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THE IMPACT OF WORKING CAPITAL MANAGEMENT ON MANUFACTURING FIRMS' PROFITABILITY – AN EMERGING MARKET PERSPECTIVE

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Purpose: This study aims to investigate the effects of working capital management on firm profitability of listed manufacturing companies in Malaysia.
Design/methodology/approach: This study uses account payables, inventory turnover, account receivables, cash conversion cycle, firm size, growth, leverage and current ratio as accounting information variables. Secondary data was collected for all variables over a ten-year period, i.e. 2009 to 2018 and was obtained from the annual report published via Bursa Malaysia (Malaysian Stock Exchange) official website. Data was analyzed by using IBM SPSS Statistics Subscription software. Descriptive statistics, correlation analysis and multiple regression analysis were utilized in this study.
Findings: The results revealed that inventory turnover in days, account receivables and firm size have a positive significant relationship with manufacturing firms' profitability, while account payables and cash conversion cycle have a positive insignificant relationship.
Research limitations/implications: The sample size is too small for any generalization. A mixed method approach in the future could contribute to a holistic finding.
Practical implications: Since these variables contained significant influence on firm profitability, it is recommended that listed manufacturing companies should prepare a complete and timely manner of accounting information based on the regulation context in Malaysia.
Social implications: It provides an empirical evidence on the importance of working capital management amongst the manufacturing concerns in Malaysia and its impact on its business sustainability.
Originality/value: This study contributes to the limited research on working capital management involving manufacturing companies in Malaysia.

Paper Type: Research Paper.

Keywords: working capital, profitability, manufacturing companies.

JEL Classification: M00; M20; M41.

1. Introduction

Working capital management has always been a challenge for corporations. Liquidity is crucial and reflects on the performance of the company as noted by Naser, Nuseibeh and Hadeya (2013) and Kandpal (2015). As Masocha and Dzomonda (2016) stressed that working capital is concerned with the day-to-day operations and not long-term commitments, managing investment decisions and the firm's short-term financing are primary functions of managing working capital as noted in corporate finance theories. The study of financial decisions in long-term, including investments, structure of capital or decisions of company valuation have been extensively focused on from past literatures.

The development of strategies to maximize profitability is being seen as necessary by increasing competition among firms. Therefore, the ability of managing working capital is regarded as a special existence to emphasize on. The firm profitability is grasped by good managing of working capital and is essential towards paying of dividends to shareholders (Oladipupo and Okafor, 2013). In addition, a study by Samiloglu and Demirgunes (2008) argued that one of the reasons for bankruptcy among firms is the poor management of working capital.

Problem Statement

Planning and controlling non-fixed assets are included in managing of working capital efficiently. It is associated with the elimination of the risk of the inability to meet with current liabilities (Eljelly, 2004). Managers spend much time in juggling the liquidity on a daily basis in some industries (Rao, 1989). As Joshi (1995) stressed that management of working capital influences firm's profitability.

The cycle of cash conversion is a democratic scale of managing in working capital. The time lag between the expenditure of purchasing the raw materials and the collection of finished goods sold are the main components explained in the cycle of cash conversion. The bigger such lags, increases liquidity risk (Deloof, 2003). Previous studies by Raheman and Nasr (2007), noted that there was a negative correlation of firm's profitability with managing working capital from data collected from 94 Pakistani companies between 1999 and 2004. Likewise, studies by Akoto, Awunyo-Votor and Angmor (2013) also highlighted a similar finding involving 13 companies. In a study of (Falope, Ajilore, 2009), using a sample of 50 listed Nigerian companies on the Nigerian Stock Exchange was examined and found that the correlation of net firm operating profitability associated with the inventory turnover in days, average collection period, cycle of cash conversion and average payment period was shown to have a significant negative relationship.

Nobanee, Abdullatif and AlHajjar (2011), went further and found that between the data collection period of 1990 to 2004, there was a negative correlation of firm profitability associated with cycle of cash conversion. Similarly, Singhania and Sharma (2014) highlighted that there was a negative relationship between cash conversion cycle and profitability from a study of 82 Indian manufacturing firms from which data was collected between 2005 to 2012. Furthermore Ray (2014), studied that the share of non-fixed assets to total assets of Hindalco company, a key player in Indian aluminum industry varied between 40% to 83%, indicating that the liquidity position of the company over profitability position was due to investments in inventories and receivables.

This study involving manufacturing sector of Bursa Malaysia is limited, owing to the non-attractiveness nature of this topic researchers. Hence, this study scrutinizes the management of working capital by manufacturing companies listed in Bursa Malaysia between the period of 2009 and 2018, which is a period after the global financial crisis.

2. Literature Review

Financial performance measurement

Hofer (1983) stressed that a measurement in financial performance is represented by the sales growth. However, business economic performance can be justified by the importance of return on investment associated with net income growth as well as excepted sales growth (Venkatraman, Ramanujana, 1987). Huselid (1995) argued that that a company's financial performance is examined by the essential variables such as concentration in industry, growth of sales, net sales, and intensity of capital in his study. In addition, McGuire et al (1988) noted that there is a positive relationship amongst return on assets, sales growth, and assets growth. The financial performance of a firm can be justified by sales growth which it is deemed as the most essential parameter to examine for (Paquette, 2005).

Financial Performance measurement tools

The financial firm performance is measured by using variety of tools such as, multiple regression analysis (Samiloglu, Demirgunes, 2008), Panel data analysis (Garcia-Teruel, Martinez-Solano, 2007), and pooled OLS regression analysis (Zariyawati, Annuar, Taufiq, Rahim, 2009), etc. in the past. Observation that the financial ratio analysis is one of the important advantages in measuring the correlation between two numbers in the financial statement (Lawder, 1989). The purposes of predicting the unknown in the future that the appropriate measurement will be ratios according to a study by Beaver (1966). A by-product of combined ratios is regarded as a single overall performance measurement by (Coyne, 1986) and

(Cleverley, 1990). The corporate success and failure is predictable by utilizing the measurement tool of ratios (Houghton, Woodliff, 1987). The company's shortage in cash is forecasted with utilizing the financial ratios recommended by Mramor and Valentincic (2003). The firm profitability is increasing due to shortening the inventory conversion period and account receivables cycle analyzed over listed manufacturing firms of Istanbul during the period of 1998 to 2007 with utilizing multiple regression analysis (Samiloglo, Dermirgunes, 2008). The firm profitability is significantly impacted by ratios of receivables turnover, current ratio, ratio of working capital to total assets and liquid ratio in the study of Hindalco Industries Ltd. during the study period of 1990-2007 (Singh, Pandey, 2008).

A correlation of firm profitability associated with managing in working capital proxy and was analyzed in negative but concluded that increasing in profitability with reducing the length of period in cash conversion by using pooled OLS regression (Zariyawati, Annuar, Taufiq, Rahim, 2009). A firm performance associated with market value is increased by efficiency in managing of working capital depends on managers' skill in a sample of 172 Malaysian listed firms with applying multiple and correlation regression analysis (Azhar, Noriza , 2010). There were association of variables in working capital with firm performance was conducted as being negative significantly. The same theoretical framework and observations included in the study of 2,123 listed Japanese corporations for the period 1990-2004 (Nobanee, Abdullatif, AlHajjar , 2011) and 20 automobile industries during the study period of 1996-2009 (Vijayakumar, 2011). The firm profitability is promoted more by reducing ratio of debt and net trade cycle with utilizing ordinary least square regression technique and Pearson correlation technique from 12 manufacturing firms from 2002 to 2006 (Oladipupo and Okafor , 2013).

Firm Profitableness and Cycle of Cash Conversion

Positive

The firm profitability and its value are determined by managing of working capital essentially. A correlation of firm profitability associated with the cycle of cash conversion is found to be significant, statistically (Smith, 1980). A correlation of firm profitability with cycle of cash conversion in smaller size is investigated as being of significant relationship strongly in the study by Hutchinson, Farris and Anders (2007). There was a correlation of firm profitability associated with the cycle of cash conversion studied inversely in retailing firms concluded in his study (Kamath, 1989). The length of the cycle of cash conversion depends on firm size in a study involving retail firms (Moss and Stine, 1993). Shorter of cash conversion will be in the larger firms conducted in the study.

The activity of business must have supported by certain level of necessary liquidity reflecting in the suitability of liquidity position mentioned by Schilling (1996). The return of investing in capital is always more than return of investment, hence managing resources between investing in capital and operation capital wisely is vital in financing investment mentioned in his writings. As a result of maintaining optimum liquidity is important same goes

to managing resources on working capital wisely. Then the association between cycle of cash conversion with liquidity required in minimum existed such that the minimum liquidity required will be increased in the longer time of cycle of cash conversion and vice versa.

The association was found to be positive significantly between cycle of cash conversion and current ratios in the same research. A firm profitability tends to increase due to the decrease in investing in working capital, as revealed by Wang (20020. An association of firm profitability with cycle of cash conversion is found positively significant for sample of 82 listed Greek firms observed in the study by Lazaridis and Lyroudi (2000). Likewise, Gill, Biger and Mathur (2010) concurred that firm profitability with cycle of cash conversion is positively correlated.

Negative

The firm profitability is found to have impacted significantly by a well-managed working capital as per the analysis of 1,009 Belgian firms between 1992 to 1996 (Deloof, 2003). An association between operating income and the number of account payables in days, inventory and the number of account receivables in days were found to be negatively significantly in Deloof's research. The correlation of firm liquidity and profitability was analyzed as negative in the Saudi Arabian companies from a study of Eljelly (2004). A correlation of firm profitability associated with the cycle of cash conversion is found strongly negative for listed American firms for the period between 1975-1994 by Shin and Soenen (1998). However, firm profitability is affected negatively by holding extensive current assets (Horne, Wachowicz, 2000). Effectively in managing payables, inventory and receivables will lead to business success in the study involving 32 non-financial institutions (Filbeck, Krueger, 2005). The firm performance (as represented by ROA) was examined as negative with the cycle of cash conversion for sample of small-scale manufacturing enterprises in the period of 1998-2003 (Padachi, 2006). The author stressed that, negative impact of firm profitability is due to the high level of account receivables and inventory.

The correlation of firm profitability associated with the cycle of cash conversion with its independent variables for example account payables, inventory and account receivables are observed as significant in the study of 131 listed firms in the period of 2001-2004 (Lazaridis, Tryfonidis, 2006). A relationship between variables of managing in working capital such as cash conversion cycle, average conversion period, profitability and inventory turnover in days are analyzed as negative in the research involving 94 Pakistani listed companies during the period of 1999-2004 (Raheman, Nasr, 2007). The correlation of cycle of cash conversion cycle associated with returning assets was conducted as negative during the study of Spanish firms in the study period of 1996-2002 with two of the fix effect and random effect models (Garcia-Teruel, Martinez-Solano, 2007).

Reducing of cycle of cash conversion helps in increasing firm profitability for both medium and small-sized firms. Besides that, a correlation of the firm profitability associated with degree of assertiveness of investing in working capital was examined to be negative using regression analysis in the study by Afza and Nazir (2009). Studies by Zariyawati, et al., (2009), posited

that improvement in firm profitability was due to the decrease in cash conversion cycle conducted in Southeast Asia firms. The correlation of firm profitability with the cycle of cash conversion was found to be significantly negative in Vietnamese listed firms for the period 2006-2008 (Dong, Su , 2010). The firm profitability can be increased by decreasing inventories and number of accounts receivables yet remain outstanding in the study. Likewise, Naompech (2012) concluded that firm profitability can be increased with the the proper management of cash conversion for Thai listed firms.

Working capital management and Firm Performance

The association of firm profitability associated with account receivables turnover in-days were found to be significantly negative in a sample size of 30 companies during the study period of 1993-2008 (Mathuva, 2009; Sen, Oruc, 2009). This was similar to the study of listed Turkish firms by Uyar (2009). The managing of working capital with firm profitability in 49 Istanbul listed corporations for the period 1993-2007 were investigated. The firm profitability increased due to aggressive working capital management for example reduced current ratio and shortening of cycle of cash conversion. In the sample of 204 manufacturing firms in the period of 1998-2007 was used to analyze the effect on firm performance with working capital management practices (Raheman, Afza, Qayyum, Bodla , 2010), in which it was found that, firm performance affected significantly by cycle of cash conversion, inventory turnover, and net trade cycle in the study.

The firm profitability could be improved by managing of working capital with aggressive policies. However, the findings are conflicting with the current literature on Indian companies. A correlation of managing in working capital with firm profitability was analyzed with number of account payables in days was conducted found to be negative whereas the correlation of firm profitability and the number of account receivables in days investigated as being positive in a sample of 263 Indian firms during the study period of 2000–2008 (Sharma, Kumar, 2011). Firm performance was found to increase by increasing both net trade cycle and the cycle of cash conversion in examination of the effect of managing in working capital on the profitability of Turkish firms (Karadagli, 2012).

Decreasing in net trade cycle and cash conversion cycle is associated with improved profitability for larger companies. Results suggested that the firm growth, number of account payables in days, and firm size was conducted in positive association with firm profitability whereas number of inventory in days, numbers of account receivables in days, cycle of cash conversion and debt ratio investigated in relation with firm profitability inversely in the study of small medium enterprises in Pakistan (Gul et al., 2013). A firm profitability was impacted positively with the managing of working capital as measured by net operating profits from Ghanaian companies (Akoto, Awunyo-Vitor, Angmor , 2013).

A correlation of firm performance associated with managing of working capital was conducted as positive from Nigeria (Imeokparia, 2015). Decreasing accounts receivable and net trade cycle with maintaining inventory to reasonable level to create firm value by managers

(Jahfer, 2015). The firm profitability was investigated as significantly impacted with working capital management (Khalid et al., 2018).

Firm Profitability and Managing of Working Capital

There is a correlation of firm profitability associated with variables of working capital are found in reverse (Ahmadi et al., 2012). A correlation of firm profitability with number of account receivables in days and cycle of cash conversion were investigated in negative, but a correlation of firm profitability associated with number of inventory in days and number of account payables in day investigated in positive in Kenya in the period of 2003 to 2012 (Makori, Jagongo , 2013). Asaduzzaman and Chowdhury (2014) highlighted that the number of inventory in days, period of cash conversion and the number of day in account receivables is positively associated with the firm profitableness, contrary to yet the numbers of days accounts. While the firm profitability is negatively impacted with the days of payables outstanding, the other variables indicated a correlation with firms profitability as positive (Asaduzzaman, Chowdhury , 2014).

The correlation of firm profitability associated with managing in working capital was investigated as negative by using four measures of managing in working capital (Asaduzzaman, Chowdhury , 2014) and (Javid, Zita , 2014). The firm profitability is investigated as negative along with the variables of account receivable period, cycle of cash conversion and period of inventory turnover from a study in Sri Lanka's listed companies from 2008 to 2012 (Jayarathne, 2014). The firm profitability is reduced from improving of leverage. The firm profitability can be improved in managing of working capital wisely in manufacturing companies. An empirical research provided evidence showing there is a linear association of the firm profitability with the variables of working capital and managing of return on assets (Yasithamal, 2015). The firm profitability was impacted by debt ratio inversely significant in a sample size of 164 listed manufacturing firms from 2007 to 2011 (Jakpar et al., 2017).

Methodology

Theoretical Framework

The firm profitability is indicated in negative correlation with variables of cycle of cash conversion in a sample of 148 Malaysia listed companies in the research time period of 1996-2006 in the study of (Ashhari et al., 2009). The firm profitability is exposed in insignificant correlation with current ratio in this study although it is investigated in relevant positively. There are correlation of firm profitability associated with the cycle of cash conversion and its components investigated negatively in all sectors in the study exclude the sector of industrial product.

The association of the cycle of cash conversion and its variables of returned on invested capital, firm's return on assets and market value are shown in negative significantly. Beyond that, they discovered that the relation between current ratio, returns on invested capital and

return on assets is investigated in negative significantly in the study of sample with 172 listed companies of Malaysia from 2003 to 2007 (Mohamad, Saad, 2010).

The firm value is increased and the efficiency of working capital is improved with decrease in investing operation capital indicated in the study of 192 listed firms from 1999 to 2008 (Wasiuzzaman, 2015). The firm's financial constraints bring certain effect to the relation. The firm value is significantly improved by managing of operation capital efficiently to the constrained firms and vice versa.

The central target in this research is to investigate the association of firm profitability with managing of operation capital of listed manufacturing companies in Malaysia. Those previous studies in Malaysia context are used as a reference with similar results to this study (Ashhari et al., 2009; Mohamad, Saad, 2010) in which the comprehensive measurement of efficiency in working capital they found.

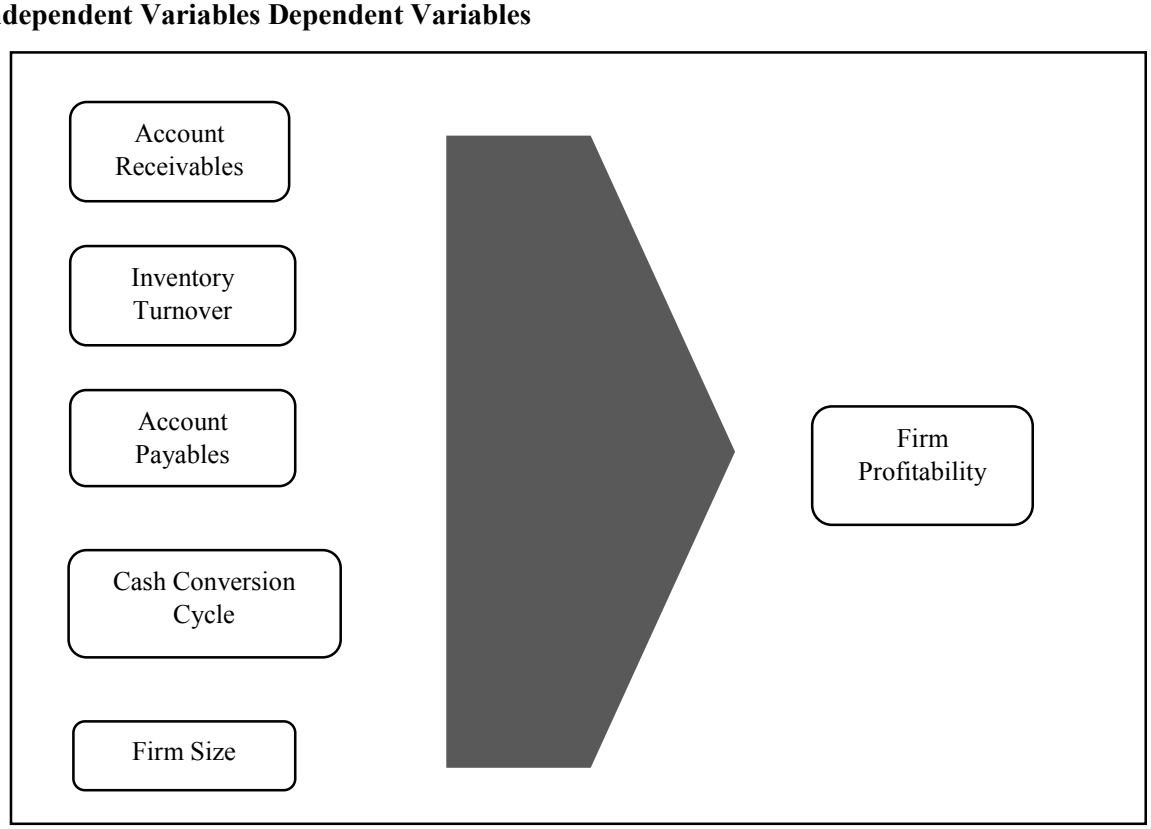

Figure 1. Conceptual Framework.

Data and Variables

There are 26 of listed manufacturing companies from Bursa Stock Exchange (CSE) in Malaysia in this study. The companies selected in this study are fulfilled in the condition of period from 2008 to 2018. There are 26 listed companies to be investigated in the sample size of 260 observations on balanced panel set in total. The dependent variable is return on assets to replace with the firm profitability. A return on assets is suitable in measurement because the role it plays relevant to asset base of firm profitability (Padachi, 2006). Profit before

depreciation tax accounts divided by total assets is the official calculation of return on asset. The notations, variables in independent and its calculation methods utilized in the analysis are disclosed in the appendix.

Specification of Regression Models

The correlation of firm profitability associated with managing in working capital in Malaysian companies is the central objective in this research to be investigated for. These objectives are able to have capability in accomplishing with utilizing a developed methodology and there are some empirical framework are using included (Garcia-Teruel, Martinez-Solano, 2007; Zariyawati, Annuar, Taufiq, Rahim, 2009; Nazir, Afza, 2009; Samiloglu, Demirgunes, 2008). The estimation obtained with utilizing the equations of OLS regression is exposed in the following:

$$ROA_{it} = \beta 0 + \beta 1\ GROWTH_{it} + \beta 2\ LEV_{it} + \beta 3\ CR_{it} + \beta 4\ SIZE_{it} + \beta 5\ INV_{it} + e_{it} \quad (1)$$

$$ROA_{it} = \beta 0 + \beta 1\ GROWTH_{it} + \beta 2\ LEV_{it} + \beta 3\ CR_{it} + \beta 4\ SIZE_{it} + \beta 5\ AR_{it} + e_{it} \quad (2)$$

$$ROA_{it} = \beta 0 + \beta 1\ GROWTH_{it} + \beta 2\ LEV_{it} + \beta 3\ CR_{it} + \beta 4\ SIZE_{it} + \beta 5\ AP_{it} + e_{it} \quad (3)$$

$$ROA_{it} = \beta 0 + \beta 1\ GROWTH_{it} + \beta 2\ LEV_{it} + \beta 3\ CR_{it} + \beta 4\ SIZE_{it} + \beta 5\ CCC_{it} + e_{it} \quad (4)$$

$$ROA_{it} = \beta 0 + \beta 1\ GROWTH_{it} + \beta 2\ LEV_{it} + \beta 3\ CR_{it} + \beta 4\ SIZE_{it} + e_{it} \quad (5)$$

Notes: Where ROA stands for the return on assets, SIZE is size of company as tested by logarithm of sales in nature, GROWTH means sales growth, CR stands for current ratio, INV represents number of days inventories, LEV represents leverage, AR means the number of account receivables in days, AP means the number of account payables in days, and CCC measures the cycle of cash conversion. All the companies (cross section dimensions) is expressed by the subscript of i started from 1–26 and years is indicated in t (time-series dimension) during the period of 2009-2018. The research hypothesis is tested by utilizing SPSS software. The significance value (or p-value) will be calculated automatically by SPSS. Thus an appropriate level is always taken in the level of profitability of less than 5% or equivalent for most general research involving this study.

3. Results and Discussions

3.1. Descriptive Statistic

Table 1.
Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
ROA	26	-0.73	16.21	3.4618	3.58
AR	26	2.34	395.86	117.3934	99.36
INV	26	22.65	389.54	253.8020	184.97
AP	26	2.43	293.21	112.3049	100.83
CCC	26	-172.10	364.05	196.0244	192.03
SIZE	26	4.12	9.71	7.0393	1.32
GROWTH	26	-0.52	6.52	0.7294	1.04
LEV	26	-7.91	1.03	0.4547	1.27
CR	26	0.16	7.49	1.7337	1.32
VALID N	26				

Table 1: The variables of descriptive statistics used are exposed in the study. Around 4 per cent is the mean value to return on assets (ROA) with a standard deviation of 3%; 117 days is the number of account receivables meanwhile 112 days is belonged to the number of account payables. 196 days is the cash conversion cycle's average value with taking all the firms at once is disclosed in the table above. Beyond that, the general sales growth of the firms is near to 73% annually, when 1.73 is the general value of current ratio in the period of study (2009-2018).

There is a relation of return on assets associated with number of inventory in days and the cycle of cash conversion, firm growth and current ratio in positive shown as an evidence in the table 3. At the same time, the number of account receivables in days, leverage and number of account payables in days are shown in correlation in negative with firm profitability.

According to correlations between the control or independent variables, the values of associations in maximum between independent variables can be found are only between the account receivables and account payables at the point of 0.967 and the other maximum value is between the number of leverage in days and the number of account receivables in days showed in 0.298 point. The chance of occurring multicollinearity problem is high potential due to existence of value in correlation coefficient is high in the middle of variables utilized in this research, and the values of variance inflation factor (VIF) will be analyzed furthermore.

Correlation Matrix

Table 2.
Correlation matrix

	ROA	***AR***	***INV***	***AP***	***CCC***	***SIZE***	***GROWTH***
ROA	1						
AR	0.269	1					
INV	-0.120	0.089	1				
AP	0.211	0.967	0.067	1			
CCC	0.204	0.958	0.078	-0.999	1		
SIZE	0.060	-0.081	-0.010	-0.064	0.061	1	
GROWTH	0.100	0.037	0.166	0.048	0.057	-0.002	1
LEV	-0.344	-0.298	0.233	-0.274	-0.273	0.082	-0.128
CR	-0.272	-0.129	0.266	-0.107	0.108	-0.260	0.302

Regression Models 1: Number of Inventory in Days and Return on Assets

Table 3.
Model Summary

Regression Statistics	
Multiple R	0.889
R Square	0.596
Adjusted R Square	0.453
Standard Error	2.088
Observations	260

a. Predictors: (Constant), CR, LEV, GROWTH, INV.

b. Variable in Dependent: ROA.

59.6% is the value of the R-square in adjusted from the table 3, which means that variation of the dependent variable (ROA) is shown at 59.6% obviously according to the variables in independent, as an explanatory power in regression is dedicated strongly.

Table 4.
ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	5	298.592	69.528	9.052	0.000
Residual	255	95.095	7.681		
Total	260	393.687			

a. Predictors: (Constant), GROWTH, LEV, CR, INV.

b. Variable in Dependent: ROA.

9.052 is the significance of F-stat from the table 4 as the level of significance is less than 5% so it is regarded as significant. Thus, return on assets is found to be impacted by leverage, firm size, firm growth and inventory turnover in days of those Malaysia companies.

Table 5.
Coefficients

	Coefficients	*Standard Error*	*t Stat*	*P-value*
Intercept	2.833	3.489	0.865	0.683
INV	0.004	0.003	0.618	0.537
GROWTH	-0.175	0.285	-0.772	0.416
LEV	-1.592	0.246	-0.375	0.000
CR	-0.495	0.284	-2.274	0.036
SIZE	0.361	0.371	0.532	0.476

a. Variable in Dependent: ROA.

Thus, 59.6% of explanatory power predicts the ROA in the model below:

ROA = 2.833 - 1.592 LEV - 0.175 GROWTH - 0.495 CR + 0.361 SIZE + 0.004 INV + e.

ROA is found to be affected by current ratio and leverage only from the results to assess the significance on the dependent variable ROA by each independent variable as their p-value are less than 5%. However, ROA is insignificantly affected by firm size, firm growth and inventory as the p-value is more than 5%. There is a connection between returns on assets, dependent variable and inventory and firm size is analyzed in positive from the results in regression. But leverage, current ratio and firm growth are related with return on asset in negative. Hence, the firm profitability is becoming more due to higher the inventory same to the company's size is greater so as the profitability of a concern is greater will be.

There is correlation of current ratio associated with return on assets analyzed in negative. Increasing in numbers of inventory in days by one day is attached with an increasing in firm profitability analyzed in 0.437 from the results of coefficient of number of inventories in days in the regression by positive (as measured with return on assets) at 0.004%. According to the theory in corporate finance, the number of holding inventory in day the lesser, the higher the firm profitability will be. This implies when the number of inventories in day hold is increasing in the firm will help in increasing the firm profitability.

Those results from conducted studies are close to the results in this study included (Deloof, 2003; Padachi, 2006; Garcia-Teruel, Martinez-Solano, 2007; Raheman, Nasr, 2007) of the correlation of firm profitability with number of inventory in days in their respective analysis.

Decreasing in the inventory and number of accounts receivables in day so will the decreasing in firm profitability is concluded in this study. In the table 5 observed the other essential result is that the measurement in liquidity classically, such as the return on assets is related in negative with current ratio, which situation is in negative for Malaysia firms, and the results in this study is similar to the studies previously of (Shin, Soenen, 1998).

The null hypothesis has to be rejected as there is correlation of firm profitability with number of inventories in days significant statistically.

Regression Models 2: Number of Account Receivables in Days and Return on Assets

Table 6.
Model Summary

Regression Statistics	
Multiple R	0.892
R Square	0.695
Adjusted R Square	0.691
Standard Error	2.659
Observations	260

a. Predictors: (Constant), CR, LEV, AR, Growth,
b. Variable in Dependent: ROA

69.1% is the number and value of R-square in adjusted in the model, which variation of the dependent variable (ROA) is shown in 69.1% obviously due to the independent variables, and treated as a strong explanatory power in regression.

Table 7.
ANOVA

	df	***SS***	***MS***	***F***	***Significance F***
Regression	5	0.423	0.085	11.453	0.000
Residual	255	1.876	0.007		
Total	260	2.299			

a. Predictors: (Constant), LEV, AR, CR, GROWTH
b. Variable in Dependent: ROA

11.453 is found to be the value of F-stat from the table 7 and because the significant level is less than 5% so it is significant. Hence the return on assets of Malaysia industries is analyzed and impacted by firm size, current ratio, firm growth, leverage and account receivables.

Table 8.
Coefficients

	Coefficients	***Standard Error***	***t Stat***	***P-value***
Intercept	2.284	3.943	0.579	0.563
AR	0.004	0.008	1.253	0.295
GROWTH	-0.218	0.279	-0.530	0.306
LEV	-0.123	0.491	-2.902	0.004
CR	-0.622	0.287	-2.326	0.021
SIZE	0.408	0.463	0.757	0.218

a. Variable in Dependent: ROA

About 69.1% of explanatory power predicts the ROA in the model below:

ROA = 2.284 – 0.218 GROWTH - 0.123 LEV - 0.622 CR+ 0.408 SIZE + 0.004AR + e

ROA is only affected by independent variables of current ratio and leverage as their p-value are less than 5% from the results to evaluate the consequence of dependent ROA by every variable in independent. However, ROA does not affect by account receivables in days, firm size and firm growth significantly as the p-value is more than 5%. The relationship of account receivables in days associated with firm profitability is investigated in positive.

Depicted from the theory of corporate finance, the company's profitability is increasing due to the reducing of numbers of days of account receivables. Beyond that, increasing in return on assets will bring influence to increase the number of account receivables in days shown by 0.4% from the results of coefficient value of number of account receivables in days in Malaysian companies. The theory of managing efficiently working capital is denied with this.

There are some difference of the results significantly in previously literature comparing to this study by (Deloof, 2003; Lazaridis, Tryfonidis, 2006; Raheman, Nasr, 2007; Garcia-Teruel, Martinez-Solano, 2007). Their studies imply that an increase in the number of accounts receivables in day by 1 day is associated with a reducing in gross operating income which is opposite to the outcome of our study. Improving the granted credit period to the customers to increase the firm profitability indicated in Malaysia companies. The company's profitability will be affected ill when increasing of company's leverage as a result from relationship between ROA and leverage show in negative significantly, the firm growth and firm size is related in negative is treated as denying the theoretical framework of ROA. Further, the correlation of firm profitability associated with current ratio is exposed in negative from the table 8. The firm profitability is gained from lower the firm's current ratio. Same to the theory of describing firm profitability increasing with current assets in lesser money blocked.

The null hypothesis has to be rejected as there is correlation of firm profitability with number of account receivables in days significant statistically.

Regression Models 3: Number of Days Accounts Payables and Return on Assets

Table 9.
Model Summary

Regression Statistics	
Multiple R	0.849
R Square	0.740
Adjusted R Square	0.579
Standard Error	2.616
Observations	260

a. Predictors: (Constant), GROWTH, SIZE, AP, LEV, CR, LEV

b. Variable in Dependent: ROA

74.0 % is the value of R-square in adjusted in the model, which means that 74.0 % variation of the variable in dependent (ROA) is obviously shown due to the independent variables, and it is a strong explanatory power in regression.

Table 10.
ANOVA

	df	*SS*	*MS*	*F*	*Significance F*
Regression	5	0.385	0.077	10.214	0.000
Residual	255	1.914	0.008		
Total	260	2.299			

a. Predictors: (Constant), LEV,CR, SIZE, GROWTH, AP

b. Variable in Dependent: ROA

10.214 is the significance of F-stat in the table 10 above and the level of significance is less than 5% so it seems as significant. Hence it was found that current ratio, leverage, account payables in days, firm growth and firm size have affected on return on assets (ROA) of those Malaysia companies.

Table 11.
Coefficients

	Coefficients	*Standard Error*	*t Stat*	*P-value*
Intercept	2.167	3.992	0.543	0.588
AP	-0.002	0.002	0.231	0.792
GROWTH	-0.189	0.395	-0.436	0.302
LEV	-1.796	0.337	-3.176	0.002
CR	-0.518	0.231	-2.316	0.021
SIZE	0.398	0.418	0.587	0.269

a. Variable in Dependent: ROA

About 74.0% explanatory power predicts the ROA in the model below:

ROA =2.167 – 0.189 GROWTH - 0.518 CR - 1.796 LEV + 0.398 SIZE - 0.002 AP + e

It has been found that ROA is affected by current ratio and leverage as their p-value are less than 5% from the results. However, ROA is affected insignificant by account payables in days, size and growth as the p-value is more than 5%. Number of account payables in day is replaced from number of account receivables in day and revealed the results of regression equation (3) in table 11.

The firm profitability will be impacted as the less profitable firms do not pay their suppliers early as more profitable ones do. There is a correlation of firm profitability with number of account payables in days showed negatively in the results from regression as measured by return on assets. Malaysia companies use up 112 days in the short-term to make sure their suppliers get payment on average is confirmed in the descriptive statistics presented in the table 1.

The business operations still on counting as delaying payment to suppliers even the profitability of the companies is reducing with less profit (Padachi, 2006). There are more capital to be utilized for other functions to make remarkable profits for business to survive as long as the payment period is longer and it makes economic sense from the result.

The null hypothesis has to be accepted as there is statistically insignificant the relationship of firm profitability associated with number of account payables in days.

Regression Models 4: Cash Conversion Cycle and Return on Assets

Table 12.
Model Summary

Regression Statistics	
Multiple R	0.699
R Square	0.656
Adjusted R Square	0.598
Standard Error	2.087
Observations	260

a. Predictors: (Constant), LEV, CCC, GROWTH, SIZE, CR

b. Variable in Dependent: ROA

59.8 % is the value of R-square in adjusted in the model, which means that 59.8 % variation of the variable in dependent (ROA) is shown obviously due to the variables in independence and regarded as weak explanatory power in regression.

Table 13.
ANOVA

	df	***SS***	***MS***	***F***	***Significance F***
Regression	5	0.381	0.076	10.085	0.000
Residual	255	1.918	0.008		
Total	260	2.299			

a. Predictors: (Constant), GROWTH, LEV, CR, SIZE, CCC

b. Variable in Dependent: ROA

The value of F-stat is found in 10.085 from the table 13 and the level of significance is less than 5% is deemed as significant. Hence the return on assets (ROA) is found that impacted by current ratio, firm size, cycle of cash conversion in days, firm growth with leverage of those Malaysia companies.

Table 14.
Coefficients

	Coefficients	***Standard Error***	***t Stat***	***P-value***
Intercept	3.022	2.999	0.941	0.589
CCC	0.002	0.004	0.616	0.530
GROWTH	-0.131	0.231	-0.379	0.300
LEV	-1.804	0.251	-3.208	0.002
CR	-0.730	0.204	-2.309	0.022
SIZE	0.397	0.477	0.680	0.533

a. Dependent Variable: ROA

Thus, about 59.8% is the power of explanatory in prediction of the ROA by the following model:

ROA =3.022 - 1.804 LEV - 0.730 CR - 0.131 GROWTH + 0.397 SIZE + 0.002 CCC + e

The finding of ROA is affected by independent variables of current ratio and leverage as their p-value are less than 5%. However, ROA is affected insignificantly by size, growth and cash conversion cycle as the p-value is more than 5%. The correlation of firm profitability associated with the cycle of cash conversion is utilized to analyze equations (1), (2) and (3) with all the three variables for the combined effect. It was found positive (0.002) in the

coefficient value of cycle of cash conversion. This implies that the firm will have lesser profits to be generated in decreasing of the cash conversion cycle. The firm profitability will be generated more with lower cycle of cash conversion is stated in theory and it is contrast to this study.

The firm profitability is added with decreasing of cycle of cash conversion in theoretical researches whereas the profitability of the company is affected negatively for longer cash conversion cycle. At the level in significance with shown p-value (0.530) and it is treated as insignificant from the results. These studies prove the negative relationship as they are, (Lazaridis, Tryfonidis, 2006; Raheman, Nasr, 2007; Samiloglu, Demirgunes, 2008), the conclusion that they have made is either increasing or decreasing in the period of cash conversion, the firm profitability will still be affected significantly. The conclusion of positive correlation of firm profitability associated with cycle of cash conversion is conducted by (Padachi, 2006) with 0.165 coefficient value in correlation.

The null hypothesis has to be accepted as there is statistically insignificant relationship of firm profitability with cycle of cash conversion.

Regression Models 5: Firm Profitability and Firm Size

Table 15.
Model Summary

Regression Statistics	
Multiple R	0.721
R Square	0.703
Adjusted R Square	0.635
Standard Error	1.982
Observations	260

a. Predictors: (Constant), SIZE, CR, GROWTH, LEV

b. Variable in Dependent: ROA

In the model, the significance of R-square in adjusted is 70.3 %, which 70.3 % diversification of the variable in dependent (ROA) is shown obviously due to the variables in independent and the power from regression.

Table 16.
ANOVA

	df	***SS***	***MS***	***F***	***Significance F***
Regression	4	0.345	0.086	11.247	0.000
Residual	255	1.954	0.008		
Total	259	2.299			

a. Predictors: (Constant), CR, LEV, GROWTH, SIZE

b. Variable in Dependent: ROA

A significance of F-stat is found to be 11.247 in table 16 and as the level of significance is less than 5% so it is significant. Thus, it was found that return on assets (ROA) is impacted by size, growth, current ratio and leverage of the firm in those Malaysian companies.

Table 17.
Coefficients

	Coefficients	***Standard Error***	***t Stat***	***P-value***
Intercept	0.011	0.040	0.281	0.779
SIZE	0.004	0.002	2.082	0.038
LEV	-0.095	0.024	-3.879	0.000
CR	-0.010	0.004	-2.223	0.027
GROWTH	0.009	0.009	1.024	0.307

a. Variable in Dependent: ROA

According to table 17, showing the results of regression model mathematically as following:

ROA = 0.011 – 0.095 LEV – 0.010 CR + 0.009 GROWTH + 0.004 SIZE + e

ROA is affected by independent variables of size, leverage and current ratio are found to investigate the significance on the variable of dependent ROA from each independent variable in the analysis as less than 5% are shown at their p-value. However, the p-value of growth is more than 5% and it is regarded as insignificant affects in ROA.

The correlation of firm profitability associated with firm size is used to analyze the combined impact of all the three variables used in equations 1, 2, 3 with 4. The coefficient value of size was found in positive (0.004). This implies that a company will have lesser profits in the decreasing firm size. At the significance level with shown p-value (0.038) implies there is significant on the results. There is an association of firm profitability with firm size analyzed in positive and is written by (ALghusin, 2015) with the value of correlation coefficient in 0.021 same as this study.

The null hypothesis has to be rejected as there is correlation of firm profitability associated with firm size statistic significantly.

Summary

Research Objective 1

There is a relationship between returns on assets, dependent variable and inventory and firm size is analyzed is positive from the results in regression. Hence, the firm profitability is increased due to higher the inventory, likewise the firm size. According to the theory in corporate finance, when the number of inventories in day-hold is increasing, profitability is enhanced.

Those results from previous studies are similar with the results of this study including Deloof (2003); Padachi, (2006); Garcia-Teruel, Martinez-Solano, (2007); Raheman, Nasr, (2007) which stressed the correlation of firm's profitability with number of inventories in days in their respective analysis.

Research Objective 2

There is a positive correlation between firm profitability associated with the number of account receivables. The number of inventories in-day and number of account payables in-day was found to be positive. The cash conversion period was used to measure the number of account payables in-day, inventory in-days and account receivables in-day with regard to integrated analysis. There are different results conveyed in this study compared with many past studies produced in various countries as per Mathuva, (2009) and Sen, Oruc, (2009).

Research Objective 3

The result of correlation of firm profitability associated with number of account payables in-days and numbers of inventory in-days are divided in this study which concurs with previous studies, which are; Jose, Lancaster, and Stevens, (1996); Deloof, (2003); Lazaridis, Tryfonidis, (2006); Raheman, Nasr, (2007) and Samiloglo, Dermirgunes, (2008).

Research Objective 4

The positive correlation as measured by cycle of cash conversion and the measurement of integrated operation capital is shown of firm's profitability associated with managing the working capital. A firm's profitability will be affected negatively by reducing the cycle of cash conversion which has been discovered in this study. This study also revealed that reducing the time of cash conversion cycle would benefit the firm, which concurs with studies by Garcia-Teruel, Martinez-Solano, (2007) in Spain; Raheman, Nasr, (2007) in Pakistan, Kaddumi, Ramadan, (2012) in Jordan.

However, the analysis of correlation of firm profitability and cycle of cash conversion has departed significantly compared to previous studies of Shin, Soenen, (1998); Deloof, (2003); Padachi (2006); Samiloglo, Dermirgunes, (2008); Nazir, Afza, (2009); Singh, Kumar, Colombage, (2017) and Nwude, Agbo, Ibe-Lamberts, (2018).

Research Objective 5

A company will have lesser profits with the decrease in firm size, as per the significance test of a p-value of 0.038. The outcome of this study is compatible to the study of (ALghusin, 2015).

Limitations and Future Research

This study has its own limitations. The sample size is too small for any generalization. A mixed method approach could contribute is a holistic finding. This paves the way for future research in this area. Working capital management is crucial to be often than not looked into to ascertain, the fluctuating needs of firms today.

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