Profitability Determinants of Technology Companies: A Study From ACE Market of Bursa Malaysia

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Abstract
Profitability is an important characteristic of a company and is often viewed as an essential requirement for a company's long term survival. High profitability indicates that the company is successful and it conveys as a positive signal to investors, hence increasing the company's value. Therefore, the main objective for this study is to determine the effect of several selected firm-level factors on profitability performance of technology companies listed on ACE Market of Bursa Malaysia. Data were collected from 20 companies for the period 2016-2020. Return on asset (ROA) was used as the proxy for profitability. The findings revealed that liquidity ratio (LR) has a significant positive relationship with ROA and average collection period (ACP) was negatively and significantly related to ROA. The findings provide valuable insights for the equity market investors to acknowledge the factors which relate to the profitability of technology companies listed on the ACE market.
Keywords: Profitability, Financial Ratios, Technology Companies, ACE Market, Liquidity

Introduction
        In this challenging corporate era, every business entity strives to survive and sustain. It is crucial for a company to be managed efficiently and effectively to overcome any obstacles. Thus, it requires the management team to develop, implement and monitor strategies that could enhance the company's profitability. The main objective of a company is definitely to maximise the shareholders' wealth by increasing the company's stock value.

        The study of what affects companies' profitability still remains highly relevant as profitability is a necessary element for companies long term survival and success (Yazdanfar, 2013). High profitability indicates that the company has a promising future, and investors will respond positively to these signals, resulting in a rise of the company's value. Previous studies have found a positive relationship between profitability and stock values (Data, 2018; Sudiyatno et al., 2021). Therefore, it is important for the company's stakeholders and prospective investors to acknowledge the factors that affect companies' profitability.

A number of previous studies have investigated the firm-level determinants of companies' profitability, including liquidity (Ajanthan, 2013; Rehman et al., 2015; Saleem & Rehman, 2011); size (Babalola, 2013; Dahmash, 2015; Dogan, 2013; Lee, 2009); sales growth (Rachmawati & Sherlita, 2021; Tresnawati et al., 2021; Yoo & Kim, 2015); working capital management (Akoto et. al., 2013; Deloof, 2003; Kartikasary et al., 2021) and leverage (Habib et al., 2016; Ngo et al., 2020)

Despite the fact that an extensive amount of research regarding companies' profitability has been conducted, there is no uniform answer to the question of what determine the companies' profitability. Furthermore, the profitability of Malaysia technology companies so far has not been much researched. Most empirical studies have investigated profitability of companies listed on Bursa Malaysia in general (Alarussi & Alhaderi, 2018; Ali et al., 2019; Mokhtar et al., 2006) and focusing on banking insitutions (Ong & Teh, 2013; Trofimov et al., 2018; Wasiuzzaman & Tarmizi, 2010). The study of firm-level factors of profitability among technology companies listed on ACE market, in particular, has been given little attention. Therefore, this study aims to determine the effect of several selected firm-level determinants on profitability performance of technology companies listed on ACE Market of Bursa Malaysia.

Literature Review
Profitability
Profitability is one of the most important considerations for any business, and a Malaysian technology firm is no exception. It will be difficult for companies to attract outside investors if they do not achieve a prosperous profit level. According to the literature, corporate profitability can be quantified in a variety of ways. Many previous studies have used return on asset (ROA) to measure profitability as a dependent variable in their study (Ali et al., 2019; Alvarez et al., 2021; Amanda, 2019; Ghasemi & Razak, 2017;). The ROA ratio determines the efficiency with which earnings are derived from assets. There are also other measures used in previous studies as a proxy for profitability, for instance, return on equity (ROE) (Ali et al., 2019), eaning per share (EPS) (Alarussi & Alhaderi, 2018) and gross profit margin (GPM) (Sunjoko & Arilyn, 2016). However, in this study, ROA is used as the dependant variable.

The determinants of profitability of manufacturing firms are well-established in the literature. The findings of previous studies have broadly emphasized a number of variables that have a significant relationship on companies' profitability. In this study, the set of following independent variables has been selected: size, liquidity, leverage, efficiency and firm growth.

Size and Profitability
Ghasemi and Razak (2017) who analysed 60 companies listed on ACE market for the year 2013 until 2017 assert that bigger companies are more profitable as compared to their smaller counterparts. Alarussi and Alhaderi (2018); Alarussi and Gao (2021); Alvarez et al (2021); Babalola (2013); Iqbal and Zhaquan (2015); Dahmash (2015) also find that size has a positive significant effect on profitability. However, Lee et al (2016) report contradictory results. They find that size has a negative significant effect on Malaysian information technology software companies. Their finding denotes that smaller software organisations

have the ability to adapt quickly as the surrounding business environment changes, implying that expanding the size of the firm is not necessary for profitability. Ben Dhiab (2021) and Susilo et al (2020) argue that size is not significant in determining the companies' profitability. Since there are contradict results on the effect of company size on the profitability from previous research, this study proposes the following hypothesis:

H1: *Company size has a significant effect on profitability.*

Liquidity and Profitability
Organizations that manage their liquidity using a range of liquidity ratios, such as the current ratio, quick ratio, cash ratio or defensive interval ratio, can have a substantial impact on their financial performance (Robinson et al., 2015). Companies that focus on the continuing calibration of current assets and current liabilities may possibly accomplish success in their liquidity management. Moreover, liquidity is a requirement for the survival of a company and ensuring that it will perform successfully in the future.

Previous studies have reported that companies with higher liquidity are most likely to obtain higher profitability (Ajanthan, 2013; Amanda 2019; Nguyen & Nguyen, 2020; Rehman et al., 2015). Recently, Alvarez et al (2021), find that liquidity is one of the main determinants of Argentine manufacturing firms profitability. Based on previous studies in the context of Malaysia, Ali et al (2019) and Ghasemi and Razak (2017) argue that current ratio has a significant positive relationship with companies' profitability. Meanwhile, Pratheepan (2014), reports that liquidity is not a significant determinant of companies' profitability. This is supported by Alarussi and Alhaderi (2018) who also find that liquidity has no effect on companies' profitability. Since there is no consensus on the association between liquidity and profitability, this study will test whether the profitability of technology companies in Malaysia is affected by liquidity. From that, the following hypothesis is proposed:

H2: *Liquidity has a significant effect on profitability.*

Leverage and Profitability
Leverage refers to the use of debt to finance assets and produce prospective investment returns on riskier sources of capital. The higher the leverage ratios, the more debt the company has taken on, and hence the greater the financial risk it faces. This study used debt ratio to measure leverage and is defined as the ratio of a company's total debt to its assets. Alurassi and Alhaderi (2018); Alvarez et al (2021); Ghasemi & Razak (2017) find that the debt ratio has a significant negative relationship to the company's profitability. This suggest that an increase in debt has a negative impact on companies performance. Their finding is consistent with (Habib et al., 2016). Other studies have reported conflicting results. For example, Alarussi and Gao (2021) find that debt ratio is positive and statistically significant with ROA of Chinese listed companies. Furthermore, there are previous studies which report there is no relationship between leverage ratio and profitability (Berhe & Kaur, 2015; Pratheepan, 2014) This study will examine whether this correlation exists in the Malaysian stock market. The next hypothesis this study put forward is as follows:

H3: *Leverage has a significant effect on profitability.*

Efficiency and Profitability

Activity ratios measure the efficiency of a company in using and managing its assets to generate maximum profit. There are several types of activity ratios for instance, asset turnover ratio, inventory turnover ratio, working capital ratio, average collection period and days payable outstanding. These ratios demonstrate how efficient a company is able to convert assets into cash or sale. This study used average collection period (ACP) as a proxy for company efficiency. According to Deloof (2003), managers can boost company profits by shortening the average collecting period. In Nigeria, Falope and Ajilore (2009) find a negative and statistically significant relationship between average collection period (ACP) and profitability. In addition, Iqbal and Zhuquan (2015); Kartikasary et al (2021); Napompech (2012); Raheman and Nasr (2007) also report that ACP has a significant negative effect on companies' profitability. Their findings imply that reducing the time it takes to collect receivables can enhance profitability. This research aims to determine whether there is an influence of ACP on the companies' profitability. Thus, the following hypothesis is suggested:

H4: *Efficiency has a significant effect on profitability*.

Firm Growth and Profitability

Another important factor affecting profitability is firm growth. Growth can be defined in terms of revenue generation, value addition and overall business volume expansion. Company growth can be quantified in terms of sales (Al-Mwalla, 2012). It is often measured by the difference between the current and prior year's net sales divided by the prior year's net sales. According to Kouser et al (2012), growth is an important component in determining a company's success. A study by Iqbal and Zhuquan (2015) finds that sales growth has a significant positive correlation with profitability. In addition, Susilo et al (2020) also report that sales growth has a significant positive relationship with Indonesian manufacturing companies' profitability. However, other studies have reported conflicting results. For example, Ghasemi and Razak (2017); Ali et al (2019) argue that sales growth has a significant negative effect on the Malaysian companies' profitability. In addition, Sivathaasan et al (2013) report that there is no significant relationship between firm growth and profitability. Thus, because of the mixed results from prior research, this study proposes the following hypothesis:

H5: *Firm growth has a significant effect on profitability.*

Based on the literature review, the conceptual framework of this study can be presented as follows:

Figure 1. Conceptual Framework

Independent variables   *Dependent variable*
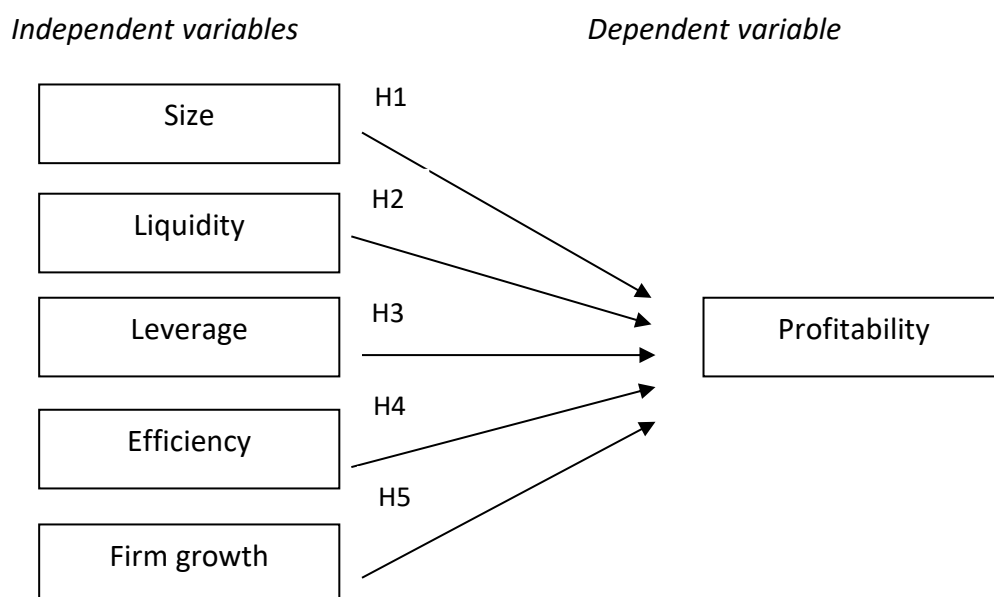
Methodology

Data Collection

This study focused on technology companies listed on the ACE market of Bursa Malaysia. The study uses financial data that were taken from the Thomson Reuters Data stream and also from the companies' annual reports which can be accessed from Bursa Malaysia's website. This study gathers all the information regarding variables that are employed for a period of 5 years from 2016 until 2020. Currently, there are 48 companies listed under the technology sector on the ACE market of Bursa Malaysia. However, due to the unavailability of data for the whole period of study, only 20 companies are included in this study. Thus, the study contains 100 company-year observations.

The dependant variable in this study is the profitability and the independent variables consists of company characteristics namely; size, liquidity, leverage, firm efficiency and firm growth. The variables are measured as follows:

Table 1
The measurement of the variables

Variables	Proxy & Measurement	References
Dependent variable: Profitability	Return on Asset (ROA) ROA = Net income / Total assets	1. Alarussi & Gao, 2021 2. Ali et al., 2019 3. Alvarez et al., 2021 4. Amanda, 2019 5. Ghasemi & Razak, 2017 6. Habib et al., 2016
Independent variables: Size	Natural logarithm of total assets	1. Alvarez et al., 2021 2. Babalola, 2013 3. Dahmash, 2015 4. Doğan, 2013
Liquidity	Current ratio (CR) CR = Current assets / Current liabilities	1. Ajanthan, 2013 2. Amanda, 2019
Leverage	Debt ratio (DR) DR = Total debt / Total asset	1. Alvarez et al., 2021 2. Habib et al., 2016 3. Ngo et al., 2020
Firm efficiency	Average collection period (ACP) ACP = Acc.receivables balance x 365 / Total net sales	1. Alvarez et al., 2021 2. Iqbal & Zhuquan, 2015
Firm growth	Sales growth = (current sales – prior sales) x 100% / prior sales	1.Iqbal & Zhuquan, 2015 2. Rachmawati & Sherlita, 2021

The collected data were analysed using Eviews statistics. A multiple regression analysis was performed to find the effect of the selected company characteristics on the profitability of Malaysian technology companies. The regression model expressing the linear relation of the independent variables on ROA can be modeled as follows:

$ROA = \beta_0 + \beta_1 lnSize + \beta_2 CR + \beta_3 DR + \beta_4 ACP + \beta_5 SG + \varepsilon$

Where β_0 denotes the intercept of the regression equation, and β_1, β_2, β_3, β_4, and β_5 are the regression coefficients of company size, liquidity, leverage, efficiency and growth.

Analytical Procedures

The collected data were analysed using Eviews statistics. This study employed correlation analysis to determine the relationship between the variables. In addition, multiple regression analysis was conducted to gauge the effect of the independent variables (size, current ratio, debt ratio, average collection period and sales growth) on the dependent variable (ROA).

Data Analysis and Results

Descriptive statistics

This section presents empirical analysis of results of the study. Table 2 highlights the summary of descriptive statistics for the dependent and independent variables for the sample of companies. It shows that ROA has an average value equals to -0.007967 and a standard deviation of 0.1510. The highest ROA is 0.6552 and the lowest is -0.5170. The mean value for size measured Ln (Total Asset) is 4.6444 and standard deviation is 0.7989. The range of value for size is from the minimum value of 2.4630 to the maximum value of 6.9815. Current ratio (CR) has an average value of 3.7282. Its standard deviation is 3.4399, while the maximum CR is 18.98 and the lowest CR is 0.4. Next, the average debt ratio (DR) is 11.1251, and its standard deviation is 10.2021. The value for DR is ranging from 45.1100 to 0.0100. For average collection period (ACP), the mean is reported at about 188 days and the value range from 40 days to 747 days. The standard deviation for ACP is 146.9140. The mean value for sales growth (SG) is 0.0515 and its range of value is from the minimum value of -3.436 to the maximum value of 6.771. The standard deviation for SG is 1.0742.

Table 2
Summary of Descriptive Analysis

	ROA	lnSIZE	CR	DR	ACP	SG
Mean	-0.007967	4.64441	3.728200	11.12510	188.1150	0.051549
Median	0.013250	4.645481	2.480000	8.79500	136.5000	0.014500
Maximum	0.655200	6.981545	18.98000	45.11000	747.1000	6.771000
Minimum	-0.517000	2.463002	0.400000	0.01000	40.3000	-3.43600
Std. Dev	0.151015	0.798885	3.439900	10.20213	146.9140	1.074214
Observations	100	100	100	100	100	100

Correlation Analysis

In order to investigate the linear relationship between the variables, the study used Pearson's correlation coefficient. As showed in Table 3, ROA is significantly negatively correlated with ACP. Another variables indicate no significant correlation with ROA.

Table 3
Pearson Correlation Analysis

	ROA	lnSIZE	CR	DR	ACP	SG
ROA	1.0000					
lnSIZE	-0.0322	1.0000				
CR	0.1115	-0.2698	1.0000			
DR	-0.0838	0.3572**	-0.3617**	1.0000		
ACP	-0.3226**	0.0544**	0.3191**	-0.1390	1.0000	
SG	-0.0657	-0.0613	0.4281*	-0.0712	0.4324**	1.0000

Notes: **$p<0.01$

Regression Analysis

In this study, multiple regression analysis was performed in order to evaluate the effect of the size, current ratio, debt ratio, ACP and sales growth on the dependent variable which is ROA. Table 4 presents the outcomes of the multiple regression analysis.

Table 4
OLS Regression Model Results

	Coefficient	t-statistic	Prob.	Centered VIF
LnSIZE	0.0371	0.8205	0.4140	1.2123
CR	0.0101	1.9936	0.0491*	1.4897
DR	-0.0013	-0.8292	0.4091	1.2805
ACP	-0.0004	-3.8970	0.0002*	1.3062
SG	0.0023	0.1484	0.8823	1.4101
F-statistic	3.7041**			
R²	0.1646			
Adjusted R²	0.1202			

Notes: **$p<0.01$, *$p<0.05$

In view of the outcomes appeared in Table 4, the significant F-ratio (F = 3.7041, $p<0.01$) suggests that the combination of independent variables significantly predicted the dependent variable. Multiple regression analysis showed that 2 predictors have a significant effect on the technology companies' profitability.

From the Table 4, it shows that CR (β= 0.0101, $p<0.05$) was seen to be statistically significant of positive relationship with ROA, thus H2 is supported. Therefore, this suggests that liquidity is an important factor in predicting the companies' profitability. Our finding supports previous findings in the literature (Ali et al., 2019; Alvarez et al., 2021; Amanda, 2019; Nguyen & Nguyen, 2020). The results also reveal that ACP (β= -0.0004, $p<0.05$) has a significant negative relationship with profitability. This implies that a company which efficiently manages its accounts receivable would has a higher profitability. This finding is in line with study done by (Iqbal and Zhuquan, 2015; Kartikasary et al., 2021). Therefore, H4 is also supported.

From the Table 4, it illustrates that lnSIZE (β= 0.0371, $p>0.05$) possess an insignificant positive relationship with the profitability of Malayian technology companies. Therefore, H1 is not supported. This finding supports previous findings in the literature (Ben Dhiab, 2021; Sivathaasan et al., 2013; Susilo et al., 2020). The results also reveal that DR (β=-0.0013, $p>0.05$) is insignificant in determining companies' profitability. Thus, H3 is also not supported. Our finding shows the same results with the study done by Berhe and Kaur (2015), Kartikasary et al. (2021) and Prateephan (2014). Despite the fact that Iqbal and Zhaquan (2015), Susilo et al. (2020) and Tresnawati et al. (2021) reported a significant positive relationship between sales growth and profitability, this study finds that SG (β= 0.0023, $p>0.05$) is not significant in determining technology companies' profitability. Thus, H5 is not supported. Our finding supports previous findings in the literature (Sivathaasan et al., 2013)

Conclusion

This study aims to empirically investigate the influence of five independent variables namely; size, liquidity, leverage, efficiency and firm growth on the profitability of technology companies listed on the ACE market of Bursa Malaysia. The period under study is 5 years; from 2016 untul 2020. The multiple regression analysis was utilised to capture the relationship. The results reveal that liquidity (CR) has a significant positive relationship with ROA. In addition, the variable ACP is negatively correlated with ROA.

In light of these findings, investors should consider investing in companies in the technology sector. These findings also add to a growing body of literature on companies' profitability in the context of the Malaysia technology sector. Future study on this topic may identify and include more variables including industry-level and economy factors that may influence profitability.

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