THE EFFECTS OF WORKING CAPITAL MANAGEMENT ON SMEs PROFITABILITY IN MALAYSIA

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RAHIMA ABASS ALI

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ABSTRACT

This study investigates the effect of working capital management on SMEs profitability in Malaysia using a sample of 66 SME manufacturing firms covering from 2006 until 2012. *Ordinary least square (OLS)* regression is used to estimate the relationship between the independent and dependent variables. The results show that, there is negative relationship between working capital management measures i.e. days account receivables (DAR), inventory turnover in days (ITID), and cash conversion cycle (CCC) and SMEs profitability proxies i.e. return on assets (ROA) and return on equity (ROE) except for net operating profit (NOP) which is having positive effect with CCC. Furthermore, the study shows that there is positive relationship between days account payables (DAP) and SMEs profitability measured by (ROA and ROE) but having a negative relation with NOP. The results imply that Profitability of SME manufacturing firms depends upon effective working capital management. Therefore, this study suggests that SME manufacturing companies can improve their profitability by managing working capital properly.

KEY WORDS: Working capital, working capital management, manufacturing Sector, Malaysia, SMEs, profitability.

ABSTRAK

Kajian ini mengkaji kesan pengurusan modal kerja ke atas keuntungan perusahaan kecil dan sederhana (PKS) di Malaysia dengan menggunakan sampel 66 firma pembuatan PKS meliputi dari tahun 2006 sehingga 2012. Teknik regresi *Ordinary Least Squares (OLS)* digunakan untuk menganggarkan hubungan di antara pembolehubah bebas dan bersandar. Hasil kajian menunjukkan bahawa, terdapat hubungan negatif di antara komponen kerja modal iaitu hari akaun belum terima (DAR), hari pusing ganti inventori (ITID), dan kitaran penukaran tunai (CCC) dengan keuntungan PKS yang diukur menggunakan pulangan atas aset (ROA) dan pulangan ke atas ekuiti (ROE), kecuali keuntungan operasi bersih (NOP) yang mempunyai kesan positif dengan CCC. Di samping itu, hasil kajian menunjukkan bahawa terdapat hubungan yang positif di antara hari akaun pemiutang (DAP) dengan ROA dan ROE, tetapi di sebaliknya, DAP mempunyai hubungan yang negatif dengan NOP. Ini menunjukkan bahawa keuntungan firma pembuatan PKS bergantung kepada pengurusan modal kerja yang berkesan. Oleh itu, kajian ini mencadangkan bahawa syarikat-syarikat pembuatan PKS boleh meningkatkan keuntungan mereka dengan mengurus modal kerja dengan betul.

PERKATAAN PENTING: Modal kerja, pengurusan modal kerja, pembuatan Sektor, Malaysia, PKS, keuntungan.

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CHAPTER 1

INTRODUCTION

1.1 Background of Study

Working capital deals with the financial health of a company and it also plays important role in maximizing the shareholders wealth, hence, every company needs to sustain the balance between liquidity and profitability. Liquidity is a requirement to ensure that the firm is able to meet its short-term obligations (Deloof, 2003; Padachi, 2006). Working capital comprises the most liquid assets and it can be defined as the difference between current assets and current liabilities (Paramasivan and Subramanian 2009). Thus, the relationship between current assets and current liabilities are the main theme of the theory of working capital management.

Talat and Nazir (2011) & Smith (1980) highlight that short-term assets and liabilities are important components of net working capital and therefore needs to be carefully analysed, since they play a key role for firm`s profitability, risk, as well as its value. Indeed, companies might have an optimal level of working capital that counterbalances the costs and advantage of holding working capital and also maximizes their profitability or value (Afza & Nazir, 2007; Deloof, 2003).

According to Padachi (2006), company has efficient working capital when their current assets are higher than its current liabilities. This explains that the company is able to continue its operations and also has sufficient fund to fulfil its short-term obligations and upcoming operational expenses (in other word, the notion of working capital management explains how companies' manage their current assets and current liabilities to improve both liquidity and profitability). A proper management of working capital encourages a company's well-being in the market and also helps

the growth of shareholders value (Jeng-Ren, Li & Han-Wen, 2006). Working capital management is very important for manufacturing companies, for instance studies conducted by Gill, Biger, and Mathur (2010), and Hussain, Farooz, & Khan, (2012) highlight that there is a significant relationship between working capital management and profitability in relation to the manufacturing sectors.

Further, small and medium enterprise (SMEs) are generally seen as small firms that are not efficiently managing their working capital (short-term fund), but contribute to healthy and prosperous economy in every country and considered as a back bone of national economy (Atrill, 2006; Amini, 2004; Radam *et al*., 2008). Due to their limited access to the financial markets and over reliance on short-term funds, thus the efficient management of working capital is important for the existence, growth and profitability of SME companies (Padachi 2006; Pass and Pike 1987).

1.2 Overview of Small & Medium Enterprises (SME) in Malaysia

There is no standard definition of SMEs, as agencies (particularly that of government) and financial institutions describe SMEs based on their own standard (Hooi, 2006).

SMEs in Malaysia are defined as follows:

1) Firm in manufacturing sector has sales turnover less than RM50 million or full time employees less than 200.
2) Firm in service and other sector has sales turnover less 20 million or full time employees less than 75.

   (Source SME Corp Malaysia 2013).

SME Annual Report (2012/2013) reports that the statistics from the Economic survey in 2011 indicates that there were 645,000 total company establishments in Malaysia, where SMEs accounted the total of 97.3% (627585).

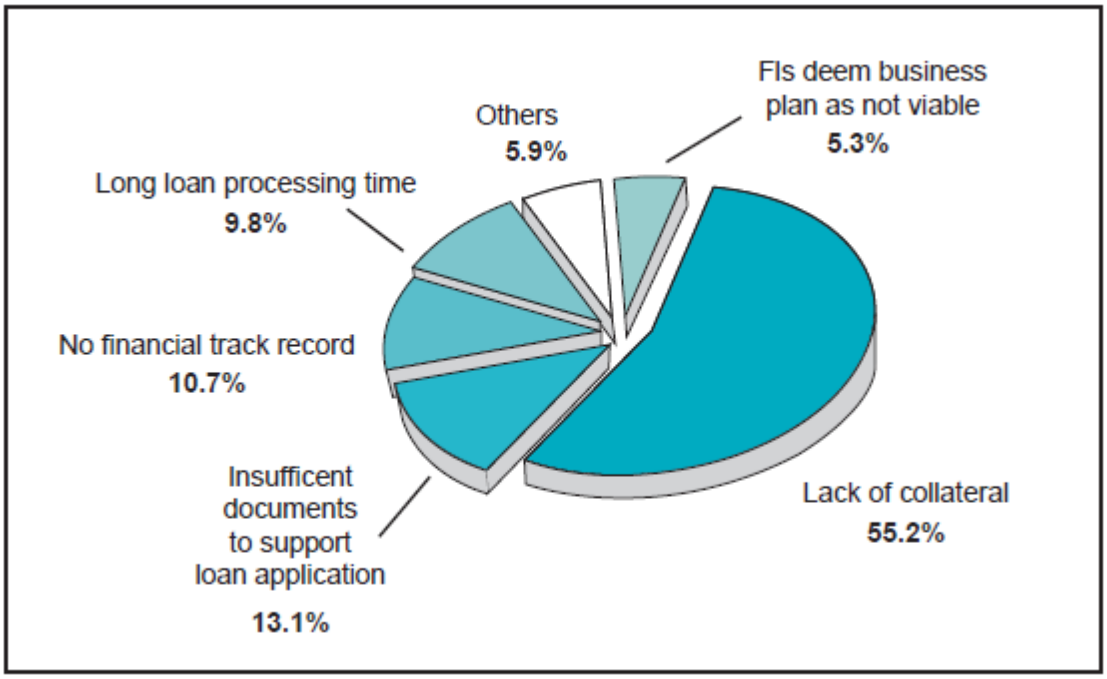
Despite the difficulty in the external environment, Malaysian SMEs continue to expand at a faster pace than the overall economy, with real GDP growth of 6% in 2012. This tremendous achievement was due to strong domestic economic activity, the rise in income levels, favourable labour market conditions and continued access to financing. The projected growth of Malaysian SMEs will be around 5 – 6% for 2013 and 2014, while the overall GDP is projected against a backdrop of 4.5 – 5%. Economic Transformation Program and the SME Master Plan initiatives together with domestic demand will be the pillars to reinforce and sustain the SME growth in the future (SME Annual Report, 2012/13).

Small and medium size enterprise is the broadest ranging form of business established in Malaysia and they mainly operate in general business, agriculture and manufacturing sector (Khalique, 2011). Therefore, this study will focus on manufacturing sector, since the manufacturing sector play a very important role in the development of economy because SMEs accounted for 96.6 percent (37,866) of total establishments in the manufacturing sector in year of 2013. Approximately 34.9 percent of total output of this sector or RM191.6 billion was contributed by SMEs. In addition, Kassim and Suleiman (2011) emphasize that the role of SMEs in manufacturing sector is relatively important in the development of Malaysian economy.

SMEs particularly in manufacturing sector faces a lot of constraints in having access to finance which can be seen as one of the most important aspects in the development

of those firms (Department of Statistics Malaysia, 2006). Many SMEs struggle to obtain funding, due to a variety of factors such as non-existent track record, weak credit rating, lack of collaterals, loan processing time among others as required by most banking and financial institutions (Department of Statistics Malaysia, 2006). As a result, most of the SMEs rely more on their working capital as a major source of finance, thus accessing the impact of working capital on firm's profitability is of paramount important. Narasimhan and Murty (2001) suggest that there is a need for many industries to improve their profitability by focusing on some critical areas such as, reducing investment in working capital and improving working capital efficiency. This explains that managers can increase profitability by reducing the number of days of accounts receivable and inventories, for small and medium enterprises that need to finance increasing amounts of debtors.

Figure 1.1: Constraints Faced by SMEs



Source: Department of Statistics Malaysia (2006)

The chart above highlights the lack of collateral as the key obstacle faced by SMEs when looking for financing from financial institutions. Then followed by the insufficient loan documentation, lack of financial track record, long processing time and as well as business viability. Survey done on European SMEs also showed that lack of collateral, poor business performance and inadequate information are the key causes for constraints faces for the small and medium enterprises (Normah, 2007).

In line with the above, it is evident that there is a strong conviction of the need to intensify research on effective management of working capital and how it influences SMEs profitability especially in manufacturing companies of relatively developing economies like Malaysia where little has so far been done, and little been achieved. The study therefore seeks to address the theoretical and practical managerial problems and issues therein with a view to proffer solutions and recommendations based on the subsequent findings of the study.

1.3 Problem statement

Working capital management can have a major influence on the liquidity and profitability of an organization (Shin and Soeneen, 1998; Raheman & Nasr, 2007). Moreover, working capital is an important element in any organizational setting that required forceful attention, proper planning and management. It is believed that management of organization has a pivotal role in the achievement of profitability and overall performance through efficient working capital management. A flawless business needs adequate resources to keep moving and ensure such resources are utilized to enhance its profitability and overall performance.

Sunday (2011) suggests that most SMEs are not aware about their working capital position, most have only little care for their working capital position, most do not

even have standard credit policy and many do not care about their financial position, they only run business by focusing on cash receipt and what their bank account position is. Danielson and Scott (2000) discover that small and medium of US firms use vendor /trade credit financing when they have run out of capital. This shows that working capital is important as it serves as short-term financing to SMEs. Hence, effective working capital management is important in improving profitability and liquidity of SMEs (Peel and Wilson, 1996).

A research done in the UK and the US have presented that weak financial management mainly poor working capital management is a major cause of failure among small companies (Berryman, 1983; Dunn and Cheatham, 1993). Previous studies examine the influence of working capital management on SME companies. In countries around the world such as Spain, U.K, Mauritius, Turkey, Pakistan, Ethiopia etc. most of researchers find a strong and negative relationship between working capital components i.e. number of day's inventories, number of days accounts receivable and cash conversion cycle and SMEs profitability (Padachi, 2006; García-Teruel and Martínez-Solano, 2007; Afeef, 2011; Gul *et al*., 2013 and Dinku, 2013). Another strand of literature finds a positive relationship between working capital component i.e. number of day's accounts payable with the SMEs profitability (Gul, *et al*., 2013; Dinku, 2013).

In line with result highlighted above, such relationships have not been recognized for Malaysian SME companies. There is relatively little research that examines the effect of working capital management on SMEs profitability in Malaysia. Therefore this study intends to address the shortfall in the literature. The aim of this study is to examine and provide empirical evidence about the effect of working capital management on profitability of 66 Malaysian SMEs during the period 2006 to 2012.

1.4 Research Questions

1. Do days account receivables influence SMEs profitability in Malaysia?
2. Do inventories turnover in days influence SMEs profitability in Malaysia?
3. Do days account payables influence SMEs profitability in Malaysia?
4. Does cash conversion cycle give an impact SMEs profitability in Malaysia?

1.5 Objectives of the study

The general objective of this study is to ascertain and identify the effect of working capital components on SMEs profitability. The following objectives are built to achieve the goals of this study:

1. To examine the effect of days account receivables on SMEs profitability in Malaysia
2. To investigate the effect of inventories turnover in days on SMEs profitability in Malaysia
3. To examine the effect of days account payables on SMEs profitability in Malaysia
4. To investigate the effect of cash conversion cycle on SMEs profitability in Malaysia

1.6 Significant of the study

Generally, this study is expected to benefit the society and contribute to literatures particularly on the effect of working capital management on SMEs profitability. The relationship between working capital management and SMEs profitability is very important, since the improvement of working capitals is necessary for the health and survival of the firm. This study is significant to SMEs management and as well as

other stakeholders. Thus, contribution of this study to the body of knowledge is explained below:

1.6.1 Practical contributions

This study will benefit Malaysian SMEs by providing them with a more reliable scientific measures and perspective for describing and evaluating how working capital affects SMEs profitability. To stakeholders like lenders and other financial institutions, this study will provide an alternative point of view in decision making and to help the lenders to understand & predict the direction of SMEs profitability in the future so as to access their liquidity and provide them with additional funding.

1.6.2 Theoretical contributions

This study will contribute to the current knowledge in the aspect of working capital management and profitability of SMEs in Malaysia.

1.7 Scope of Research

The study focuses on the components of working capital management, i.e. days account receivable (DAR); inventory turnover in days (ITID); days account payable (DAP) and cash conversion cycle (CCC) and their effects on return on asset (ROA); net operating profit (NOP) and return on equity (ROE). This study is limited to 66 local manufacturing firms, particularly SMEs in Malaysia.

1.8 Organization of Thesis

Chapter one presents the background of the study and describes the problem statements, research question, research objectives, and significance of the study. Chapter 2 reviews the literature on working capital management. Chapter 3 describes

the methodology employed. Chapter 4 discusses the findings of the study. Finally, the conclusions and recommendations are discussed in Chapter 5.

CHAPTER 2

LITERATURE REVIEW

2.1 Introduction

The purpose of this study is to examine the effect of working capital management on SMEs profitability in Malaysia using OLS Model. The aim of this chapter is to provide a discussion on theoretical literature of working capital management, and empirical results from previous studies regarding the effect of working capital management on firms profitability both large and SMEs.

2.2 Theoretical Discussion

2.2.1 Working Capital Policies

There are three main types of working capital policies which a firm may adopt such as Moderate policy, conservative policy, and aggressive policy. These policies describe the relationship between the sales level and the level of current assets.

2.2.1.1 Moderate policy

A moderate policy applies when the company fixed assets and part of its current assets are from long-term debt and equity. This policy focuses on matching risks to the returns expected. (In other word this approach results in a moderate amount of working capital and a moderate risk level). Under this policy Short term current assets are financed with short debts while non-current assets are financed with long term debts and equity. The disadvantage of this policy is it involved a lot of cost which will reduce the profitability of the firm (Arnold, 2008).

2.2.1.2 Conservative policy

The company would try to adopt the conservative policy by taking a long term loan, because company favour to use long term loan than short term debt. Under this

policy Firm can reduce risks associated with short-term borrowing by using a larger proportion of long-term financing. Sathyamoorthi & Wally –Dima, (2008) companies tend to adopt a conservative approach during the time of high business volatility. However, the disadvantage of this policy is that the company may experience a high cost for the long term loan resulted from the increase in the interest rate than the short term loan.

2.2.1.3 Aggressive policy

Aggressive working capital policy applies when the company's intention is to finance the permanent of the working capital through short-term sources. This policy seeks to minimize the excess liquidity while meeting the short-term requirements.

In this approach the firm may accept a great risk of insolvency in order to save the cost of long-term financing and also to earn greater return. According to Hussain *et al*., (2012) aggressive policy relates with the firm's active control and management of current assets with the aim of minimizing them. Other things being equal, an aggressive policy leads in lower current assets, shorter cash conversion cycle, higher risk and higher return to recompense the risk (Pinches, 1997). However, under this policy the company which have high risk strategy will get high return. Hussain *et al*., (2012) found when firm adopt an aggressive policy with low level of current assets it will result to increase their profitability.

2.2.2 Working Capital Components

2.2.2.1 Trade Receivables

Receivables are often recorded in the company's balance sheet when sale of goods or services are on credit. Credit period is a period when a company's customer is given a specific period to settle the cash that he/she owes the company. Firms manage the

receivables so that credit period is well known by the customer and when it's due (Padachi, 2006). The company accountant or credit collector usually carry out a credit analysis to gauge who are paying on time and who are not so as for the management to take any necessary action. When the company receives the cash early, it will improve the company's working capital and its efficiency. However, if a company stress too much on collecting cash too early from the customer might hamper the relationships between the parties and as such it will have negative impact on the business sales of the company in the long run as the customer might turn to the company's competitor.

Some companies uses factoring company by selling and handover their trade receivables so as to improve working capital and at same time get cash early (Vural, Sokmen and Centenak 2012). And the factoring company will discount the trade receivables to make a profit and return rest of the money to the company. However, a company might have potential risk of using factoring facility, because the factoring company might treat the company's customer too harshly and having consequences on the company relationship with the customer (Brealey, Myers, &Allen, 2006).

2.2.2.2 Inventory Management

Commonly, inventory is the second largest asset in a manufacturing firm. Mathuva (2010) described inventory conversion cycle as the period taken to change inventory into sales. If inventory conversion period increases, cost of inventory will increase. Hence, the objective of inventory management is to lessen the cost of inventory without initiating distraction in the production (Bhattacharya, 2003). In every manufacturing company, inventory management is a vital make-up of current assets; inventories are often in the form of raw materials, works in progress or finished

goods. To improve working capital and efficiency, management needs to balancing to keep inventory for sales and having less inventory as well. When there is less inventory when a customer demand has to be met immediately, the company will lose out on revenue if customer demand is not met (Padachi, 2006).

However on the other side, company holding too much inventory will have an opportunity cost and may result to inventory obsolescence and additional cost like maintenance cost etc. moreover, previous research shows that the trend has been to lower inventory levels over the past decades**.** For example, 30 years ago U.S companies had approximately 12 percent of total assets tied up in inventory, whereas today the percentage is around 6 (Vural *et al*., 2012). This is known as the Japanese concept of just-in-time, which is originated from Japan for managing their inventory level. The concept of just-in-time keeps suppliers ready to supply goods or stocks when the need arises for organization to satisfy customer demand. With this way, inventories are held at zero or in low levels (Brealey *et al*., 2006).

2.2.2.3 Account Payables Management

Account payable measures the length of the time from when a purchase of materials until making actual cash payment to suppliers. Accounts payable contains trade credit and accumulated expenses which together provide finance to the operations of a business on an ongoing basis (Bhattacharya, 2003). Unlike inventory, accounts receivable and cash management reflect the current assets of the working capital management; however account payable signifies the current liabilities of the working capital management. Account payable period shows how many days are the company takes to pay their suppliers. If the account payable period increases, it may cause the

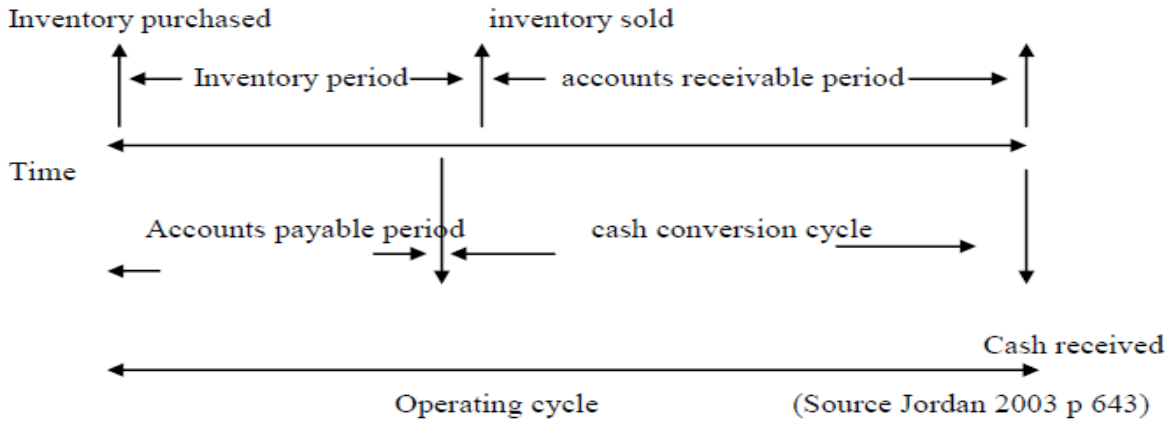
company to lose its suppliers. Thus, companies should retain good relationship with their supplies at the time keep optimal working capital management.

2.2.2.4 Cash Conversion Cycle

The cash conversion cycle is a cash flow calculation that measures the time a company takes to convert its inventory and other resource inputs into cash. In other words, the cash conversion cycle calculation measures how long cash is tied up in inventory before the inventory is sold and cash is collected from customers. Arnold, (2008) mentioned that companies take a cycle in which companies purchase inventory, sell goods on credit, and then collect the amounts due. For a typical manufacturing company, the cash operating cycle takes in the form as; raw materials holding period minus payables payment period plus WIP (Work in progress) holding period plus finished goods holding period plus Receivables' collection period.

Moreover, longer cash conversion cycle will result difficulty of paying liabilities when they fall due and this it will hurt the company's reputation. This shows that the longer the cash conversion period, the more investment the firms need to finance current assets. Shin and Soenen (1998) highlights that it is significant for companies to shorten the cash conversion cycle, therefore managers can create value for their shareholders by reducing the cycle to a reasonable minimum.

Figure 2.1: Cash conversion cycle process



The entire CCC is often referred to as the net operating cycle. It is "net" because it subtracts the number of days of payables the company has outstanding from the Operating Cycle. The reason behind this is that payables are really viewed as a source of operating cash or working capital for the company. By contrast, Receivables, or cash the company has not received yet, decreases working capital available to the company to finance operations.

2.3 Review of previous empirical studies

The results of the previous studies that examine the relationship between working capital management and profitability both large and SME firms are mixed, but the majority of studies prove a negative relationship between working capital management and firm profitability.

Jose, Lancaster, & Stevens (1996) study the relationship between aggressive working capital management (cash conversion cycle) and profitability of US firms. Their results conclude that there is a negative relationship between the cash conversion cycle and return on investment, a proxy for the firm's profitability. The result

suggests that the more the aggressive working capital management is, the lower the profitability would be.

Shin and Soenen (1998) highlight the importance of efficient working capital management for corporate profitability in the U.S. Using a sample of 58985 listed American firms for the period of 1975-1994 they find a strong negative relationship between working capital management measured by net trade cycles (NTC) and corporate profitability. Their result suggests that managers can create value for their shareholders by reducing the NTC to a reasonable minimum level.

Deloof (2003) examines whether working capital management has an effect on the profitability of Belgian firms. Utilizing a sample of 1,009 Belgian non- financial companies in the period of 1992-1996, the result demonstrates that there is a negative relationship between gross profit and receivables collection period, inventory period and payable period (proxies for working capital management). This implies that to increase the gross profit of the firm, managers should reduce the operating receivables collection period, inventory period and payable.

Shah and Sana (2006) investigate the impact of working capital management on the profitability of oil and gas sector in Pakistan. They use receivable days, payable days, inventory days, current ratio, and quick ratio as working capital measures and gross operating income as profitability measure. Their result shows that there is a negative relationship between the gross operating income and working capital components, which implies that the increased in working capital leads to decreased in profitability of the firms.

Lazaridis and Tryfonidis (2006) study the relationship between working capital management and corporate profitability, using a sample of 131 of large firms listed

in Athens Stock Exchange for the period 2001 -2004. They found a negative relationship between profitability and working capital components such as days of accounts receivable, account payable and cash conversion cycle.

Irene & Lee (2007) discover the dominant working capital management practices of some well-performed Malaysian public firms listed on Bursa Malaysia. They investigate the connection between profitability and the level of working capital and find that profitability and working capital are linearly related positively to a certain extent.

Samiloglo and Demirgunes (2008) examine the effect of working capital components on firm profitability of Turkish companies. Their results show that accounts collection period, inventory conversion period and leverage have negative impact on the firm profitability, while sales growth has positive impact on the profitability. This means that managers can increase the profitability of their firms by shortening the inventory conversion period, receivables collection period and leverage while they can increase the growth in sales that will result higher profitability.

Mohamad and Saad (2010) conduct a study to measure the impact of working capital management and the performance of Malaysian listed companies for a sample of 172 companies between 2003 to 2007. They find that current assets to total asset ratio has a positive significant impact on the firm performance measured by (Tobin Q, ROA and ROI). While current asset to current liabilities ratio, Cash conversion cycle, and current liabilities to total assets ratio shows negative and significant relationship with Tobin Q, ROA and ROIC. Based on their results, they suggest that working capital components and performance in Malaysia disclose both negative and positive relationship.

Gill *et al*., (2010) investigate the relationship between working capital management and profitability of 88 firms listed on the New York Stock Exchange for the period 2005 to 2007. Different from Lazaridis and Tryfonidis (2006) study, their results showed that there is a positive relationship between cash conversion cycle (CCC) and gross operating profit, while on the other hand, the relationship between accounts receivables and gross operating profit is negative. Based on the Gill *et al*., (2010) result, an increase in CCC will lead to the increase in gross operating profit of the firms. This indicates that how efficient companies use short-term assets and liabilities to generate profit and this allows investors to estimate the company's overall health. However, in financial management, manager's goal is to reduce the cash conversion cycle, because the longer the cycle of the cash, the greater the need for short-term financing to pay for the firm's materials needs and vice-versa ,the shorter of the cycle will minimizes the firm costs.

Huynh and Jyh-tay (2010) examine the relationship between working capital management and profitability of 130 firms listed in Vietnam stock market from 2006 to 2008. Their results demonstrate that average collection period (AR), cash conversion cycle, and number of day's inventories are negatively related to profitability while number of days accounts payable (AP) is positively related to profitability. Similarly Dong (2010) tests the relationship between working capital management and profitability of listed companies in Vietnam for the period 2006 to 2008. The findings concluded that there is a negative relationship between profitability and working capital management of Vietnamese companies.

Hong, Ayton and Fábio (2011) examine the relationship between working capital and profitability in Brazil for the sample of 16 Brazilian listed companies for the period 2005- 2009. Their study found that day's inventory has no statistical evidence in

ROE measured the profitability of the firms. Means that inventory as a measure of working capital doesn't have any influence on profitability of firm measured by (ROE).

Akinlo (2011) examine the effect of working capital on profitability of 66 listed firms in Nigeria for the period 1999 to 2007. The results showed that cash conversion cycle, account receivables and inventory period are positively related to profitability while account payable is negatively related to profitability. Their results contradict with the findings of Huynh and Jyh-tay (2010) that examine the relationship between working capital management and profitability of 130 listed firms in Vietnam for the period of 2006 to 2008. Their result showed that cash conversion cycle, average collection period and number of day's inventory are negatively related to profitability while days account payable is positively correlated to profitability.

Uremadu, Egbide, and Enyi (2012) study the impact of working capital management and liquidity on the profitability of 50 manufacturing companies listed on the Nigerian Stock Exchange during 2005 to 2006 period. Their results show that working capital management measured by inventory conversion period (ICP) and debtor's collection period (DCP) have a positive and significant impact on return on asset (ROA), while cash conversion period (CCP) and creditor's payment period (CPP) have a negative effect on return on asset (ROA).

Jacob (2014) investigates the relationship between working capital management and profitability of food and beverages manufacturing firms listed on the Nigerian Stock Exchange between 2002 and 2011. By using a sample of 120 firms, the study find that there is a positive but insignificant relationship exists between cash conversion cycle and net operating profit. Besides, Account Collection Period, inventory

conversion period and account payment period has negative relationship with Net operating profit of food and beverages manufacturing companies in Nigeria, however inventory and account payable are insignificant.

Salawu and Alao (2014) evaluate the effects of working capital management on the performance of Nigerian manufacturing firms for the periods 2000 – 2009. The results of their study showed that there is a positive and significant relationship between average collection period and average payment period on profitability.

In the context of SMEs, Garcia *et al*., (2007) examine the effects of working capital management in Spain. Utilizing a sample of 8,872 small to medium-sized enterprises (SMEs) for a period of 1996-2002, their result shows that there is a significant negative relation between SME profitability and the number of day's accounts receivable, days of inventory cash conversion cycle (proxies of working capital management). This shows that SMEs return on assets is reduced by lengthening the number of day's accounts receivable, number of days of inventory and cash conversion cycle. On the other hand, leverage/debt has negative effect with SME profitability while firm size and sales growth are positively related to SMEs profitability, so that large firm size and increase of company sales seems to favour the improvement of profitability. The finding of this study is similar to those found in previous studies that focused on large firms (Jose *et al*., 1996; Shin and Soenen, 1998; Deloof, 2003). Their study suggested that managers can create value by adopting the aggressive policy of working capital i.e. shortening their number of day's accounts receivable and inventories which will improve the firm's profitability.

Afeef (2011) study on the impact of working capital management on the profitability of SMEs in Pakistan for a period of 6 years from 2003 -2008. Their result showed a

strong negative relationship of the inventory conversion period and receivable collection period with the operating profit to sales. This shows that an increase in inventory conversion period and receivable collection period will lead to decrease the operating profit to sales.

Karadagli (2012) investigate the effect of working capital management, measured by cash conversion cycle (CCC) and net trade cycle (NTC) on the profitability of Turkish SMEs for the period 2002-2010. By using pooled panel analysis with annual data they found a positive relationship between working capital components (CCC and NTC) with firm profitability. This explains that an increase in both the CCC and the NTC improves firm performance in terms of both the operating income and the stock market return for SMEs.

Furthermore, Gul *et al*., (2013) investigate the influence of working capital management (WCM) on performance of small medium enterprises (SMEs) in Pakistan for the period 2006 to 2012. The result show that number of day's accounts payable (APP) has a positive relationship with profitability while average collection period (ACP), inventory turnover (INV) cash conversion cycle (CCC) and debt ratio (DR) have negative relationship on profitability.

Dinku (2013) examine the impact of working capital management on profitability of Ethiopian Micro and Small Enterprises for the year of 2003. The result showed that there is a strong positive relationship between number of day's accounts payable and enterprises profitability measured by ROA. Nevertheless, number of days accounts receivable, number of days inventory and cash conversion cycle have a significant negative impact on ROA. The analysis shows that increase of day's accounts payable causes to increases the ROA; though, an increases of number of days accounts

receivable, number of days inventory and cash conversion cycle relates to a decrease of the ROA level.

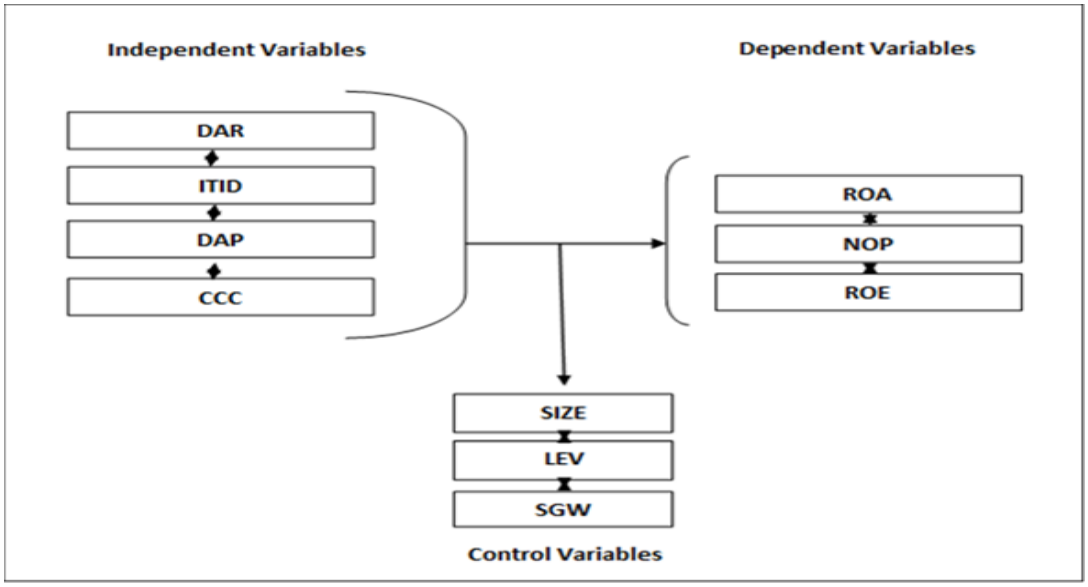
To conclude, based on the results stated above, it is clear that there are significant results between working capital components and firm profitability in both developed and developing economies. Results obtained from those studies are mixed across countries due to the differentiation of the samples, methodology and also the variables used. Hence, this study intend to fill the paucity in the literature, considering the issue highlighted in problem statement, to the best knowledge of the researcher, few study if any has integrated the effect of working capital management on SMEs profitability particularly in the context of Malaysia. This study intends to empirically examine the effect of working capital management on SEMs profitability in Malaysia, in order to provide reference for Malaysian SMEs on how to efficiently manage their working capital for their profitability's improvement.

2.4 Theoretical framework

Theoretical framework directs the research, determines what things that the study will measure, and what statistical relationships the study will look for. Previous researchers examine the effect of working capital management on profitability using large firms in Malaysia (Irene & Lee, 2007; Mohamad and Saad, 2010). However few researches that examine the effect of working capital management on SMEs profitability. Based on this, the framework of the study is constructed to ascertain the effect of working capital components such as days account receivable (DAR), inventory turnover in days (ITID), days account payable (DAP) and cash conversion cycle (CCC) on SMEs profitability measured by return on assets (ROA), net operating profit (NOP) and return on equity (ROE).

The figure below shows working capital components as independent variables while SMEs profitability as dependent variables together with the control variables measured by size of the firm (SIZE), leverage (LEV) and sales growth (SGW).

Figure 2.2 Research framework



2.5 Hypothesis Development

In line with the research framework discussed above the following hypotheses will developed in conjunction with research questions and objectives of the study.

The Hypothesis 1:

H_0: There is a negative relationship between days account receivables and SMEs profitability.

H_a: There is a positive relationship between days account receivables and SMEs profitability.

The Hypothesis 2:

H_0: There is a negative relationship between inventory turnover in days and SMEs profitability.

H_a: There is a positive relationship between inventory turnover in days and SMEs profitability.

The Hypothesis 3:

H_0: There is a negative relationship between days account payables and SMEs profitability.

H_a: There is a positive relationship between days account payables and SMEs profitability.

The Hypothesis H4:

H_0: There is a negative relationship between cash conversion cycle and SMEs profitability.

H_a: There is a positive relationship between cash conversion cycle and SMEs profitability.

The Hypothesis H5:

H_0: There is a negative relationship between leverage and SMEs profitability.

H_a: There is a positive relationship between leverage and SMEs profitability.

The Hypothesis H6:

H_0: There is a negative relationship between sales growth and SMEs profitability.

H_a: There is a positive relationship between sales growth and SMEs profitability.

The Hypothesis H7:

H_0: There is a negative relationship between sizes of the firm and SMEs profitability.

H_a: There is a positive relationship between size of the firm and SMEs profitability.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

This chapter illustrates the research methodology of the study, beginning with the discussion of the data used, sample employed, variable measurement and techniques of data analysis & models in answering the objective of this study.

3.2 Data

This study used quantitative data; the quantitative data used are from source of secondary data collected from annual financial reports of the SME companies. The data consists of account receivables, inventories, account payables, total debt, total equity, total current assets, total current liabilities, total assets, revenue or sales, profit after tax, and profit before tax.

Companies Commission of Malaysia (CCM) is an autonomous body that functions as a centre for corporate information, regulation and development of Malaysian companies. CCM database was used for collection of data. Thus, companies' financial figures were collected for the period of 2006-2012 which will use for the research purpose through individual company reports. The reason behind the selection particularly these years is the data between these periods is considered to be complete and accurate as they are not much missing data from the final data set.

3.3. Sample

The final sample of the study for the estimated model consists of 66 SMEs in the manufacturing sector. The purpose for selecting manufacturing firms is because

manufacturing mostly deals with inventory at almost every stage of production (raw-materials until finished goods) compared to other sectors. Besides, the main focus of working capital management for this study is current assets in form of inventories, and receivables. Indeed manufacturing firms deal mainly with these two components, and they have direct impact on liquidity and profitability in both negatively or positively. Based on activity, SMEs in developing countries are mostly involved in retailing, trading, or manufacturing (Fisher and Reuber, 2000). Malaysia being a developing country falls into this group and as mentioned in earlier chapter SMEs in the manufacturing sector contribute immensely to the development of Malaysian economy (SME Annual Report, 2012/13). There are 70 SME companies under manufacturing sectors that limited in Companies Commission of Malaysia (CCM) database, therefore the final sample for the estimation model consists of 66 companies, because 66 out of 70 of the companies have complete financial data from 2006 to 2012.

Table 3.1 Sample of the firms

Industry	Number of firms	Number of firms dropped from the sample	Final sample
Manufacturing sector	70	4	66

3.4 Definition of Terms Used

Working capital: Working capital is defined as current assets minus current liabilities. The major components of working capital are accounts receivable, inventories, cash and cash equivalents and accounts payable.

Days account receivable (DAR): DAR is the average number of days a company takes to collect payments on goods sold. It can be calculated as

account receivables divided by net sales multiply by 365 (days account receivables / net sales x 365).

Days account payable (DAP): DAP is the average number of days a company takes to pay off credit purchases. Days account payable is calculated as: account payables divided by net sales multiply by 365 days (Account payables / net sales x 365).

Inventory turnover in days (ITID): ITID is the average required time to change the materials into the product and then sell the goods. It can be calculated as inventory divided by cost of goods sold multiply by 365 (days inventory / cost of goods sold x 365).

Cash conversion cycle (CCC): CCC is the sum of days of sales outstanding (average collection period) and days of sales in inventory less days of payables outstanding. It is calculated as: inventory holding period plus account receivables – account payables (DAR + ITD – DAP)

Leverage (LEV): LEV is the ratio of total debt divided by total assets (total debt/total assets).

3.5 Variables measurements

3.5.1 Dependent Variables

In order to analyse the effects of working capital management on SMEs profitability, the return on assets (ROA), net operating profitability (NOP) and return on equity (ROE) are used as dependent variables. Majority of previous studies use these 3 variables as a proxy for profitability to examine the effects of working capital management on profitability (Garcia *et al*., 2007; Afza and Nazir 2007; Samiloglu &

Demirgunes, 2008; Afza and Nasir, 2009; Mathuve, 2010; Dinku, 2013: Jacob, 2014).

Table 3.2 shows the measurement for ROA, NOP, and ROE. ROA is measured as profit after tax and interest or net income divided by total assets. ROA controls the overall management efficiency of the firm in using assets to generate profit; and also it is a better measure of the operating efficiency of a firm since it relates the profitability of the company to the asset base (Padachi, 2006; Pandey, 2000). Besides, net operating profit is the amount of money that a company has earned after the cost of goods sold and operating expenses have been deducted. NOP measures a company's long-term profitability and also plays a major role for the growth of company's management. ROE is the amount of net income returned as a percentage of shareholders equity; it measures performance of the company. ROE is one of the most important profitability metrics and it reveals how much profit a company earned in comparison to the total amount of shareholder equity. This study therefore, employs these three variables to measure profitability of Malaysian SMEs.

Table 3.2 Dependent Variables

Variables	Measurement	Author
Return on Asset (ROA)	Net income divided by total assets Net income / total asset	Samiloglu &Demirdunes(2008)
Net Operating Profit (NOP)	Profit before interest, tax and depreciation divided by total asset at the end of the financial year. PBIT – depreciation / total assets	Deloof (2003) and Lazaridis Tryfonidis & (2006)
Return on Equity (ROE)	Net income divided by total equity Net income / total equity	Hong *et al*. (2011)

3.5.2. Independent Variables

The independent variables represent working capital components identified to see their effects on SMEs profitability which includes days account receivables; inventory turnover in days; days account payables; and cash conversion cycle. These variables are the most suitable proxies for measuring working capital efficiency. Dong (2012) highlights that cash conversion cycle is the most important determinant of profitability because it tells how cash is moving throughout company in certain duration. The cycle starts with a cash outflow by which the company pays back to suppliers for attaining raw materials, and then ends with a cash inflow when receiving money back from its customers for selling its goods. However to have an optimal cash conversion cycle, companies should pay attention to managing number of days inventory, number of days accounts receivable, and number of days accounts payable.

Table 3.3 Independent Variables

Variables	Measurement	Authors
Days account receivable (DAR)	Calculated as account receivables divided by net sales multiply by 365 days Account receivables / net sales X 365	Samiloglu & Demirdunes 2008; Garcia *et al*., 2007.
Inventory turnover in days (ITID)	Calculated as inventory divided by cost of goods sold multiply by 365 days inventory / cost of goods sold X 365	Samiloglu & Demirdunes (2008); Garcia *et al*., 2007.
Days account payables (DAP)	Calculated as account payables divided by net sales multiply by 365 days Account payables / net sales X 365	Garcia et al., 2007
Cash conversion cycle (CCC)	Calculated as inventory holding period plus account receivables – account payables DAR + ITD – DAP	Samiloglu & Demirdunes 2008; Garcia *et al*., 2007.

3.5.3 Control variables

Together with these variables, control variables are introduced, such as the size of the firm, the growth in its sales and its leverage. Based on previous studies, firm size (Deloof, 2003; Huynh and Jyh-tay, 2010; Padachi, 2006; Garcia *et al*., 2007), sales growth (Deloof, 2003; Padachi, 2006; Garcia et al., 2007), debt ratio or leverage (Makori, & Jagongo, 2013) are used as control variables. These variables are used as control variables since they represent firm's unique characteristics that may affect profitability.

Table 3.4. Control variables

Variables	Measurement	Authors
Size of firm (SIZE)	The natural log of firm's turnover at the end of the financial year.	Samiloglu & Demirgunes, 2008; Garcia *et al*., 2007.
Leverage (LEV)	Total debt divided by total assets	Samiloglu & Demirgunes, 2008; Shin and Soenen 1998.
Sales growth (SGW)	$(Sales_1 - Sales_0) / Sales_0$	Zariyawati *et al*., 2009; Samiloglu &Demirgunes, 2008; Garcia *et al*., 2007

3.6 Techniques of Data Analysis

Multiple regressions method are used to evaluate the relationship between working capital components and SMEs profitability measures by using the ordinary least squares (OLS) regression. The multiple regressions method was conducted by using EViews version 8. Correlation analysis and the descriptive statistics are analysed using SPSS20.

3.6.1 Models

Three models are run to develop the relationship between the working capital management and the SMEs profitability in addition to other firm characteristics i.e. Firm size, sales growth, and leverage. The models run are consistence with the models used in previous studies (Garcia *et al.*, 2007; Samiloglu & Demirgunes, 2008 and Zariyawati, *et al*., 2009).

Model 1

The first model will examine the relationship between ROA and working capital components measures:

$$ROA_{it} = \beta_0 + \beta_1 (DAR)_{it} + \beta_2 (ITID)_{it} + \beta_3(DAP)_{it} + \beta_4(CCC)_{it} + \beta_5(SIZE)_{it} + \beta_6(LEV)_{it} + \beta_7(SG)_{it} + e \quad \textbf{(1)}$$

Model 2

The second model will examine the relationship between NOP and working capital components measures:

$$NOP_{it} = \beta_0 + \beta_1 (DAR)_{it} + \beta_2 (ITID)_{it} + \beta_3(DAP)_{it} + \beta_4(CCC)_{it} + \beta_5(SIZE)_{it} + \beta_6(LEV)_{it} + \beta_7(SG)_{it} + e \quad \textbf{(2)}$$

Model 3

The third models will examine the relationship between ROE and working capital components measures:

$$ROE_{it} = \beta_0 + \beta_1 (DAR)_{it} + \beta_2 (ITID)_{it} + \beta_3(DAP)_{it} + \beta_4(CCC)_{it} + \beta_5(SIZE)_{it} + \beta_6(LEV)_{it} + \beta_7(SG)_{it} + e \quad \textbf{(3)}$$

Where

β = Regression model coefficient

e = the error term

DAR = Days Account Receivable

ITID =Inventory Turnover in Days

DAP = Days Account Payable

CCC = Cash Conversion Cycle

ROE = Return on Equity

ROA = Return on Asset

NOP = Net Operating Profit

SIZE= Size of The firm

SG= Sales Growth

LEV= Leverage Ratio

Consistent with the results found in previous studies that focused on both large and small sized firms (Deloof, 2003; Dinku, 2013; Garcia *et al*., 2007; Gul *et al*., 2013) this study estimates cash conversion cycle (CCC), days account receivables (DAR) and inventory turnover in days (ITID) to be negatively related to SMEs profitability. While days account payables (DAP) estimates to have positive effect on SMEs profitability similar with of the previous studies (Dinku, 2013; Gul *et al*., 2013; Huynh & Jyh-tay, 2010; Karadagli, 2012).

In this case, the negative relation of days accounts receivables, inventory turnover in days and cash conversion cycle will explains less profitability firms that allowed their customers longer payment period or firm could have too much stock/inventory as a result of reduction of sales and declining profits of the firm. Likewise, the positive relation of days accounts payables on the profitability indicates that firm's

which have longer payments period will have high profit which they can take advantage of the period to reinvest the money in order to gain short term profit.

Table 3.5 Expected sign of each variable

Variable	Definition	Expected sign
Days accounts receivables (DAR)	Calculated as account receivables divided by net sales multiply by 365 days Account receivables / net sales X 365	-
Days accounts payables(DAP)	Calculated as account payables divided by net sales multiply by 365 days Account payables / net sales X 365	+
Inventory turnover in days(ITID)	Calculated as inventory divided by cost of goods sold multiply by 365 days inventory / cost of goods sold X 365	-
Cash conversion cycle (CCC)	Calculated as inventory holding period plus account receivables – account payables DAR + ITD – DAP	-
Leverage	Short-term and long-term debt divided by total assets.	-
Size	Natural logarithm of assets	?
Sales growth	(Sales1- Sales0)/ Sales0	+

CHAPTER 4

RESULTS AND DISCUSSION

4.1 Introduction

This chapter presents the discussion of the descriptive statistics, correlations and regression analysis of the study. To determine the effects of working capital management on SMEs profitability, regression models and correlations are test between the variables.

4.2. Descriptive Statistics

As mentioned in the previous chapters, there are three dependent variables which are, return on assets (ROA), net operating profit (NOP) and return on equity (ROE), whereas days account receivables (DAR), inventory turnover in days (ITID), days account payable (DAP) and cash conversion cycle (CCC) are the independent variables. As mentioned in the research hypothesis in chapter two the effect of cash conversion cycle, inventory turnover in days and days accounts receivable on SME's profitability are expected to be negative while a positive effect of days account payable is estimated. The breakdown of 66 small and medium sized Malaysian firms' samples is presented in the study period of (2006-2012). Table 4.1 presents the summary of descriptive statistics of the variables used in the study. Descriptive statistics consists the mean value, minimum, maximum and standard deviation of the variables of the 66 SME's manufacturing firms. The descriptive statistics show that all the variables have 526 observations.

Table 4.1 Descriptive statistics

Variables	N	Mean	Minimum	Maximum	Std. Deviation
ROA	526	.0837	.0002	.5400	.0852
NOP	526	.8656	.0018	14.93	1.304
ROE	526	.0674	-4.313	95.30	.3074
DAR(days)	526	55.91	7.400	70.67	37.87
DAP(days)	526	44.35	3.451	75.61	39.70
ITID(days)	526	68.99	10.27	136.7	69.30
CCC(days)	526	80.55	-79.76	135.7	79.28
LGSZ	526	15.61	9.266	19.33	1.745
LEV	526	3.126	.0119	251.6	15.55
SGW	526	1.762	-1.000	400.2	19.66

The average value of the return on asset (ROA), net operating profit (NOP) and return on equity (ROE) are 8.4%, 86.6 and 6.7% respectively. This finding shows that SMEs in Malaysia are cost effective in generating more profit from their operations by utilizing their total assets. Furthermore the return to equity holders is considered to be is relatively to be moderate. The maximum value for ROA, NOP and ROE are 54.0% and 14.93% and 95.30% respectively. This indicates that SMEs in manufacturing sector shown a higher ROE with the maximum value of 95.30%.

The SME firms receive payment from their customers at an average of days account receivables of 55.91 days. Moreover the SMEs in Malaysia tend to make earlier payment to their suppliers at an average of days account payables of 44.35 days before receiving money/payments from their customers. This maybe as a result of discount offered by the suppliers and also SMEs do not rely much on trade debt due to the ample initiatives and support from the government to finance their business operations. Moreover, the minimum days that SMEs collects payment from their customers is 7.40 days while the maximum days 70.67 days. The minimum days for

SME firms to pay their bill to their suppliers is 3.45 days and the maximum is 70.67 days.

The average value of the inventory turnover is 68.99 days which is very high. The days in inventory are very high in the SME firms; this could be that the companies are trying to achieve economic of scale in their operations. However, the high level of inventory will result in additional cost to the company i.e. fixed cost or even result in inventory obsolesces which will affect the profitability of the firm. The maximum and minimum time that Malaysian SMEs takes to sell its inventory/stocks is 136.7 and 10.27 days respectively.

Furthermore the mean value of the cash conversion cycle is 80.55 days which considered long. This indicates that SMEs need more investment to finance current assets; this argument is reinforcing by the leverage which is considered to be also high with a mean value of 3.13. The maximum and minimum days that Malaysian SMEs takes to convert its source of input in to cash are 135.7 and -79.76 days respectively.

4.3 Pearson correlation

Pearson correlation test is conducted to examine the relationship between the dependent and independent variables. Table 4.2 demonstrates the correlation analysis all the variables used in the study. It shows that SMEs days account receivable is having negative correlation with the three dependent variables i.e., ROA, NOP and ROE while days account payable positive correlation with ROA and ROE but negative correlation with NOP. Furthermore inventory turnover in days and cash conversion cycle are having negative correlation with three dependent variables. Moreover DAR and DAP are having high correlation of 0.715, while ITID and CCC

are also having a correlation of 0.931. And these correlations are statistically significant at the 1% level. But all other independent variables in the in the model are considered to have low correlations. And these correlations are statistically significant at the 1% and 5% confidence level.

Multicollinearity is not a problem to this study as indicated by the low pair-wise correlation among the variables. To confirm that multicollinearity is not a problem to this study, a variance inflating factor (VIF) is reported in table 4.3. The R-square are relatively low for all the variables which give a lower VIF at the range of 1.058 to 2.153 indicating there is no problem of multicollinearity in this study.

Tables 4.2: Pearson correlation

	ROA	NOP	ROE	DAR	DAP	INV	CCC	LGSZ	LEV	SGW
ROA	1									
NOP	-.012	1								
ROE	-.056	.093**	1							
DAR	-.053*	-.176*	-.034	1						
DAP	.023**	-.108*	.034	.715*	1					
ITID	-.026	-.137*	-.045	.195*	.073**	1				
CCC	-.014	-.150*	-.040	.290*	-.095**	.931*	1			
LGSZ	-.020	.040	.026	-.133*	-.221*	.045	.086**	1		
LEV	-.014	-.041	-.011	.053	.025	-.043	-.025	-.305*	1	
SGW	-.017	-.008	-.001	.054	.053	.003	.002	-.225*	.017	1

**. Correlation is significant at the 0.05 level.

*. Correlation is significant at the 0.01 level.

Table 4.3 Multicollinearity

Variables	R^2	VIF = $1/(1-R^2_j)$
DAP	0.53466	2.149
ITID	0.25194	1.337
DAR	0.53556	2.153
CCC	0.50998	2.041
LGSZ	0.18632	1.229
SGW	0.05474	1.058
LEV	0.10288	1.115

4.4 Regression Analysis

In the following part the regression analyses are used to investigate the effect of working capital management on SMEs profitability in Malaysia. The study develops three models using ROA, NOP and ROE as the dependent variables. Numerous regressions are conducted for this study; three most implicating regression models for each regression equation are presented and combined in the Table 4.4. The table also presents the regression models of the three different sets of control variables. Effect of working capital management on SMEs profitability is estimated using panel data analysis.

The regression analyses are run to see if there is a presence of autocorrelation in the data, using Durbin Watson (DW) statistics. The scores of these statistical tests are accepted, implicating that there is no presence of autocorrelation in the data. The D-W statistics values lie between 1.413 and 1.55, where a score of 2 indicate that there is no autocorrelation and 0 score indicating that there is autocorrelation. The authors Makridakis and Wheelwright (1978) consider D-W value between 1.5 and 2.5 as acceptable level indicating no presence of autocorrelation. Some of these scores are somewhat lower than 1.5, but since the common rule indicate that score lower than 1.0 may cause alarm, these score are still accepted.

In the upcoming analysis, and discussions of the three models will be discussed separately. In the discussion of the results, the sign and the effect of the different parts of WCM will be discussed and compared to other studies which have studied WCM in SMEs and in some cases compare with listed companies as well.

Table 4.4 Regression analysis

Independent Variables	Model 1 DV= ROA Pooled OLS	Model 2 DV= NOP Pooled OLS	Model 3 DV= ROE Pooled OLS
Constant	0.691234	0.109417	-0.065214
DAR	-0.000362 (0.0123)**	-0.006156 (0.0046)*	-0.000260 (0.6177)
DAP	0.000308 (0.0249)**	-0.001218 (0.5540)	0.000186 (0.0467)**
ITID	-5.25E-05 (0.3391)	-0.001993 (0.0159)**	-0.000243 (0.2213)
CCC	-1.50E-05 (0.0398)**	0.002464 (0.0006)*	-0.000156 (0.3571)
SGW	-0.000114 (0.5592)	0.000666 (0.8195)	9.79E-05 (0.8892)
LEV	-2.37E-05 (0.9251)	-0.005056 (0.1824)	-0.000395 (0.6646)
LGSZ	-0.001807 (0.4433)	0.037408 (0.2906)	0.008020 (0.3463)
R-square	0.514224	0.465678	0.435845
Durbin-Watson	1.552331	1.413746	1.533632
F-statistic	0.027671**	0.000341*	0.800546
Hausman –Test	2.124977 (0.9079)	1.778621 (0.9389)	8.229889 (0.2217)

*significant at the 0.01 level. ** Significant at the 0.05 level

4.4.1: Return on assets as measure of SMEs profitability

The results of the estimated coefficients are showed in Table 4.4. A look on Model 1 results indicate a negative relation between days accounts receivables (DAR), inventory turnover in days (ITID) and cash conversion cycle (CCC). With the ROA variables are significant at 5% significance level except for ITID which is insignificant. The result indicates that an increase in DAR and CCC will result in

lower profitability of the SMEs which is measured by ROA. These findings are consistent with those examine the effects of working capital management Garcia *et al*., (2007) SMEs in Spain, Gul *et al*. (2013) SMEs in Pakistan and Dinku (2013) Micro and Small Enterprises in Ethiopia.

Moreover the result also shows that days account payable (DAP) has a positive and significant effect on SMEs profitability, this indicate that the later the Malaysian SMEs pay their bills to their suppliers will tend to increase their profit. The finding is in line with that of Dinku (2013) who examine the Ethiopian SMEs and finds that day in account payable is positively related to the profitability of the SMEs. For the control variables, leverage, sales growth, and size, the coefficients are a negative and insignificant. This implies that leverage, sales growth and size do not influence SMEs profitability in Malaysia. As a result, under model 1 (ROA), this relationship has accepted the null Hypothesis 1:H_0, Hypothesis 2: H_0, Hypothesis 3: H_a, Hypothesis 4:H_0, and rejected the null Hypothesis 3:H_0.

Overall, these findings suggests that SMEs in Malaysia are relying much on short-term trade financing to finance their operations as DAP positively related to profitability of SMEs. Management of SMEs can also shorten DAR, and CCC to increase the profitability of the firm. Moreover, we can also say that by sustaining a minimum CCC, and DAR companies will be able to better maximize their sales which will improve the profitability.

4.4.2 Net operating profit as measure of SMEs profitability

The result from the regression shows that using NOP as the dependent variable, DAR, DAP and ITID are all negatively related to profitability of SMEs. DAR is significant at 1% confidence level, ITID is significant at 5% level, but DAP is found

not to be significant. To increase the net operating profit, the SMEs need to reduce the level of their account receivables, inventory and account payables. In contrast with the previous result mentioned under model 1 (ROA), now CCC has a positive and significant relation with net operating profit, with a significant level of 1%. This shows that an increase in CCC will result to increase the net operating profit of the SMEs suggesting that the SMEs are using short-term assets and liabilities efficiently to generate more profit. But on the other hand, the longer the cash conversion cycle, the higher the need for short-term financing. Overall, the results are consistence with the findings of Shah and Sana, (2006) and Jacob (2014). Moreover, under this relationship has accepted the null Hypothesis 1:H_0, Hypothesis 2: H_0, Hypothesis 3: H_0, Hypothesis 4: H_a, and rejected the null Hypothesis 4:H_0

.4.4.3 Return on equity as a measure of SMEs profitability

Table 4.4 summarizes the estimated coefficients from the regression analysis, a negative relation is found in DAR, ITID and CCC. However the three variables are not statistically significant in measuring their effects on SMEs profitability using ROE as proxy. DAP has a positive relations with ROE and statistically significant at 5% confidence level. This implies that, an increase in the level of SMEs account payables will result with an increase in the company's profitability. Similar to previous findings, all control variables are insignificant under ROE also. Therefore this relationship accepted the null Hypothesis 1:H_0, Hypothesis 2: H_0, Hypothesis 3: H_a, Hypothesis 4:H_0, and rejected the null Hypothesis 3:H_0.

It is interesting to note that, the findings of this study in the aspect of ROE supports Hong *et al*., (2011). In this respect, Hong *et al*. (2011) investigate the relationship between working capital and profitability in Brazil. Their study finds that day's

inventory does not have any statistical evidence when measured with ROE as measure of profitability. We can further argue that ROE is not a good proxy for SMEs profitability as compared to ROA and NOP. It is somewhat seen as a measure of the return shareholders get from the company and is not directly having impact on the company's operational activities like ROA and NOP. Therefore we can say that ROE is not relatively a good measure of SMEs profitability compared to ROA & NOP.

CHAPTER 5

CONCLUSION AND RECOMMENDATION

5.1 Summary of the Study

This chapter summarizes the key contribution of the study and concludes the empirical results. The purpose of this study is to provide empirical evidence on the effects of working capital management on SMEs profitability in Malaysia. The research question of this study aims to find whether working capital management can influence the profitability of Malaysian SMEs, either it is positive or negative. The findings of this study confirms what has been found in other studies for large companies and as well as for the SME companies, that there is a significant relationship between the components of working capital signifying that effective working capital management has an important effect on SMEs profitability in Malaysian manufacturing sector.

Generally, the results of this study shows that there is negative relationship between working capital management (DAR, ITID, and CCC) and SMEs profitability measures (ROA and ROE) except for NOP which is having positive effect with CCC. On the other hand, the study shows that there is positive relationship between DAP and SMEs profitability measured by (ROA and ROE) but having a negative relation with NOP. Overall these results are consistent with the findings of (Garcia *et al*., 2007; Gul *et al*., 2013; Dinku, 2013; Shah and Sana, 2006; Jacob 2014).

5.2 Implications of the study

The results of study show that WCM has an effect on the profitability of Malaysian SMEs in manufacturing sector. However, the main problems that face SME companies are the lack of or limited access to finance, which results the management

of working capital very critical to the both the existence and profitability of their firms. This study suggests SMEs managers to better manage their working capital, because the better the SME firms manage their working capital the lower the firms' need on borrowings. The reason behind this is working capital management is important to firms, since the management of working capital affect both profitability and risk of companies (Smith 1980).

The results of this study suggests that SMEs managers can improve the profitability of their firms by reducing their cash conversion cycle which is the components of days account receivable (DAR), inventory turnover in days (ITID) and days account payable (DAP) to a reasonable minimum. On the other hand, SMEs can take long period to pay their suppliers as far as that will not harm their relationship with the suppliers. Moreover, stakeholders such as lenders can benefit the knowledge provides in this study. Lenders should consider SMEs working capital policies to understand the going concern of SMEs profitability in the future so as to strengthen their internal control for credit risk of SMEs and to decide whether they continue to give credit to the SMEs.

5.3 Limitation

There are limited studies that investigate the effects of working capital on SMEs profitability in Malaysia; therefore, this study faces some limitations. Firstly, the limited availability of data where the study could not observe the effects of working capital on SMEs profitability for a large number of companies as the data were limited to the data provided by Companies Commission of Malaysia (CCM) database. In addition, there are a lot of missing data in most of the companies which limit the overall sample to 66 companies. Secondly, this study focused mainly on

Malaysian SMEs in manufacturing sector, this implies that these results cannot generalize to include SMEs in other sectors.

5.4 Recommendations for further research

Due to the limitation of the availability of data, further research should carry out in the future, to examine the effects of working capital management on SMEs profitability in other sectors of Malaysian companies by extending the sample size in order to fill the gap. Moreover, this study only examines receivables, inventories, payable and cash as components of working capital. Other components of working capital such as market securities, net trade cycle and also other external variable can also be analyse for their influence on SMEs profitability. A comparative analysis can also be done between Malaysia and other countries in order to identify country specific factors on the effect of working capital on profitability of SMEs.

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