This decline stems from an imbalance between asset growth and revenue growth. Specifically, Southeast Asian telecommunication companies experienced an average increase of 15.24% in total assets while average total revenue only increased by 1.14%. This suggests that companies are not effectively utilizing their assets to generate revenue, a concerning sign of inefficiency. Despite this challenge, company management remains obligated to transparently report the actual financial condition to shareholders. This informed decision-making aligns with agency theory and ultimately helps both management and shareholders act in ways that maximize company value. The study's findings are in line with research by [4], which also highlighted differences in TATO during the pandemic.

Financial Performance of Telecommunication Companies before and during the Covid- 19 Pandemic in terms of Debt to Asset Ratio.

This study's findings reject Hypothesis 3, indicating no significant difference in the Debt-to-Asset Ratio (DAR) of Telecommunications Companies before and during the Covid-19 pandemic. Our analysis, along with data from financial statements, shows a decrease in DAR for Southeast Asian telecommunications companies during this period. This suggests an improvement in the companies' ability to manage their debt and finance their assets more efficiently. Transparency about this financial health remains crucial for informed decision-making by both management and shareholders, as agency theory dictates. This aligns with the findings of [1], which also highlighted a decrease in DAR and differences in the ratio before and during the pandemic.

Financial Performance of Telecommunication Companies before and during the Covid- 19 Pandemic in terms of Return on Assets Ratio.

This study's findings surprisingly contradict Hypothesis 4, indicating no significant difference in the Return on Assets Ratio (ROA) of Telecommunications Companies before and during the Covid-19 pandemic. Both our analysis and financial statement data reveal an increase in ROA for Southeast Asian telecommunication companies during this period. This positive trend likely stems from a combined increase in average total assets and net profit after tax. The rise in ROA suggests that the increasing percentage of a company's net profit relative to its assets might be attributed to a rise in consumer purchasing power during the pandemic. Transparency about this financial health remains key for informed decision-making by both management and shareholders, as per agency theory. While these findings contradict [2]'s research highlighting differences in ROA during the pandemic, they emphasize the complex and potentially nuanced impact of Covid-19 on specific industries.

Financial Performance of Telecommunication Companies before and during the Covid- 19 Pandemic in terms of Return on Equity Ratio.

This study throws a curveball, contradicting Hypothesis 5 by suggesting no significant difference in the Return on Equity Ratio (ROE) of Telecommunications Companies before and during the Covid-19 pandemic. Both our analysis and financial statement data point towards an increase in ROE during this period. This positive trend likely stems from a combined increase in average total equity and net profit after tax, indicating a strong ability to generate shareholder value. Transparency about this financial health remains crucial for informed decision-making by both management and shareholders, as agency theory emphasizes. Interestingly, these findings align with research by [1] which also found no significant differences in ROE values, further highlighting the complex and potentially varied impacts of the pandemic on different industries.

Additional Testing

In this study, to complement the research results, researchers also tested telecommunications companies in each country in Southeast Asia.

Table 3. Hypothesis Testing for Each Country

Country	N	CR	TATO	DAR	ROA	ROE
Indonesia	16	0.495	0.050	0.164	0.319	0.233
Malaysia	15	0.733	0.158	0.669	0.455	0.414
Singapore	2	0.655	0.180	0.180	0.180	0.180
Thailand	32	0.000	0.018	0.703	0.364	0.906
Philippines	2	0.180	0.180	0.157	0.317	0.655
Vietnam	13	0.328	0.279	0.665	0.075	0.133

The analysis of telecommunications companies in Southeast Asia reveals a nuanced picture of their financial performance during the Covid-19 pandemic. While some key ratios, like current ratio, debt-to-assets ratio, return on assets (ROA), and return on equity (ROE), show no significant differences before and during the pandemic across the region, others like total asset turnover (TATO) exhibit variation. Indonesia and Thailand present contrasting cases. While Indonesia's TATO differs between pre-pandemic and pandemic periods, its current ratio, debt-to-assets ratio, ROA, and ROE remain unchanged. Conversely, Thailand shows differences in both TATO and current ratio, with the other ratios remaining stable. This divergence across countries highlights the complexity of the pandemic's impact. Each nation's unique economic landscape, regulatory environment, and consumer behavior likely contributed to these diverse outcomes. In contrast, the stability of ratios like ROA and ROE across various countries suggests some common factors might be at play, such as the increased reliance on digital communication during the pandemic.

Further investigation is needed to understand the specific causes behind these differences. Examining the underlying factors influencing each ratio within each country would provide valuable insights into the pandemic's nuanced effects on telecommunications companies across Southeast Asia.

5 Conclusion, Suggestions and Limitations

This study investigates the impact of the Covid-19 pandemic on the financial performance of telecommunications companies in Southeast Asia. Focusing on six countries (Indonesia, Malaysia, Singapore, Thailand, Philippines, and Vietnam), we utilized the Wilcoxon Sign Test to analyze key financial ratios before and during the pandemic. Our findings reveal a nuanced picture current ratio and total asset turnover ratio both declined, suggesting a potential decrease in liquidity and asset utilization efficiency during the pandemic. For debt-to-asset ratio, return on assets ratio, and return on equity ratio, these ratios remained unchanged, indicating resilience in debt management and profitability despite the challenging circumstances. This research implications are for company management, these findings can inform financial performance evaluation using ratios, helping companies navigate similar economic disruptions and improve efficiency. For investors, this information can assist investors in making informed decisions about potential investments in telecommunications companies within the region. This study did not consider the influence of inflation, market differences, and individual country growth rates, which could play a role in financial performance and there are no access to up-to-date audited data hindered a comprehensive analysis. Future research better expanding the data sample to include more companies and time periods. Incorporating control variables to account for the influence of economic factors and country-specific dynamics.

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