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Abstract

The evolving business environment may force the telecommunications and information-technology sectors to integrate and work together to become more service-oriented. In Malaysia, most companies that have experienced mergers and acquisitions (M&A) are facing some difficulties in maintaining their performance and efficiency due to some circumstances. Therefore, this study investigates the performance of the selected telecommunication companies that have been involved in M&A from the selected middle-income ASEAN countries. The observations are based on internal factors in the companies, which include liquidity, company size, growth, and debt concerning the return-on-asset performance. The Random Effect Regression Model has been used for secondary data collected in Malaysia, Indonesia, and the Philippines from 2007 until 2021. The findings suggest that growth has a positive relationship with profitability, while liquidity, debt, and size have a negative indicator. Meanwhile, it is found that all the independent variables are significant with profitability. These proven results have finally concluded that the target companies should create total asset efficiency to improve their performance in the future. For upcoming research, it is suggested that future researchers include more companies in more countries and more numbers of years involved.

Keywords: Telecommunication Companies, Middle-income Countries, Profitability.

Introduction

With the rapid development of the global economy nowadays, most companies have been eager to find a better position, including creating synergy among mergers and acquisitions (M&A) companies in gaining profits. M&A deals are among the most crucial events and sometimes may lead to internal problems in the life cycle of a business and have a substantial impact on the operations and activities of the organization (Renneboog & Vansteenkiste, 2019). Significantly, the M&A is an inter-company partnership and coping mechanism used by many companies in facing new competition that may inevitably increase in the near future following global financial crises since many businesses strive to be the survival of the fittest either because of the desire to increase market power or the corporate control market (Salleh

et al., 2013). Due to that, it is important to initiate an investigation into the performance of the M&A depending on the level of income and better development for such countries.

Nowadays, telecommunication is rising due to high customer demands (Lam et al., 2019). The changing business climate has made it possible for the telecommunications and information technology (IT) industry to merge and work together, such as the management information system (MIS), to make the industry more service oriented. However, telecommunications have not been widely investigated in some of the ASEAN countries, for example, Malaysia, especially in the field of financial management (Salleh et al., 2016). As reported by Lam et al. (2019), the financial performance of telecommunications companies should be investigated together with the financial-ratio analysis, such as return on assets, liquidity ratio, total assets, and others.

According to the World Bank, for the current 2021 fiscal year, low-income economies are defined as those with a Gross National Income (GNI) per capita, calculated by using the World Bank Atlas method, of $1,045 or less; lower-middle-income economies are those with a GNI per capita between $1,046 and $4,095; upper-middle-income economies are those with a GNI per capita between $4,096 and $12,695; and high-income economies are those with a GNI per capita of $12,696 or more.

Table 1
Income Status for 2022 in the ASEAN Countries as at August 2022

Country	Status
Singapore	High-income
Brunei Darussalam	High-income
Malaysia	Upper-middle income
Thailand	Upper-middle income
Indonesia	Lower-middle income
Vietnam	Lower-middle income
Philippines	Lower-middle income
Laos	Lower-middle income
Cambodia	Lower-middle income
Myanmar	Lower-middle income

Source: https://www.statista.com/statistics/632376/asia-pacific-gross-national-income-per-capita-by-country/

Shown above is the table for the GNI per capita of the ASEAN countries as at August 2022. It could be seen that the M&A efficiency level for such countries are according to their income groups, which would be helpful for other researchers to come out with some future directions. They are the most reliable groups to be investigated due to their positions, which are between the high- and low-income levels.

Therefore, this research has attempted to fill in the gaps by the following objectives:
1. To investe the performance of the mergers and acquisitions between the telecommunications companies in the selected ASEAN middle-income countries.

2. To identify the most significant factors that contribute to the performance of the mergers and acquisitions telecommunication companies in the selected ASEAN middle-income countries.
3. To suggest some relevant future recommendations for the researchers and the industries.

Literature Review

Financial performance is a subjective indicator of a business's ability to utilise assets and earn money from its principal mode of operation (Jihadi et al., 2021). A financial-ratio method is used to evaluate a financial performance. Numerous prior academics have examined the effect of financial ratios on business values theoretically (Husna & Satria, 2019; Kurnia eta l., 2020). For example, return on assets (ROA), as a measurement of profitability, shows how efficiently and effectively companies use their assets (Raheman et al., 2010). It is a widely accepted use of ratios for identifying companies' financial profitability and performance. In a study done by Ahmed and Ahmed (2014), there is a discussion about reasons why most organisations have undertaken the inorganic mode of expansion and investigated the effects of mergers and acquisitions on the liquidity, profitability, efficiency, and capital-performance indicators of the mergers and acquisitions of Pakistanian industrial firms. There are four different variables which have been used in this study, such as liquidity, profitability, efficiency, and capital performance, by using the sampling method and sample-size statistical method from 2000 to 2009. The result has shown that profitability improves insignificantly throughout the mergers and acquisitions. Similarly, Sujud and Hachem (2018), in the case of Lebanese banks, have revealed the same finding, but the time taken to investigate the result was during the pre-merger period (2000-2003) and post-merger period (2004-2007). Besides, the method used has been the paired sample t-test, which is to determine significant differences in the financial performance before and after the mergers. Meanwhile, significant positive results have come out between profitability, mergers, and acquisitions in the case of India by Rani et al (2015) by using the Du Pont analysis. However, Long (2015) has argued that the univariate analysis has shown mixed profitability after the mergers for banks with the t-test showing no significant difference in profitability before and after the mergers. On the other side, the panel-data method has indicated that the mergers and acquisitions have positive effects on banks' profitability, which have occurred in the Czech banking sector. In contrast with other previous studies that have used accounting methodology as the base for their studies where financial indicators have been used to measure the performance with the Data Envelopment Analysis (DEA) in the case of banks in Pakistan by Abbas et al (2014), it has been found that there is no improvement in profitability when the mergers and acquisitions have happened. In addition, a result generated by a study done by Shah and Khan (2017) has shown a decline in profitability through a paired-sample t-test on banks' performance.

However, Rani et al (2015) have brought a positive result between profitability, efficiency, leverage, and liquidity for a six-year investigation by using the Du Pont analysis. Abdul Manaf et al., (2021) have pointed out that the condition has happened because most of the telecommunication companies in Malaysia are the well-established ones that fully utilise their assets and liabilities. The positive result has evidenced that the companies need to expand their internal performance by improving profitability with sustaining liquidity, as well as achieving productivity by utilising digital technology. Looking at the scenario in the Pakistanian manufacturing companies, it is clear that there is an insignificant relationship

between liquidity and performance for ten-year sampling (Ahmed & Ahmed, 2014). In contrast with Azhagaiah and Sathishkumar (2014); Abbas et al (2014), it has been found that there is no improvement in liquidity when mergers and acquisitions happen by using different methods, which are with the DEA and factor analysis and multiple regression analysis, while Hossain (2020) has found that liquidity has a statistically significant, negative impact on profitability.

In India, Azhagaiah and Sathishkumar (2014) have come out with a significant, positive relationship in growth, which is from net sales when mergers have happened, by using the factor analysis, correlation matrix, multiple-regression analysis, and the chow-test method. The objective of the study has been to investigate the impact of the mergers and acquisitions on the attributes of operational performance versus gross earnings, liquidity, financial risks, costs of utilisation, turnover, growth, and operating leverage of acquiring manufacturing firms in India. Similarly, Oghuvwu and Omoye (2016) have also found the same result. Growth has a positive, significant relationship with mergers and acquisitions regarding learning and growth in corporate performance. The data have been analysed by using the descriptive statistics and paired t-test of differences. The problem under examination is a pre- and post-effect, which consists of 10 years starting from 2000 to 2010, with five years of the pre-analysis and another five years of the post-analysis. Likewise, Akenga and Olang' (2017) have also found a positive relationship in asset growth and mergers and acquisitions by significantly using descriptive and inferential statistics. Meanwhile, Long (2015) has used the sample t-test and panel-data methodology to get a positive result, from which a variable has been tested based on growth in the operation cost of product.

In measuring a debt-level relationship, most studies have resulted in a negative relationship between debt and profitability. For instance, Aaron (2016); Abbas et al (2014); Long (2015) have generated negative results by using various methods, such as the DEA and Naïve Panel-Data Regression model. Meanwhile, Hossain (2020) has also found that leverage has a statistically negative impact towards profitability. In the meantime, Akhtar et al (2021) have reported that a further increase in financial leverage decreases their companies' performance. Also, by using a quantitative approach, pooled panel regression, and descriptive-statistics model, Samo and Murad (2019) have found a negative relationship between financial leverage (total debt) and profitability.

On the other hand, size has come out with a significant, positive relationship with profitability (Sudiyatno et al., 2020). Likewise, Aaron (2016); Long (2015) have also got the same result by using the sample t-test and panel-data methodology. However, Hossain (2020) has found that there is no significant impact on profitability. This has also been proved by most previous studies that have found that firm size brings a negative impact towards profitability. In the case of Malaysia by Salleh et al (2013) with the objective to examine factors, such as the intensity of acquisitions, sequence of acquisitions, and sizes which influence the efficiency of companies, it has been found that there is a different result whereby size shows a positive, significant relationship when it has been tested by referring to current assets in telecommunication companies, and another one has been tested by focusing on total assets that come out to have a negative, significant relationship. The result has been tested by using the Charnes Cooper and Rhodes Model (CCR) and DEA Model. With the objective to examine the factors influencing the efficiency of companies by Salleh et al (2016) during the period

between 2000 until 2011, it has been found that a relationship between the technical efficiency of mergers and acquisitions and size is significant and negative. A recent study done by Hirdinis (2019); Abdul Manaf et al (2021) has also confirmed that firm size and working capital have a negative, significant effect on return on assets.

Methodology

Research Design

To achieve the objectives of this study, annual reports for a period from 2007 to 2021 have been examined. The sample size has been derived from the Thomson Reuters Eikon database (secondary data), a recognised and comprehensive platform for gaining data, in which the independent variables, such as liquidity, size, growth, and debt level, are involved, while the dependent variable is return on assets (ROA) as a strong measurement for profitability. The measurements of the independent variables used in this study are the current ratio (for liquidity), total asset (for size), growth margin (for growth), and debt ratio (for debt level) in sequence. The researchers have chosen those variables based on the discussions from the previous studies and the availability of the data. This study has been conducted in the selected middle-income ASEAN countries, such as Malaysia, Indonesia, and the Philippines. However, the other remaining middle-income ASEAN countries have been excluded as there have been inedequate data to support the analysis. To ensure the accuracy, the researchers have used the panel data as they have combined both the time-series data and the cross-sectional data where all the collected data have been used to observe two or more time periods (Gil-Garcia & Puron-Cid, 2014). The Random Fixed Effect Regression Model is a model which has been used to omit the variables that can be fixed over time difference between the cases, and others might be fixed among the cases but different over time. Besides, the model has also been used to identify the individual characteristics for each observation in the sample.

This study has focused on the descriptive statistics and Pearson's correlation analysis results. In the interim, the test for multicollinearity has been carried out before analysing the regression model. The study has used the panel-data regression analysis of the cross-sectional and time-series data. For the estimation purpose, the most common models are the Pooled Ordinary Least Square (POLS) regression, and Random Effects Model (REM).

Equation Model

The general model of the study is as follows:

$$ROA_{i,t} = \beta_0 + \beta_1 LIQ_{i,t} + \beta_2 GM_{i,t} + \beta_3 LEV_{i,t} + \beta_4 SIZE_{i,t} + \varepsilon_{i,t}$$

(1)

The equation descriptions are as follows:

α	: Constant
ROA	: Return on assets (percentage)
LIQ	: Liquidity ratio (percentage)
GM	: Gross margin ratio (percentage)
LEV	: Leverage ratio (percentage)
SIZE	: Firm size (percentage)
ε	: Error term
i	: Sample unit of panel
t	: Time of period

As aforementioned, in fulfilling the objectives of the study, the panel-data method has been adopted to analyse the performance of the mergers and acquisitions between the telecommunications companies in the middle-income ASEAN countries.

Result Analysis
This section illustrates the results and interpretation of the relationships between total debt and the five indicators employed in this study and discusses the output of the results.

Descriptive Statistics
Table 3
Descriptive Statistics

	ROA	LIQ	GM	LEV	SIZE
Mean	7.5668	0.8510	74.5958	0.9672	14.6745
Maximum	22.4800	2.7100	96.8000	2.2100	18.0747
Minimum	-4.8600	0.3600	0.0000	0.3300	9.2037
Std. Deviation	5.9397	0.3744	19.2925	0.4498	3.3575

The table above shows that the data statistics' readings include mean, maximum, minimum, and standard deviation. The average ratio under this variable is 7.57% in the period starting from 2006 until 2019. The maximum value is 22.48%, and the minimum result is -4.86%. Liquidity refers to the division of current assets and current liabilities. The average reading for liquidity is 0.85 times, the maximum reading is 2.71 times, and the minimum reading is 0.36 times. As for the standard deviation of liquidity, the figure is lesser than the mean, which is 0.37.

Growth has been be found based on the firm's gross margin, where the calculation has been measured by subtracting the cost of goods sold from the net sales and being divided by the total revenue to get the percentage. The mean for growth is 74.60% and the maximum result is 96.8%. The minimum reading is 0% undergrowth and the standard deviation is 19.29. On the other hand, debt or leverage in this study has been calculated by totalling debts over the total equity. The average ratio is 0.97%, the maximum record that can be found is 2.21%, and the minimum reading is 0.33%. The result for the standard deviation under debt is 0.45, which is lesser than the mean of measurement. In the interim, size has been measured by the natural logarithm of total assets. The firm size shows an average of 14.67 units and the range of maximum is 18.07 units. Besides, the minimum record is 9.20 units and the standard deviation for firm size receives 3.36, which indicates that firm size is low in variability.

Pearson's Correlation Analysis
Based on the correlation results presented in Table 4 below, the correlation between all the variables is presented. It is clear that there are no serious multicollinearity problems existing since the numerical data of the correlation coefficient between the two independent variables for all the independent variables are lesser than 0.8. To analyse further, it shows that liquidity and growth have a positive relationship with the dependent variable. This indicates that those variables have a parallel relationship with profitability, which means that when one variable increases or decreases, the other variable will increase or decrease in

parallel. In the meantime, debt and size have a negative relationship with the dependent variable, while growth and liquidity have a stronger relationship compared to the other variables. The table shows that debt and size have a negative relationship with profitability with the values of -0.66 and -0.18 respectively. This means that when profitability increases, debt and size will also decrease, and vice versa, as they have an inverse relationship with each other. However, liquidity and growth have a positive relationship with profitability with the values of 0.09 and 0.27 respectively.

In the interim, the relationship between the independent variables displays that when liquidity increases, growth and debt decrease by 18.24% and 45.50% respectively. Conversely, for size, when liquidity increases, company size will also increase by 0.15 units. In addition, the relationship between growth and the independent variables, which are debt and size, is positive. If growth increases, debt and size will increase by 2.93% and 17.9% units in particular. Meanwhile, the increase of debt will affect the decrease of size by 0.0571 units and vice versa.

Table 4
Pearson's Correlation

	ROA	LIQ	GM	LEV	SIZE
ROA	1.0000				
LIQ	0.0915	1.000			
GM	0.2650	-0.1824	1.000		
LEV	-0.6631	-0.4550	0.0293	1.000	
SIZE	-0.1827	0.1514	0.1790	-0.0571	1.000

Variation Inflation Factor (VIF)
Multicollinearity can exist when variables reflect similar factors. To confirm that there is no presence of multicollinearity problems, the variance inflation factor (VIF) test has been carried out. This can be traced when the mean value of the variance inflation factor (VIF) is more than 5. Based on the result shown in Table 5, it is found that the mean VIF is 1.20, which is lower than 5.00. This signifies that there is no multicollinearity problem existing in this study.

Table 5
Variation Inflation Factor (VIF)

Variable	VIF	1/VIF
LIQ	1.35	0.7392
GM	1.09	0.9191
LEV	1.27	0.7894
SIZE	1.07	0.9323
Mean VIF	1.20	

Pooled Ordinary Least Square (POLS) Regression Analysis
Table 6
Pooled Ordinary Least Square (POLS) Regression Results

ROA	Coefficient	Std. Error	t	P>|z|	95% Conf.	Interval
LIQ	-2.5285	1.3948	-1.81	0.074*	-5.3126	0.2555
GM	0.0941	0.0243	3.88	0.000***	0.0456	0.1425
LEV	-10.0261	1.1235	-8.92	0.000***	-12.2686	-7.7836
SIZE	-0.4540	0.1385	-3.28	0.002***	-0.7305	-0.1776
_cons	19.0606	3.1640	6.02	0.000	12.7454	25.3760
Prob > F	0.0000					
R-squared	0.6172					

*Notes: ***Significant at 1%, ** Significant at 5%, * Significant at 10%*

The value of the coefficient for growth (GM) shows a positive relationship with the ROA. This condition reflects that if there is a 1% increase in growth, the ROA will increase by 0.094%. In the meantime, liquidity (LIQ), leverage (LEV), and firm size (SIZE) have resulted in a negative relation with the return on equity, which indicates that a 1% increase in liquidity, leverage, and firm size will decrease the ROA by 2.528%, 10.026%, and 0.454% respectively. On the other hand, profitability, which is denoted by the p-value, shows that those four variables are significant for this study as the p-values of these variables are at the 1%, 5%, and 10% significance levels respectively.

Random-Effect-Model Regression Analysis
Table 7
Random-Effect Results

ROA	Coefficient	Std. Error	Z	P>|z|	95% Conf.	Interval
LIQ	-2.5385	1.3948	-1.81	0.070*	-5.2623	0.2052
GM	0.0941	0.0243	3.88	0.000***	0.0465	0.1417
LEV	-10.0261	1.1235	-8.92	0.000***	-12.2281	-7.8241
SIZE	-0.4540	0.1385	-3.28	0.001***	-0.7255	-0.1826
_cons	19.0606					
Prob > chi2	0.0000					
R-squared	0.6172					

*Notes: ***Significant at 1%, ** Significant at 5%, * Significant at 10%*

The Random-Effect Model (REM) determines a significant relationship between the dependent variable and independent variables. Based on the results displayed above, all the variables are significant towards profitability as the P-value of the t-stat is below the 1% and 10% significant levels. In the same way, it also shows that the F-stat is below 0.05, which means that the overall model is significant. As a result, all the variables are significant as they influence the dependent variable. The overall R-squared shows that 61.72% of the variation changes in profitability can be explained by all the independent variables (liquidity, growth,

debt, and size). However, referring to the table above, it is found that only growth has a positive relationship towards profitability, which is contrary to liquidity, debt, and size that have a negative relationship with the dependent variable.

Concerning growth, it is found to be significant towards profitability and has a positive relationship with it. When growth increases by 1%, profitability will also increase by 0.09%. The result is parallel with Akenga and Olang' (2017); Azhagaiah and Sathishkumar (2014); Long (2015), and Oghuvwu and Omoye (2016) who have found that growth has a positive relationship with the profitability of a firm. This result comes out in the same way as the estimated sign. Azhagaiah and Sathishkumar (2014) have stated that firms can expand their growth after the mergers. If they deduce it, they can utilise their internal assets to the maximum to maximise their profits. Thus, when growth increases, it will reflect the good performance of the firms as this shows that the profitability will increase in the same way.

Meanwhile, if liquidity increases by one time, profitability will decrease by 2.53%. The result is similar to the previous studies done by Abbas et al (2014); Azhagaiah and Sathishkumar (2014); Hossain (2020) who have found that liquidity is negatively related to profitability. This negative sign indicates that the greater the liquidity of the firms is, the lesser the profitability of the firms. This infers that, after the mergers' periods, the acquiring firms can pay their debts when they are due. Thus, the acquiring firms should focus more on reducing their debts to increase the efficiency of the firms' profitability. This result, however, contradicts the studies done by Ahmed and Ahmed (2014); Rani et al (2015) who have found a positive relationship between liquidity and profitability. Yet, the relationship is insignificant. Rani et al (2015) have specified that the increase of a current ratio shows that current assets are higher than current liabilities, leading to profitability to be growing better.

Similarly, this study has also disclosed that debt is significant with profitability. The debt level shows a negative relationship with profitability. Based on the result, when debt increases by 1%, profitability will drop by 10.03%. This result has been supported by the previous studies done by Aaron (2016); Abbas et al (2014); Long (2015); Hossain (2020); Samo and Murad (2019) who have proclaimed that debt has a negative relationship with profitability. The actual result is also parallel with the estimated sign. Aaron (2016), for example, has stated that when firms carry many debts, the companies' performance will drop. The total amount of the debts used to operate the businesses is higher compared to their equities. Hence, it will bring a negative effect on the performance of the companies per se. However, when debt decreases, the firms manage to stay on track with their production to operate their businesses and enjoy their profitability.

Meanwhile, the result of this study has also revealed that size is significant with the dependent variable, showing a negative relationship with profitability (Salleh et al., 2016; Salleh et al., 2013; Abdul Manaf et al., 2021; Hirdinis, 2019). Likewise, after these mergers and acquisitions, the transactions incurred by the combination of the companies are cost-prohibitive and usually requiring an amount of time to be stable. Therefore, they need to have a prior strong relationship with the existing alliances to increase acquisition value. This result is matched with the expected sign made before. Nevertheless, other researchers, such as Aaron (2016); Long (2015), have come up with a different result which has stated that the size of a company has a positive relationship with profitability. Aaron (2016) has proposed that

companies that are going to a merger or acquisition and have a stronger and greater size typically lead them to gain more profitability. It is because there is a balance between the size and relatedness of their target corporation's technology that gives them advantages during the post-acquisition process.

To sum up, the F-statistic, known as the F-value, shows the overall explanatory power of the regression model. It has been used to test the hypotheses that the variation in the independent variables explains the significant portion of the independent variable. The F-stat tells that it is significant if the F-statistic value shown is greater than 4 based on the Rule of Thumb, which is 108.02, and its P-value for the F-statistic is 0.00, which is lesser than 5% at the significant level. Therefore, it shows beyond doubt that all the independent variables, which are liquidity, growth, debt, and size, are statistically significant in influencing the dependent variable, which is profitability. Among all, the most significant factor in influencing profitability is debt. This is because debt has the highest t-statistic value of 8.92 compared to those of the other variables. As a result, this study has revealed that debt is the most significant factor in influencing the performance of the telecommunication companies involved in the mergers and acquisitions in the middle-income ASEAN countries.

Breusch and Pagan Multiplier Test
The Breusch and Pagan Multiplier Test has signified that the Prob > chi2 is 0.0000, which is below 0.05. Therefore, the alternate hypothesis (Random Effect Model) is accepted while the null hypothesis (Pooled OLS Model) is rejected.

Final Estimation
$ROA_{i,t} = 19.0606_{i,t} - 2.5285LIQ_{i,t} + 0.09GM_{i,t} - 10.0261LEV_{i,t} - 0.4540SIZE_{i,t} + \varepsilon_{i,t}$

The regression model above illustrates the regression model of profitability in liquidity, growth margin, leverage, and firm size of the Malaysian Telecommunication Companies as the independent variables. Based on the model, on the condition that another variable remains constant, the ROA will increase by 19.07%. The value of liquidity validates a negative relationship with the ROA, which means that if there is a 1% increase in liquidity, profitability will drop by 2.53%. In the meantime, the coefficient value for growth shows a positive relationship with the ROA, suggesting that if there is a 1% increase in growth, the ROA will also increase by 0.09%. However, the coefficient value for leverage shows a negative relationship with the ROA, which means that a 1% increase in leverage will decrease the ROA by 10.036%. Lastly, the firm size also reveals a negative relationship with the ROA, which means that if there is a 1% increase in firm size, the ROA will decrease by 0.45%.

Result Summary
Table 8 below concludes that the final results of this study are synchronous with those of the previous studies and support the hypothesis decisions.

Table 8
Summary of Analysis

Variable	Result	Author(s)
Liquidity	Negative and significant	Abbas et al. (2014), Azhagaiah and Sathishkumar (2014), Hossain (2020)
Growth	Positive and significant	Akenga and Olang' (2017), Azhagaiah and Sathishkumar (2014), Long (2015), Oghuvwu and Omoye (2016)
Leverage	Negative and significant	Aaron (2016), Abbas et al. (2014), Long (2015), Hossain (2020), Samo and Murad (2019)
Firm Size	Negative and significant	Abdul Manaf et al. (2021), Hirdinis (2019), Salleh et al. (2013), Salleh et al. (2016)

Conclusion

The main focus of the study is to discover the influence of liquidity, growth, leverage, and firm size on the performance of the merged telecommunication companies among the ASEAN middle-income countries for 14 years. Many previous studies have been conducted in their own case countries that have been involved in the mergers and acquisitions but not in the middle-income countries. Hence, this study has been conducted to understand better the performance of the telecommunication companies that have been involved in the mergers and acquisitions in the ASEAN middle-income countries, such as Malaysia, the Philippines, and Indonesia.

Based on the results obtained by this study, the Random Effect Regression Model has been selected as the final result. It can be concluded that only one independent variable has a positive relationship with profitability, which is growth. In contrast, the other three independent variables, which are liquidity, debt, and size, negatively affect profitability. Besides, it is also debunked that growth, debt, and size are significant at the 1% level. Meanwhile, liquidity is significant at the 10% level. Hence, this study has finalised that debt is the most influencing one in making changes in profitability compared to the other variables. Referring to the results generated and interpreted, the objectives of this study have been achieved as the researchers have been able to answer the research questions of the study. The purpose of the study is to examine the relationship between liquidity, size, growth, and debt level with return on assets that influence the performance of the telecommunication companies involved in the mergers and acquisitions in the selected middle-income countries.

Besides, the study has also been done to determine the relationship between the independent variables (liquidity, growth, debt, and size) and the dependent variable (profitability) to determine the most significant factor towards profitability or return on assets. It can be claimed that liquidity, growth, debt, and size have a relationship with profitability, but growth has the most significant, positive relationship with the dependent variable. In contrast, liquidity, debt, and size have a negative relationship with profitability. It

is evident that debt is the most significant factor influencing changes in profitability. Thus, the research questions and research objectives have been successfully answered based on the results achieved.

To aid future researchers to expand the theory, framework, and model addressed in this study, the reseachers have listed down a few recommendations as there are several gaps of knowledge in these findings that would be beneficial for future research. Therefore, it is more favourable if the analysis is tested individually on companies to indicate individual improvements in their performance. Besides, this study benefits customers or investors to make investment choices, stakeholders in managerial decision-making, and regulators in determining the direction of economic growth. The future researchers also can obtain different perspectives in different countries when they find out more about other countries. In addition, it is also suggested that the future researchers include a study of pre- and post-M&A comparison and assessment with other firms that do not experience the M&A.

Furthermore, it is also recommended to telecommunication companies that they should exercise mergers and acquisitions as one of their corporate extension strategies, next to using other strategies, such as retrenchment and reorganising. This means that the corporations that are profitable before combining their businesses can enhance their financial positions by making subsidiaries by embracing group consolidation. Meanwhile, future researchers can also add more periods of years to get better results. This is one of ways to obtain better outcomes and analyse companies in different countries in a more interesting manner. Moreover, data-finding may also be contrasting to this study as the number of years are increased.

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