

**IMPACT OF WORKING CAPITAL MANAGEMENT ON
GROWTH OF MALAYSIA COMPANIES: AN EMPIRICAL
INVESTIGATION OF PUBLIC LISTED COMPANIES**

SYED FAIRUL AFIS BIN SYED MUSTAPHA

MASTER OF SCIENCE (FINANCE)

UNIVERSITI UTARA MALAYSIA

JANUARY 2015

**IMPACT OF WORKING CAPITAL MANAGEMENT ON GROWTH
OF MALAYSIA COMPANIES: AN EMPIRICAL INVESTIGATION
OF PUBLIC LISTED COMPANIES**

By

SYED FAIRUL AFIS BIN SYED MUSTAPHA

**Dissertation Submitted to
Othman Yeop Abdullah Graduate School of Business,
Universiti Utara Malaysia,
in Partial Fulfilment of the Requirement for the Master of Science (Finance)**

PERMISSION TO USE

This dissertation/project paper is presented as a partial fulfillment of the requirement for the program of Master of Science in Finance from Universiti Utara Malaysia. I hereby agree that the library of this university to make any inspection and copying of this dissertation in any manner for university used. It is also agreed that any copying or publication used in this dissertation for any financial gain, either whole or in part, is not allowed without my written permission. It is also understood and agreed that any recognition received shall be informed to me and to my supervisor and that any material used in this project paper/dissertation is used for scholarly purposes only.

Any request regarding this dissertation and permission to copy in part, or in whole, or to make use of any material presented in this paper should be addressed to:

Dean of Othman Yeop Abdullah Graduate School of Business
Universiti Utara Malaysia
06010 UUM Sintok
Kedah Darul Aman

ABSTRACT

Working capital management has always drawn the attention of the corporate sectors. Public listed companies particularly place strong emphasis on an effective and efficient working capital management for their survival and growth. Its contribution is not only on profitability, but also in determining the liquidity of assets to offset current obligations. This study analyses and measures the relationship between working capital management and growth of public listed companies in Malaysia. Specifically, the study examines the relationships between the four components of working capital management, namely, cash conversion cycle, receivable conversion period, inventory conversion period, payable conversion period and the growth of Malaysian publicly listed companies. The study utilizes the financial historical data obtained from the DataStream from December 2009 to December 2013. The one hundred top public-listed companies main (based on market capitalization) in the Main Board of Bursa Malaysia are selected as a sample. The testing for hypotheses involved examining the relationship between the dependent variable (growth of Malaysia companies) and the independent variables (cash conversion cycle, receivable conversion period, inventory conversion period, and payable conversion period). Analysis shows that all the independent variables have positive relationships with firm growth, but only cash conversion cycle has a significant relationship. It is concluded that companies should focus and establish the policy of working capital management in an efficient manner to serve their shareholders in maximizing their wealth.

Key words: cash conversion cycle, receivable conversion period, inventory conversion period, payable conversion period, growth of Malaysian companies, firm size, financial debt and fixed financial asset

ABSTRAK

Pengurusan modal kerja kini sentiasa mendapat perhatian sektor korporat terutama syarikat awam yang tersenarai di bursa saham untuk terus berdiri sendiri dan berkembang. Sumbangan bukan sahaja kepada keuntungan tetapi juga ke atas aset mudah tunai untuk kontra obligasi semasa. Kajian ini menganalisis dan mengukur hubungan antara pengurusan modal kerja dan pertumbuhan syarikat-syarikat di Malaysia. Secara khusus, kajian ini menentukan hubungan antara kitaran penukaran tunai, tempoh penukaran diterima, tempoh penukaran inventori, tempoh penukaran yang perlu dibayar dan pertumbuhan syarikat-syarikat Malaysia. Kajian ini dilakukan ke atas data kewangan yang diperolehi daripada Datastream mulai Januari 2009 hingga Disember 2013. Seratus syarikat awam yang tersenarai di dalam pasaran sekuriti utama Bursa Malaysia berdasarkan permodalan pasaran dipilih sebagai sampel. Ujian hipotesis yang terlibat adalah hubungan antara pertumbuhan bergantung pembolehubah pertumbuhan syarikat di Malaysia dan kitaran penukaran tunai bebas, tempoh penukaran diterima, tempoh penukaran inventori, tempoh penukaran yang perlu dibayar. Analisis menunjukkan keputusan bahawa semua pembolehubah bebas mempunyai hubungan positif tetapi hanya kitaran penukaran tunai yang mempunyai hubungan yang signifikan dengan pertumbuhan syarikat-syarikat Malaysia. Sebagai rumusan, kajian ini mencadangkan adalah penting bagi sesuatu syarikat itu untuk memberi tumpuan dan menetapkan dasar pengurusan modal kerja dengan cara yang cekap dalam usaha untuk memaksimumkan keuntungan pemegang saham.

Kata Kunci: kitaran penukaran tunai, tempoh penukaran diterima, tempoh penukaran inventori, tempoh penukaran yang perlu dibayar, pertumbuhan syarikat-syarikat Malaysia, saiz syarikat, Hutang kewangan, Aset tetap kewangan

ACKNOWLEDGEMENT

First of all, Alhamdulillah and my gratitude to Allah S.W.T for permission, guidance and grace to enable me to finish this dissertation as planned and thus fulfil this master requirement.

Secondly, I want to thank and dedicate my appreciation to my lecturer and supervisor *Associate Professor Norafifah binti Ahmad* for her assistance and high commitment in guiding me and providing extremely valuable advice in preparing and completing this paper.

Special thanks also to OYA administration office and UUM Sultanah Bahiyah Library and staff for their support and sincere commitment in the many issues arising in order to complete this dissertation. My special thanks go to my family especially to my lovely wife and sons for their kind support, valuable information and ideas. My deepest gratitude to my parents for their endless encouragement.

Finally, my thanks go to all my colleagues who were involved in discussing and sparking ideas for this dissertation.

May Allah bless us all.

Syed Fairul Afis Bin Syed Mustapha

January 2015

TABLES OF CONTENTS

	Page
CERTIFIATION OF THESIS WORK	iii
PERMISSION TO USE	iv
ABSTRACT	v
ABSTRAK	vi
ACKNOWLEDGEMENT	vii
TABLE OF CONTENTS	viii
LIST OF TABLES	xii
LIST OF FIGURES	xiii
LIST OF APPENDICES	xiv
LIST OF ABBREVIATIONS	xv
CHAPTER ONE : INTRODUCTION	
1.1 Background of the Study	1
1.2 Problem Statement	6
1.3 Research Questions	8
1.4 Research Objectives	9
1.5 Scope of the Study	10
1.6 Significance of the Study	10
1.7 Organization of the Study	11

CHAPTER TWO : LITERATURE REVIEW

2.1 Introduction	12
2.2 Growth of Company	12
2.2.1 Measurement of growth	13
2.2.2 Factors Contributing to Growth of Companies	14
2.3 Working Capital Management	15
2.3.1 Measurement of Working capital Management	16
2.3.2 Efficiency of Working Capital Management	21
2.4 Control Variables	22
2.4.1 Firm size	22
2.4.2 Financial Debt	23
2.4.3 Fixed Financial Asset	23
2.5 Chapter Summary	25

CHAPTER THREE : RESEARCH METHODOLOGY

3.0 Introduction	28
3.1 Research Framework	28
3.2 Research Hypothesis	29
3.3 Research Design	31
3.4 Operational Definition	32

3.4.1 Total Assets Growth (TAG)	32
3.4.2 Working Capital (WC)	32
3.4.3. Working Capital Management (WCM)	33
3.4.4 Cash Conversion Cycle (CCC)	33
3.4.5 Receivable Conversion Period (RCP)	33
3.4.6 Inventory Conversion Period (ICP)	34
3.4.7 Payable Conversion Period (PCP)	34
3.4.8 Firm Size	34
3.4.9 Fixed Financial Asset Ratio	35
3.4.10 Financial Debt Ratio	35
3.5 Measurement of variables	35
3.5.1 Dependent Variable	36
3.5.2 Independent Variable	36
3.5.3 Control Variable	38
3.6 Data Collection	41
3.6.1 Sampling (Model Specification)	41
3.6.2 Sample selection	44
3.7 Techniques of data analysis	47
CHAPTER FOUR: DATA ANALYSIS AND FINDINGS	
4.0 Descriptive Statistics	48
4.1 Correlation Analysis	52
4.2 Linear Regression Analysis	54

4.2.1 Regression analysis of Model I	54
4.2.2 Regression analysis of Model II	57
4.2.3 Regression analysis of Model III	59
4.2.4 3 Regression analysis of Model IV	60
CHAPTER FIVE : DISCUSSION AND CONCLUSION	
5.0 Introduction	62
5.1 Discussion of result	62
5.1.1 Discussion result of objective 1	63
5.1.2 Discussion result of objective 2	64
5.1.3 Discussion result of objective 3	66
5.1.4 Discussion result of objective 4	66
5.2 Limitation of the study	67
5.3 Recommendations of the study	68
5.4 Suggestions for Future Research	69
5.5 Conclusion	69
REFERENCES	71
WEBSITE	76
APPENDICES	77

LIST OF TABLES

Table		Page
Table 2.1	Overview of the Relationships between WCM and Profitability	25
Table 3.1	Variables Definition and Predicted Relationship	39
Table 3.2	Sample Selection of Public Listed Companies	45
Table 4.1	Descriptive Statistic of Dependent, Independent and Control Variables (2009- 2013)	50
Table 4.2	Pearson Bivariate Correlation Analysis	53
Table 4.3	Multicollinearity Statistics	54
Table 4.4	Regression Analysis Results for Model I	57
Table 4.5	Regression Analysis Results for Model II	58
Table 4.6	Regression Analysis Results for Model III	60
Table 4.7	Regression Analysis Results for Model IV	61

LIST OF FIGURES

Figure		Page
Figure 3.1	Research Framework	29
Figure 3.2	Pie Chart of Final Sample - Breakdown According to Industry	46
Figure 4.1	Summary-Efficiency of Working Capital Management	51
	48	

LIST OF APPENDICES

Appendix	Page
Appendix 1	79
Appendix 2	81
Appendix 3	82
Appendix 4	83
Appendix 5	87
Appendix 6	90

LIST OF ABBREVIATIONS

Abbreviation	Meaning
g	Growth of Malaysia Companies
CCC	Cash Conversion Cycle
RCP	Receivable Conversion Period
ICP	Inventory Conversion Period
PCP	Payable Conversion Period
LnTA	Firm Size
FFA	Fixed Financial Asset
FD	Financial Debt
TAG	Total Assets Growth
WC	Working Capital
WCM	Working Capital Management
FD	Financial Debt Ratio
NTC	Net Tangible Cycle

CHAPTER ONE

INTRODUCTION

1.1 Background of the Study

Malaysia has been targeted to become a developed nation and has been moving forward with a comprehensive strategy in order to be more competitive and resilient globally (BNM, 2014). With strong desire and spirit from the government, private companies are encouraged to contribute to the national economy especially gross domestic product (GDP) in various situations. Contributions from the private sector especially public listed companies are therefore needed.

Companies should strive to generate a higher income and growth eventually in order to support the national aspiration of becoming a developed country. However, in the face of unpredictable world economic conditions, public listed companies especially in Malaysia have to encounter innumerable challenges to perform and grow well.

The recession and financial crisis that occurred in the year 2008 had intensified the importance of managing short-term working capital at all companies around the world (Abuzayed, 2012). Businesses have been challenged to adapt to the rapid changes and robust economic growth in the world.

Companies must understand the pressure to grow before they can make major changes in size and have the ability to control the speed of growth (Churchill, 1997). They must move forward with continuous innovations and adjust themselves to stay ahead and be more competitive. The objective to grow is thus important as a strategic part of corporate development (Recklies, 2001). With the increasing cost of operation, it is difficult to maximize companies' value; therefore companies must have an optimal level of working capital to sustain in the market (Gill, Biger and Mathur, 2010).

Working capital consists of two major component, asset and liabilities. These are considered as the source of company in running their businesses (Edi & Noriza, 2010). The components of working capital under assets are inventories and payments to be received from customers after sales are earned. For liabilities, account to be paid to suppliers is also a component of working capital (Genesan, 2007).

Meanwhile, during booming economic period, efficient management of working capital is significant for companies (Lo, 2005). During this particular time, companies can have a proper plan and financial strategy to improve their competitive position and also profitability.

Since the importance to maintain the level of working capital can be foreseen, most finance managers spend most of their working time managing current assets and short-term financing operation (Lamberson, 1995). According to Gitman and Maxwell (1985), for short-term activities, financial managers devote approximately 60 percent of their time.

There are challenges in keeping working capital at the optimal level. Especially based on economic downturn, the pressure comes along due to lower term of credit of payables, rising interest rates, lower demand of product or services and lastly rising provision of doubtful debt (Abuzayed, 2012). Therefore based on this situation, companies may have critical problem to meet their short-term obligations.

According to Eljelly (2004), efficient working capital management occurs when there is a proper planning in and controlling of current asset and liabilities in such way that can eliminates the risk of inability to meet short-term financial obligations. Weak financial management especially having poor working capital management and inadequate long-term financing is main cause of failure among small businesses according to studies in the United Kingdom and the United States (Berryman, 1993; Dunn & Cheatham, 1993).

Working capital management is also significantly related in determining corporate growth and survival of companies that is disclosed by operations in financial management (Pandey, 2006). Companies may suffer insolvency and spiral into bankruptcy if there is a poor management of working capital.

The efficiency and effectiveness management of working capital highly contribute to the existence, survival, growth and stability of companies (Nwankwo & Osho, 2010). Moreover, for all size operating in both developed and emerging countries, working capital management is very important particularly for business firms operating in open market environment (Abuzayed, 2012).

Working capital management becomes essential for companies where positioning of assets can meet the short-term financial obligation (Ganesan, 2007). Moreover, the main objective of working capital management is to make sure companies have a strong ability to sustain growth with sufficient operational cash flow (Mohammad & Saad, 2010). This requires that the efficiency in managing account payable and account receivables, optimal level of inventories and the investment of accessibility cash must be performed (Gill et al., 2010).

Additionally, Nwankwo & Osho (2010) assert that working capital management focus more on companies efficiency to handle cash on daily operations basis in order to specifically achieve profit making and growth objective while sustaining good financial standing for the companies. Efficient working capital management consists of a good combination and mix of the current assets, current liabilities and fixed assets of the business in order to cover daily operation, in other words, sustain and grow while enjoying the savings especially in terms of energy, time, and goodwill (Nwankwo & Osho, 2010).

Thus, working capital management generally produces the outcome performance when companies operation is taken into consideration of expenditure for the purchase of raw materials and the collection for the sales of finished goods (Genesan, 2007).

Most of the previous studies had concentrated on examining the relationship between working capital management and profitability. This study is carried out in an attempt to examine the relationship between working capital management and growth of Malaysian companies. In particular, this study attempts to determine the extent to which the working capital management can influence the growth of Malaysia companies.

The research in this area is still lacking either in Malaysia or internationally. Thus, this study is conducted with an attempt to close the gap by producing empirical result and also can expend the previous study based on this topic especially in Malaysia.

A standard approach that has been developed for identifying and measuring the degree of working capital management in companies is used to investigate the impact of working capital management on growth of Malaysia companies.

This present study hopes to bring benefit on the study on working capital management by looking at how the growth aspect of Malaysian companies' is affected by their working capital management. The findings of the study can provide significant information to managers in developing working capital management policy which is an important element towards growth of companies.

1.2 Problem Statement

Malaysia is known to be one of the more successful developing countries in this region (BNM, 2014). In order to achieve Vision 2020, government requires contribution from public listed companies in Malaysia to make sure the country's gross domestic product (GDP) gradually increases and achieves rapid growth by an average about 7% annually over the next 30 years.¹ It is the role of public listed companies to excel in their respective businesses and to grow well in the future to support this national vision.

Growth in a company brings a significant indicator in defining economic performance (Abu Bakar, Tabassi, Abd Razak, Arman & Yusof, 2012). The asset growth rates for Malaysian companies reported in Watanabe, Xu, Yao, & Yu (2011) is approximately 8 %, which is well above the average of all international firms of 6.8%. The profitability persistency of individual firms in seven developing nations including Malaysia is proven to be lower than that of other developed countries, which suggests higher intensity of competition (Glen, Lee, & Singh, 2003). Moreover, a company's objective for the long term should not focus on profit, but the priority for the management is its growth (Abu Bakar et al., 2012).

There are a lot of factors in determining growth of a company. Abu Bakar et al. (2012) analyze the factors effecting the growth of construction companies in Malaysia. One of the most important factors is effective cash flow management that contributes to the

¹Source: <http://www.wawasan2020.com/>

success of the companies. Besides, Wjewardena & De Zoysa (2005) identifies the efficient management as major contributors to success or growth of manufacturing firms in Sri Lanka as another Asian country. It is important for companies to survive and grow, where contribution is not only on profitability but also on liquidity of assets to offset current obligations (Linderhof, 2014). Since good company management is a part of factor affecting growth of Malaysia companies (Abu Bakar et al., 2012), therefore the working capital management can be a proxy to the management in evaluating the impact toward growth of the Malaysia companies.

According to previous studies, working capital management has received much attention by corporate sectors especially public listed companies. The way a company handles its working capital contribute to the pressure in expanding business and growth in companies. According to Siddiquee & Khan (2009), inefficiency of management of working capital not only reduce profitability but also ultimately lead to a concern to financial crisis in any corporation regardless of its size, nature of business or profit orientation. The low level of current assets also contributes to lower level of liquidity leading to difficulties in sustaining smooth operations (Van Horne & Wachowicz, 2004).

Moreover, since there is no similar study done on the relationship between working capital management and the growth of Malaysian listed companies, the present study has come out with a problem statement that contributes to the literature by focusing on working capital management in an attempt to evaluate whether working capital management has any relationship with the growth of Malaysia companies. In other words, this study evaluates whether the policies toward inventory management, credit management and financing management bring an impact to the growth of the Malaysian companies.

This study applies a model in which working capital management is used as an independent variable while the dependent variable is represented by company growth. Using the framework of this study, four factors within working capital management namely cash conversion cycle, receivable conversion cycle, inventory conversion cycle and payable conversion cycle are examined. For control variables, firm size, fixed financial asset, and financial debt are applied. The dependent variable, growth of Malaysian companies, is measured by changes in total assets.

1.3 Research Questions

The research questions formulated to answer the issues discussed above are as follows:

1. Is there a positive relationship between cash conversion cycle and growth of Malaysian companies?

2. Is there a positive relationship between receivable conversion period and growth of Malaysian companies?
3. Is there a positive relationship between inventory conversion period and growth of Malaysian companies?
4. Is there a positive relationship between payable conversion period and growth of Malaysian companies?

1.4 Research Objectives

The main objective of this research is to determine the relationship between the working capital management and growth of Malaysia companies. Since cash conversion cycle and its four components are used as a proxy to working capital management, the research objectives for this study have been developed as follow:

1. To determine whether there is a positive relationship between cash conversion cycle and growth of Malaysia companies.
2. To determine if there is a positive relationship between receivable conversion period and growth of Malaysia companies.
3. To determine whether there is a positive relationship between inventory conversion period and growth of Malaysia companies.

4. To determine whether there is a positive relationship between payable conversion period and growth of Malaysia companies.

1.5 Scope of the Study

The scope of the study is to analyze the impact of working capital management on the growth of public listed companies in Malaysia. This present study focuses on Bursa Malaysia Main Board of hundred top companies based on market capitalization. These large companies are chosen because the impact of the working capital management on growth can be seen clearly, since companies having high market capitalizations are considered as active companies in a stock exchange.

1.6 Significance of the Study

The present research describes the theoretical background, from where hypotheses and empirical predictions are developed. Most of previous studies addressed working capital management with relation to profitability, and only a few examined the impact of working capital management on growth. Furthermore, the evidence provided is based mostly on the western countries on international settings; few are available in a developing country such as Malaysia.

The results of the present research hope to contribute and support the identification of an optimal level of working capital based on cash conversion cycle which could produce an

efficient and effective working capital management for large companies specifically and all companies generally.

1.7 Organization of the study

Chapter one of this study provides the background of the study, discusses problem statement, research questions and objectives, scope and significance of study. The remainder of the study is organized as follows:

Chapter two discusses previous literature on the studies carried out on working capital management. From this, hypotheses to be tested in this study are developed. Chapter three outlines the methodology and discusses suitable methods and technique to analyze the data. This includes the research framework, hypotheses, data collection and techniques used to analyze the data. In chapter four, empirical results and finding are discussed in relation to the hypotheses tested. Chapter five discusses the conclusion and recommendation based on result and finding in chapter four. The conclusion should answer the research questions and fulfill the research objectives of the study. Recommendations are then made parallel with the conclusions.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

Working capital is important and often under-managed. Improving its performance can generate cash to fund; increase value-creating opportunities and reveal insights that can improve other aspects of business performance. The significance of working capital management cannot be denied in the finance literature. Prior research reveals that the importance and contribution of working capital management to corporate survival and growth can be understood by examining different type of variables involved. This chapter therefore provides an overview of findings by previous research by discussing and elaborating some selected working capital management factors that affect company growth.

2.2 Growth of Companies

An entrepreneur can drive a firm to grow by formulating a clear mission and vision set up by management (Skrt & Antoncic, 2004). It is important to have a strategic planning for the achievement of companies' growth. Carpenter & Petersen (2001), having analyzed firm growth, contended that the outcome can be obtained with a knowledge of strategic behavior, market competitiveness, and evolution of market structure. All these are related

factors toward the growth of the aggregate economy. Schneider, Dowling & Raghuram (2007) also stressed the importance of employee development especially to new companies in achieving organization performance and in particular high growth.

However, Bonaccorsi & Giannangeli (2008), studying a more complex relationship between initial size and growth, contended that when very small firms are used as sample, findings showed a positive relationship which suggests that regardless of whatever that occurs, there is a minimum size below which there is no growth. Firms' efficiencies can thus be enhanced if the firms have large initial size. According to Abu Bakar, A.H., A. Awang, M.N. Yusof & A. Adamy (2011), firm growth can be determined by increases in employment size and assets.

2.2.1 Measurement of Growth

In the literature for working capital management, growth of companies has been applied as a dependent variable. According to Rossi, Salieri & Sartori (2002), the measurement of growth is a very important consideration. Abu Bakar et al. (2011) opined that growth plays an important role in measuring firm performance. The researchers stated that the measurement of a firm's growth can be in terms of value of the firm that is asset. Geroski, Machin & Walters (1997) determine sales growth and changes in expectation of future profitability, to indicate that market value have developed a positive association.

In addition, Sanghamitra (1995), using natural logarithm of sales as a measurement of growth, finds that greater firm growth corresponds to an increase in firm age; it is unlikely that the negative impact on firm growth is associated with firm size. Gupta (1969) analyzed the relationship between growth and financial performance in U.S manufacturing companies. The researcher finds that there is no significant association between profitability and sales growth.

Another growth measurement that has been used in the empirical studies is assets growth. A group of researchers, Cooper, Gulen & Schill (2008), Gary & Johnson (2011), and Watanabe, Xu, Yao & Yu (2011) conclude that there is a negative relation between total asset growth and future stock return for the U.S, Australia and others international samples, respectively. Additionally, Irene, Qian & Yee (2014), reveal that total asset growth significantly affects the performance of the companies.

2.2.2 Factors Contributing to Growth of Companies

Based on previous studies, some researchers focused and elaborated on factors that contribute to firm's growth. Abu Bakar (2003) analyzed construction companies in Malaysia in terms of factors affecting growth. He found that elements such as good cash flow, good financial backing, good company management and technical expertise lead to superior company performance. Meanwhile, Wjewardena & De Zoysa (2005) concluded that there are six principle factors that precisely contribute to growth of manufacturing

companies in Sri Lanka. These factors are customer orientation, efficient management, supportive environment, product quality, capital accessibility and marketing strategy.

Musso & Schiavo (2014) assert that financial constraints significantly affect firm's survival and ability to grow in the market. The researchers used panel data on French manufacturing firms over the 1996-2004 periods. They established a positive relationship between financial constraint and productivity growth in the short-run.

Fagiolo & Luzzi (2004) investigate the effect of liquidity constraints toward firm size and growth by utilizing a large longitudinal sample of Italian Manufacturing firms. Their standard panel-data Gibrat regressions showed that liquidity constraints affect growth once size is controlled. The larger the liquidity constraints, the more size negatively affect firm growth.

2.3 Working Capital Management

Working capital management is applied as a tool for the strategic implementation to drive business operations in achieving the mission and vision of the company. Thus, management of working capital has become a very important element in creating value for shareholders (Shin & Soenen, 1998). According to Gill et al. (2010), working capital management is defined as the day-to-day management of current asset and current liabilities. Therefore, management incompetence toward working capital does affect financial performance. Firm liquidity and profitability might decrease, and in serious

case, a firm cannot meet their short-term obligations within the timeframe given. Gill et al. (2010) reiterated in their findings from various samples taken from different countries samples, that management finds that working capital management has a significant impact on profitability and liquidity.

2.3.1 Measurement of Working Capital Management

Basically, the existing relationship between working capital management (WCM) and performance have been defined and reviewed by prior literature in many ways in which a selection of variables for research analysis are brought forward.

Cash conversion cycle (CCC) is the first and most standard measurement for working capital management. Cash conversion cycle expandable from cash cycle was introduced by Gitman in 1974. The cash cycle is derived from the number of days between inventory and accounts receivable. The expansion of cash cycle by Richards and Laughlin (1980) was then applied to get cash conversion cycle by subtracting the number of day's accounts payable (Jose et al., 1996; Uyar, 2009; Majeed et al., 2013). The cash conversion cycle is an indicator for an ongoing liquidity measurement that contributes from balance sheet and income statement.

Bana Abuzayed (2012) noted that working capital management skills are measured using cash conversion cycle. The author examined a sample of listed firms in Jordon from 2000 to 2008. The result showed that there is positive correlation between cash conversion

cycle and firm leverage. It was concluded that, when cash conversion cycle becomes longer, firms may borrow externally, an action that contributed to higher cost of borrowing.

However Uyar (2009) found there is a significant negative correlation between cash conversion cycle and return on assets, but no significant relationship with return on equity. The author summarized that liquidity of money held in working capital can be referred to the length of cash conversion cycle. This length can be positive or negative. The shorter cash conversion cycle is, the more profitable firm can earn compared to firms with longer cash conversion cycle.

Gill et al. (2010) found that there is a positive relationship between cash conversion cycle and profitability. The researchers also established a negative correlation between average days of accounts receivable and profitability measurement throughout gross operating profit. Handling cash conversion cycle in a proper manner and maintaining accounts receivable at the optimal level would enable companies to earn profit that is created by efficient management.

Charitou et al. (2012) analyzed a set of data of 55 Indonesian firms listed on the Indonesian Stock Exchange with 718 firm years for thirteen years (1998-2010). The researchers examined the relationship between working capital management and firm's profitability where the dependent variable in measuring firm's profitability was represented by return on asset. The independent variables are measured by firm's cash

conversion cycle and net tangible cycle (NTC). For control variables, the authors used firm size, sales growth, current ratio and debt ratio. Positive relationships were found for firm's profitability and cash conversion cycle as well as for NTC and firm's profitability.

Nor Edi Azhar & Noriza (2010) analyzed the relationships between firm's value and profitability with working capital management in the context of Malaysian listed companies. The researchers used Tobin Q in identifying the dependent variable proxies by market value, while return on asset and return on invested capital are defined as dependent variables for profitability measurement. The measurement of independent variables were components that foresee the impact on firm's performance represented by cash conversion cycles (CCC), current ratio (CR), current asset to total asset ratio (CATAR), current liabilities to total asset ratio (CLTAR) and debt to asset ratio (DTAR). The authors find that there are significant negative associations between working capital variables with firm's market value and profitability. The second measurement of working capital management (receivable conversion period (RCP)) was found to be influenced by credit terms provide to customers.

To remain relevant in industry, companies must strengthen good and long-term relationships with their customers. Companies can utilize trade credit to improve their sale and flexibility regarding terms of trade credit to gain customers or win large orders (Lazaridis & Tyfonidis, 2006). In relation to this, Linderhof (2014) found that the higher is the receivable conversion period, the longer is the credit terms provided to customer. Companies who provide more terms of credit to client might increase their sales due to

customer having opportunities to value their products in terms of quality before payments are made (Deloof, 2003; Lazaridis & Tryfonidis, 2006, Gill et al., 2010; Raheman & Nasr, 2007).

On the other hand, when companies limits their terms of credit to the customer, sales might decrease due to limitation of cash and customers' preference for credit terms to pay the product or services (Jose, Lancaster & Stevens, 1996). However, more terms of credit offered to customers with expectations to increase sales may expose companies to a certain amount of risk. For example, a company may face cash flow problems due to the long overdue trade accounts receivable. This situation can worsen such that a company even has to declare bad debts (Gill et al., 2010). The more credit term is offered to the customer, the higher is the locked up in working capital (Lazaridis & Tryfonidis, 2006).

Companies can therefore avoid financial problems and risk by speeding up their collection period of accounts receivable. This can be accomplished by offering customers certain percentage of discount to induce them to pay in advance. In addition, companies have an option to offer various discount rates that are linked to a specific payment period (Linderhof, 2014).

The third measurement of working capital management is inventory conversion period (ICP), defined by the number of days inventory is held as holding stock. In holding the inventory, there is an additional cost that company would incur, especially cost for warehousing, inclusive of insurance and security. Holding more inventories would

however enable the companies to be well prepared for high volume of production; this can also reduce risk of a stock-out (Deloof, 2003; Raheman & Nasr, 2007; Gill et al., 2010; Ashraf, 2012). In contrast, less inventory holding, or keeping the inventory at the very minimum level, might risk companies losing their sales due to stock-out (Jose et al., 1996). However, Deloof (2003) stated that large inventory maintenance can be caused by a drop in sales, and locked up cash flow in working capital because companies have to put their money in situation where investment is tied down to inventory (Lazaridis & Tryfonidis, 2006). Therefore companies must be smart enough to ensure that their inventories are maintained at the optimal level to fulfill their customers' needs (Charitou et al., 2012).

Companies can therefore avoid facing financial problems and reduce operational risks by optimizing their inventory level. This can be done by improving the internal control process especially when inventory and raw material are involved (Uyar, 2009). The longer is the number of days of holding the inventory, the less liquid company's cash flow is, and the less will be the priority in contributing to the expansion of the company.

The last measurement of working capital management is payables conversion period, derived by calculating the average terms of credit received from the supplier. It is advantageous for companies to maximize their trade payables account since this account does not consume much resource, and since companies most often prefer to transact for short-term source of financing (Padachi, 2006). Using trade payables account, whenever companies delay payment to suppliers, the accessibility toward quality of products or

services become high and the flexibility of credit can give an advantage of financing (Ashraf, 2012; Deloof, 2003; Gill et al., 2010; Raheman& Nasr, 2007;).

On the other hand, it can become costly when payment to the suppliers is delayed if companies have been offered some percentage of discount for advance payment made (Ashraf, 2012; Deloof, 2003; Garcia-Teruel & Martinez-Solano, 2007; Gill et al., 2010; Padachi, 2006; Raheman & Nasr, 2007). Bad record in supplier's book can create problems in future relationship, and companies may not enjoy the flexibility for future debt (Jose et al., 1996). Therefore by making earlier settlement companies can reduce transaction cost and build up long-term relationship with their suppliers (Banos-Caballero et al., 2012).

2.3.2 Efficiency of Working Capital Management

The optimal level of working capital can be achieved when cost of working capital is reduced, and when there is an increase in the benefits with excess of working capital and balances between profitability and liquidity (Padachi, 2006). When companies minimize their working capital requirement and maximize possible revenue, it means that they have achieved the optimization of working capital balance (Genesan, 2007). Thus, firms target to hold an optimal level of working capital that can increase and maximize their values (Afza & Nazir 2007).

However, different industries have different optimal level of working capital. Working capital components also vary over operating cycle in terms of form and amount. Ghosh & Maji (2003) examined Indian cement companies for the purpose of investigating the efficiency of working capital management. The researchers formed the basis measurement with three index values to measure the efficiency of working capital. The three index values are performance index, utilization index and overall efficiency index. The authors found that some sample firms successfully improved efficiency within that year. This result also tested the speed of achieving that target level of efficiency by individual firms during the period of study.

2.4 Control Variables

In determining the relationship between the independent and dependent variables, the presence of control variables has to be taken into account. There are three control variables that are used in this study. These are firm size, fixed financial asset and financial debt.

2.4.1 Firm Size

Firm size is measured by natural logarithm of total asset. Firm size is one of the important indicators for firm performance. It is often used as a control variable because the impact of firm size on performance is assumed to be that larger firms can use their resources more efficiently and thus lower the risk. This generally increases firm

performance (Jang & Park, 2011). Firm size is normally found to have positive relationship with firm profitability. Gill & Mathur (2011) analyzed the factors that influenced corporate liquidity holdings in Canada. The data extracted from 164 financial reports were usable to produce results of 492 total observations from years 2008 to 2010. Their regression analysis showed that liquidity of Canadian service industry is positively correlated with corporate liquidity and firm size. Moreover, Lazaridis & Tryfonidis (2006) in their study used gross operating income to represent firm profitability. The result showed that gross operating income increases with firm size.

However, Wasiuzzaman & Arumugam (2003) found a negative relationship between firm size and working capital investment. In other research conducted by Sharma & Kumar (2011), firm size was used as a one of the control variable in regression. They found that, all tested independent variables showed that size has a negative relationship with the firm profitability. The study was conducted in the Indian market and reflects that, large size of firm does not increase firm profitability.

2.4.2 Financial Debt

Financial debt is determined as total debt over total asset. Wasiuzzaman & Arumugam (2013) conducted a study in Malaysia to find the determinant of working capital investment in the Malaysian public listed firm. The study found that there was negative relationship between financial debt and working capital. Nazir & Afza (2009) conducted a study in Pakistan for firm listed in Karachi Stock Exchange (KSE). They tested

financial debt with working capital management and found strong and negative relationship.

However, financial debt in term of availability of loans and other credit are significant and has a positive relationship with growth of companies (Abu Bakar et al., 2011). This is supported by Storey (1994) and Haibo & Gerrit (2009) where they found that availability of financial resource is the most significant factor influencing the growth of firms. Financial debt is crucial for the growth of a firm because it provides the organization with the required financial slack facilitates the necessary response to change conditions and increase the willingness of the firm to innovate and change (Zahra, 1991; Castrogiovanni, 1996).

2.4.3 Fixed Financial Asset

Fixed financial asset is taken as another control variable of useful firm growth measurement on top of firm size. Fixed financial asset derive from fixed asset over total asset. According to Gil et al. (2011) ratio of fixed financial assets to total assets has negative relation with gross operating profit, but only marginally significant. Moreover, Deloof (2003) found a negative relationship between fixed financial asset and sales growth.

2.4 Chapter Summary

Previous researchers had concentrated in analyzing company's performance especially profitability by focusing on the relationship between the performance with working capital management. There are various factors that have been put forward as strong basis that influence working capital management. The conclusions from these studies bring abroad perspectives even though the focus are on different countries, industries and environments and on from different aspects. However, rather than profitability table 2.1, company growth has also been examined and concluded as a significant factor towards the future well-being and survival of companies. With the literature from previous researches, this present study thus attempts to investigate and focus on the relationship between working capital management and company growth.

Table 2.1: Overview of the Relationships between WCM and Profitability

Author(s):	Relationship between the Number of days accounts receivable and Profitability	Relationship between the number of days inventory and Profitability	Relationship between the number of days accounts payable and Profitability	Relationship between the Cash Conversion Cycle and Profitability
Jose et al. (1996)	NA	NA	NA	Negative
Shin & Soenen (1998)	NA	NA	NA	Negative
Deloof (2003)	Negative	Negative	Negative	Negative
Eljelly (2004)	NA	NA	NA	Negative
Lazaridis & Tryfonidis	Negative	Negative	Negative	Negative

(2006)				
Padachi (2006)	Negative	Negative	Negative	Negative
García-Teruel & Martínez-Solano (2007)	Negative	Negative	Negative	Negative
Raheman & Nasr (2007)	Negative	Negative	Negative	Negative
Uyar (2009)	NA	NA	NA	Negative*
Gill et al. (2010)	Negative	NA	NA	Positive
Mathuva (2010)	Negative	Positive	Positive	Negative
Afeef (2011)	Negative**	Negative**	NA	NA
Alipour (2011)	Negative	Negative	Positive	Negative
Ching et al. (2011)	NA	Negative	NA	Positive
Sharma & Kumar (2011)	Positive	Negative	Negative	Positive
Ashraf (2012)	Negative	Negative	Negative	Negative
Baños-Caballero et al. (2012)	NA	NA	NA	Positive
Charitou et al. (2012)	NA	NA	NA	Positive
Kaddumi & Ramadan (2012)	Negative	Negative	Positive	Negative
Majeed et al. (2013)	Negative	Negative	NA	Negative

Notes:

* : Uyar (2009) only performed a correlation analysis to test the relationship.

** : Afeef (2011) found a negative relationship through the Operating Profit to Sales ratio and no significant relationship through Return on Assets.

NA : Not individually measured

CHAPTER THREE

RESEARCH METHODOLOGY

3.0 Introduction

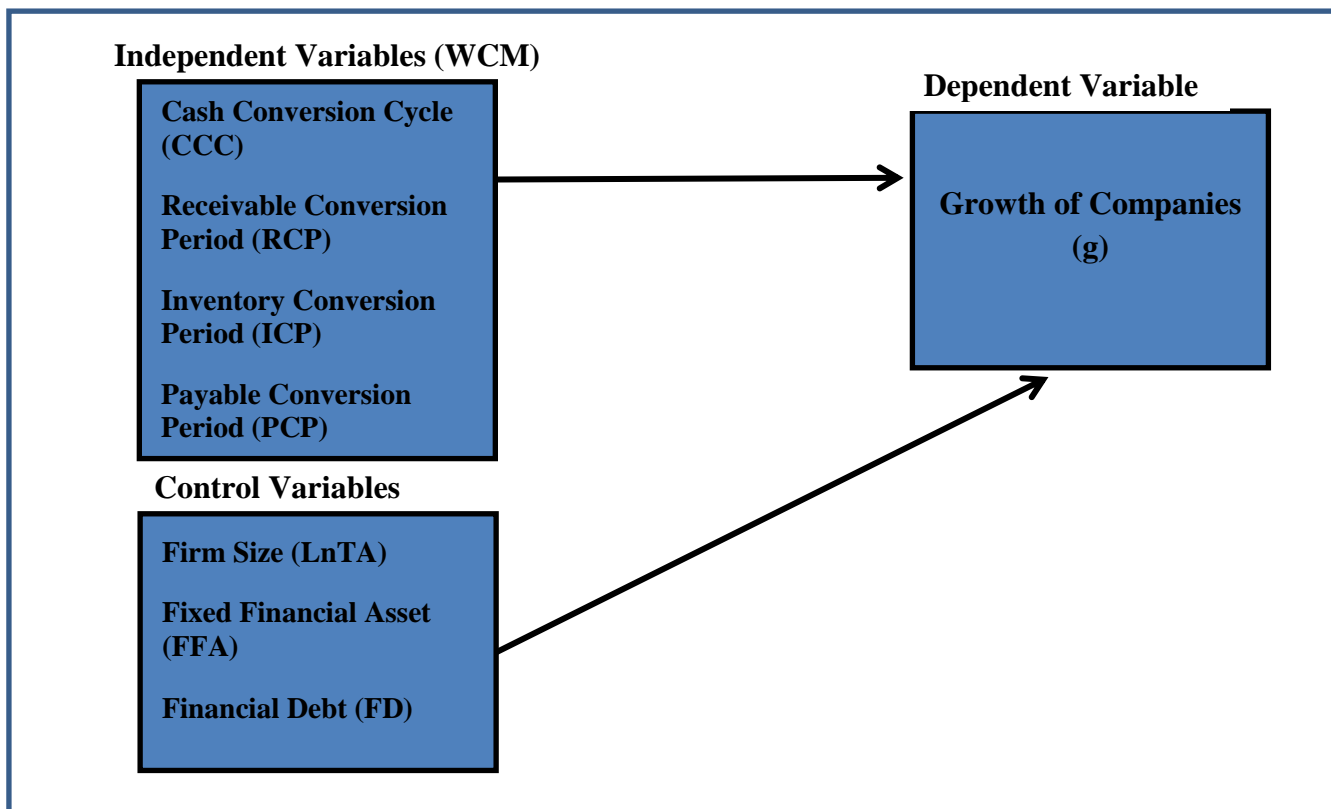
This chapter discusses the methodology used for this present research. A methodology is very important for the reliability and validity of findings in producing the results of a research. Moreover, the variables used in a study can be defined clearly and the relationships among the variables can be determined by the framework design accordance to the scope of the study. Other elements of a methodology research such as research framework, hypotheses development, operational definition, data collection and technique of data analysis are also discussed.

3.1 Research framework

Following the literature reviewed in previous chapter for this present investigation, the development of research framework is carried out in accordance to the research questions and research objectives set forth. The relationship between working capital management (WCM) and growth of companies in Malaysia is explained by designing the research framework as presented in Figure 3.1 and by applying several factors that have been identified from the literature as important variables to be examined. This study is therefore structured according to the documentation of previous research in the specific

problem area. The research framework utilizes three variables: The independent variables, the dependent variable and the control variables. Working capital management is the independent variable and growth of companies is the dependent variable. Firm size, fixed financial asset and financial debt are used as control variables.

Figure 3.1 Research Framework



3.2 Hypotheses Development

The hypotheses developed for this present study are based on research questions and research objectives discussed in Chapter 1. These hypotheses, supported by the literature

from previous research, highlight the importance of working capital in measuring company performance and future growth throughout time.

Since working capital management is often regarded as a tool for growth measurement for companies, the hypotheses are formulated to analyze the relationship between working capital management and growth of companies in Malaysia. Nwankwo & Osho (2010) stressed the importance of working capital management for companies, because an efficient working capital management results in profits through revenues that can give rise to growth and liquidity, based on cash flow that creates corporate stability and sustainability in future.

Therefore, this present study examines the impact that working capital management has on the growth of companies, but in the Malaysian context. The findings should also explain and determine if there are any significant associations between these variables. According to Nazir & Afza (2009), a well-managed working capital can bring about a significant influence in the overall corporate financing of a firm, thus maximizing shareholder value as well as company growth.

To obtain shareholders' objective, the fundamental concept of working capital must be translated into operational finance policy to ensure that organizations have the ability to fund the differences between short-term assets and short-term liabilities (Harris, 2005).

Thus, the resulting hypotheses have been formulated to establish if there are any positive relationships between working capital management and its four components, as reviewed in chapter Two, with growth of companies:

- H1:** There is a positive relationship between cash conversion cycle and growth of companies in Malaysia.
- H2:** There is a positive relationship between receivables conversion period and growth of companies in Malaysia.
- H3:** There is a positive relationship between inventory conversion period and growth of companies in Malaysia.
- H4:** There is a positive relationship between payables conversion period and growth of companies in Malaysia.

3.3 Research Design

The research design of this study includes a descriptive section that is conducted in order to ascertain the characteristics of the variables of interest. The correlation and regression analysis are performed to examine the effect of working capital management towards growth of companies.

The relevance of the variables is discussed in accordance to the research framework. All these variables are obtained from secondary data and calculated using balance sheet (book) values (Gill et al., 2010). According to statutory accounting standard, financial reports do not provide any market values since there is always a rather legitimate

question on the date for which the “market values” refer. Therefore the “book value” information is considered appropriate in preparing the basis to determine the impact of working capital management on the growth of public listed companies in Malaysia.

3.4 Operational Definitions

The operational definitions used in this present study are as follow:

3.4.1 Total Assets Growth (TAG)

This term measures the growth of company. Total assets growth rate is defined as future firm return. This definition retains large explanatory power after considering book-to-market ratio, firm size and momentum (Ting, Kweh & Chan, 2014). The calculation for total assets growth is as follows:

$$\text{TAG} = ((\text{Total assets}_t - \text{Total assets}_{t-1}) / \text{Total assets}_{t-1}) \times 100$$

3.4.2. Working Capital (WC)

It is defined as the difference of balance sheet items between current asset and current liabilities. The calculation for working capital is as follows:

$$\text{WC} = \text{Current asset} - \text{Current liabilities}$$

3.4.3 Working Capital Management (WCM)

WCM is included under the strategy implementation that drives a firm to maintain working capital at the optimal level. Working capital management requires a constant monitoring of the balance between current asset and current liabilities to achieve efficiency objective. WCM normally consists of the following four components:

3.4.4 Cash Conversion Cycle (CCC)

This measurement for working capital management is derived from total days of receivable conversion period and inventory conversion period, minus days of payable conversion period. The formula is as follows:

$$\text{CCC} = (\text{Receivable conversion period} + \text{Inventory conversion period}) - \text{Payables conversion period}$$

3.4.5 Receivable Conversion Period (RCP)

RCP is measured by number of days of credit sale is convert into cash. Receivable

$$\text{Conversion Period (RCP)} = (\text{Trade receivable accounts/Sales}) \times 365\text{days}$$

3.4.6 Inventory Conversion Period (ICP)

Inventory conversion period is defined as the number of days of inventory holding in the firm to be utilized or used for sales.

$$\text{ICP} = (\text{Inventory}/\text{COGS}) \times 365\text{days}$$

Where COGS is Cost of Goods Sold

3.4.7 Payable Conversion Period (PCP)

PCP is defined as the number of days spent in trade payables account until payments to the suppliers are made. The formula for payable conversion period calculation is as follows:

$$\text{PCP} = (\text{Trade payable accounts}/ \text{COGS}) \times 365 \text{ days}$$

3.4.8 Firm Size

Firm size is based on total assets stated in the balance sheet of companies. The calculation of firm size is formulated from logarithm of its total assets, which follows this measurement:

$$\text{Firm Size} = \text{Ln} (\text{TA})$$

3.4.9 Fixed Financial Asset Ratio

Fixed financial asset derive from fixed asset over total asset. Fixed financial asset is taken as another control variable of useful firm growth measurement on top of firm size.

Fixed Financial Asset Ratio = (Fixed asset/ Total assets) x 100

3.4.10 Financial Debt Ratio

Financial debt is the combination of short-term loans and long-term loans stated under liabilities in the balance sheet of companies. The financial debt ratio measures the companies' assets obtained from the financial debt. The formula for financial debt ratio is as follow:

Financial Debt Ratio = ((Short-term loans + Long-term loans)/Total assets) x 100

3.5 Measurement of Variables

For this present study, ratio analyses are used as a mechanism to show performance measurement and indicators for variables selected. According to Edi & Noriza (2010), ratio analysis is a convenient tool to illustrate the result of companies' performance based on financial strengths and weaknesses that can be gauged from financial statements of the companies.

3.5.1 Dependent Variable

For the dependent variable that is used to represent the growth of a company, the measurement is derived by calculating total average growth (TAG). According to Carpenter & Petersen (2001), a broad range of activities undertaken by firms can be captured through analyzing the growth of total assets. In growing period, firms not only expand their physical capital (e.g., vehicle, building and machinery) but also their gross working capital (such as cash, account receivables, and inventories). Moreover, the opportunities for growth can arise when short-term investment and cash holding of companies increase (Abuzayed 2011; Kim, Mauer & Sherman, 1998; Opler, Pinkomitz, Stulz & Williamson, 1999).

3.5.2 Independent Variables

Working capital management (WCM) as an independent variable is measured through its four common components: cash conversion cycle (CCC), receivable conversion period (RCP), inventory conversion period (ICP) and payable conversion period (PCP).

The cash conversion cycle (CCC) basically indicates the financial operation performance of a firm regarding disbursement of payment, inventory to sales holdings and collection of cash. CCC can be derived by getting a summation of inventory conversion period and receivable conversion period, less payables conversion period. CCC thus reflects a company's liquidity position in meet its short-term financial requirements on the short-

term period. Gill et al. (2010) utilized CCC as one of their research operating variables to gauge the relationship with the dependent variable.

To operate with longer cash conversion cycle however requires an additional external funding which directly increases financing cost (Eljelly, 2004). Therefore, when companies operate on positive cash conversion cycle (CCC) of 50 days, they have to cover the financing cost by multiplying the daily cost of sales with 50 days (Eljelly, 2004).

Receivables conversion period (RCP) is measured by taking the duration of cash received from customer from sales. Customers enjoy more trade credit from companies they transact with, but at the same time, the companies must bear higher number of days of trade receivable to run their operation (Linderhof, 2014). However, manipulating a higher trade credit extended to customers can increase sales where flexibility of credit terms in operation can gain bulk orders from customers (Lazaridis & Tyfonidis, 2006). In addition, to build a long-term relationship in business supply chain, a good negotiation on the terms of credit is necessary since it can increase companies' competitiveness in their respective industry (Garcia-Terual & Martinez-Solano, 2007).

Inventory conversion period (ICP) measures the number of days in which inventory held are converted into sales. The calculation of ICP is based on the balance sheet item of

inventory divided by cost of goods sold stated in income statement of the companies and then multiplied with 365 days. The measurement of inventory conversion period (ICP) is one of the elements to determine cash conversion cycle. The higher the inventory conversion period, the more is funds tied up with inventory as current assets in the balance sheet (Linderhof, 2014).

Payable conversion period (PCP) is the last independent variable that is used to determine working capital management. PCP is measured by the number of days companies release payment to their suppliers. PCP depends on the terms of credit given by the suppliers. The calculation used is based on trade payable accounts that are categorized as current liabilities in the balance sheet, divided by cost of goods sold and then multiplied with 365 days. Since trade payable do not consume any resources, it becomes very attractive for companies to utilize it as a short-term financing (Padachi, 2006).

3.5.3 Control Variables

The three control variables used in this present study are size of company, fixed financial asset ratio, and financial debt ratio. Firm size is commonly represented by total assets. Following Carpenter & Petersen (2001), this present study used total assets to measure size of the companies. Gill et al. (2010) also had used firm size, financial debt ratio, and fixed financial asset ratio as their control variables for a research on WCM.

The average firm size is been calculated by logarithm of sale on scale 6.41 million and firms' sample representing on average of 30 percent gross operating profit, 32 percent for average financial debt ratio and fixed financial asset ratio marked at 4 percent. Moreover, Mathuva (2010) used firm size, sales, leverage ratio, fixed financial assets ratio, growth using gross domestic product.

Table 3.1 summarizes the definitions and predicted signs as taken from the reviews of past studies. All measurements of the dependent variable (working capital management) and control variables (firm size, financial debt ratio and fixed financial assets ratio) are adopted from Gill et al. (2010).

Table 3.1: Variables Definition and Predicted Relationships

Variables	Definition	Predicted Sign
CCC	Number of days of accounts receivable plus number. of days of inventory) minus number of days of accounts payable	+/-
RCP	Accounts receivable divided by sales and multiplied by 365 days	+/-
ICP	(Inventory divided by cost of goods sold) multiplied by 365 days	+/-
PCP	Accounts payable divided by cost of goods sold and multiplied by 365 days	+/-
LnTA	Natural logarithm of companies' total assets, lagged one year period	+/-

FFA	Fixed financial assets divided by total assets	+/-
FD	Short-term debts plus long-term debts divided by total assets	+/-

CCC	=	Cash conversion cycle
RCP	=	Receivables conversion period
ICP	=	Inventory conversion period
PCP	=	Payables conversion period
LnTA	=	Firm Size (Natural Log of total assets)
FFA	=	Fixed financial asset ratio
FD	=	Financial debt ratio

The measurements for variables for the cross sectional yearly data follow these definitions:

Receivables Conversion Period	=	(Accounts Receivable/Sales) x 365 days
Payables Conversion Period	=	(Accounts Payable/Cost of Goods Sold) x 365 days
Inventory Conversion Period	=	(Inventory/Cost of Goods Sold) x 365 days
Cash Conversion Cycle	=	(No. of Days A/R + No. of Days Inventory) – No. of Days of Accounts Payable
Firm Size	=	Natural Logarithm of Total Assets
Fixed Financial Asset Ratio	=	Fixed Financial Assets/Total assets
Financial Debt Ratio	=	(Short-term Loans + Long-term Loans)/Total Assets
Total Assets Growth	=	$((\text{Total assets}_t - \text{Total assets}_{t-1}) / \text{Total assets}_{t-1}) \times 100$

3.6 Data collection

Basically, data collection for this present study is secondary data that are organized based on the sampling frame. The sampling frame was a listing of all single units in population from which the sample was drawn (Uma Sekaran, 2000, pp. 266-267). In this study, the sampling frame comprised of public listed companies in the Main Board of Bursa Malaysia.

3.6.1 Sampling (Model Specification)

The models developed for this study is based on previous related literature, which has been discussed in chapter two.

Model I

$$g_i = \beta_0 + \beta_1 CCC_i + \beta_2 LnTA_i + \beta_3 FD_i + \beta_4 FFA_i + e_i$$

Where:

- g_i : Growth of company i
- CCC : Cash Conversion Cycle for a company
- LnTA : Size of the company which is represented by the natural logarithm of total assets
- FD : Financial debt for a company
- FFA : Fixed financial assets for a company
- B0 : The intercept of the equation.
- B1 - B4: The change in coefficient for the variables
- E : error term

Model II

$$g_i = \beta_0 + \beta_1 RCP_i + \beta_2 \ln TA_i + \beta_3 FD_i + \beta_4 FFA_i + e_i$$

Where:

- g_i : Growth of company i
 RCP : Receivable conversion period for a company
 $\ln TA$: Size of the company which is represented by the natural logarithm of total assets
 FD : Financial debt for a company
 FFA : Fixed financial assets for a company
 B_0 : The intercept of the equation.
 B_1-B_4 : The change in coefficient for the variables
 E : error term

Model III

$$g_i = \beta_0 + \beta_1 ICP_i + \beta_2 \ln TA_i + \beta_3 FD_i + \beta_4 FFA_i + e_i$$

Where:

- g_i : Growth of company i
 ICP : Inventory conversion period for a company
 $\ln TA$: Size of the company which is represented by the natural logarithm of total assets
 FD : Financial debt for a company
 FFA : Fixed financial assets for a company

- B0 : The intercept of the equation.
 B1-B4 : The change in coefficient for the variables
 e : error term

Model IV

$$g_i = \beta_0 + \beta_1 ICP_i + \beta_2 \ln TA_i + \beta_3 FD_i + \beta_4 FFA_i + e_i$$

Where:

- g_i : Growth of company i
 PCP : Payable conversion period for a company
 LnTA : Size of the company which is represented by the natural logarithm of total assets
 FD : Financial debt for a company
 FFA : Fixed financial assets for a company
 B0 : The intercept of the equation.
 B1-B4 : The change in coefficient for the variables
 e : error term

The above model is developed to find the relationships between growth of Malaysian companies and cash conversion cycle, receivable conversion period, inventory conversion period, and the payable conversion period, respectively.

3.6.2 Sample selection

Financial historical data are obtained from DataStream in Sultanah Bahiyah Library, Universiti Utara Malaysia, from the years starting December 31st, 2009 to December 31st, 2013. The top one hundred (100) public listed companies in the main market of Bursa Malaysia based on market capitalizations are selected as a sample. The sample of this research which is Malaysia top one hundred (100) has been chosen regarding to the availability of data and time frame of this research. The time frame of this research which is between the years 2009 to 2013 has been chosen because this duration of time frame is free from the recession period that could influence the growth of the companies.

To be consistent with prior studies, companies from certain industries are omitted. The reason why these companies are excluded is because of the nature of business that do not meet the purpose of the study (Gill et al., 2010). For example, banking, financial and insurance firms which have been taken out from the list of sample posed a problem in data harmonization with other industry firms due to differences in accounting characteristics (Duellman, 2006). Additionally, some public listed companies do not have sufficient information that contributes to be them being excluded from the selected sample (Ho, 2009).

Table 3.2 provides a summary of the final sample after the omission of irrelevant companies. The one hundred (100) public listed companies on the main board of Bursa

Malaysia are identified as a gross sample². These hundred (100) public listed companies were selected based on market capitalization over five years from 2009 to 2013. Based on that, eight companies from the banking sector, three companies from the financial sector and one insurance company are filtered out from the sample. Additionally, other companies from these sectors (one from service exchange, four from REITs industry, three from entertainment companies and one from investment industry) were eliminated from the sample, as was one foreign company and eight newly listed companies. Lastly, due to missing data not obtainable from the DataStream, 19 companies were also excluded. The final sample for this study is 51 companies.

Figure 3.2 shows the breakdown of the final sample by numbers and percentage of companies according to industry. The largest proportion is derived from trading and services industry which represents 39.22% from the sample, followed by three sector industries (consumer product, industrial products and plantation industry), each having the same proportion at 13.73% of the sample. In addition, five companies representing property industry and two companies in construction and materials industry and hotel industry have the same percentage of 3.92%. Lastly, one company under infrastructure and utilities industry represents 2% of the sample.

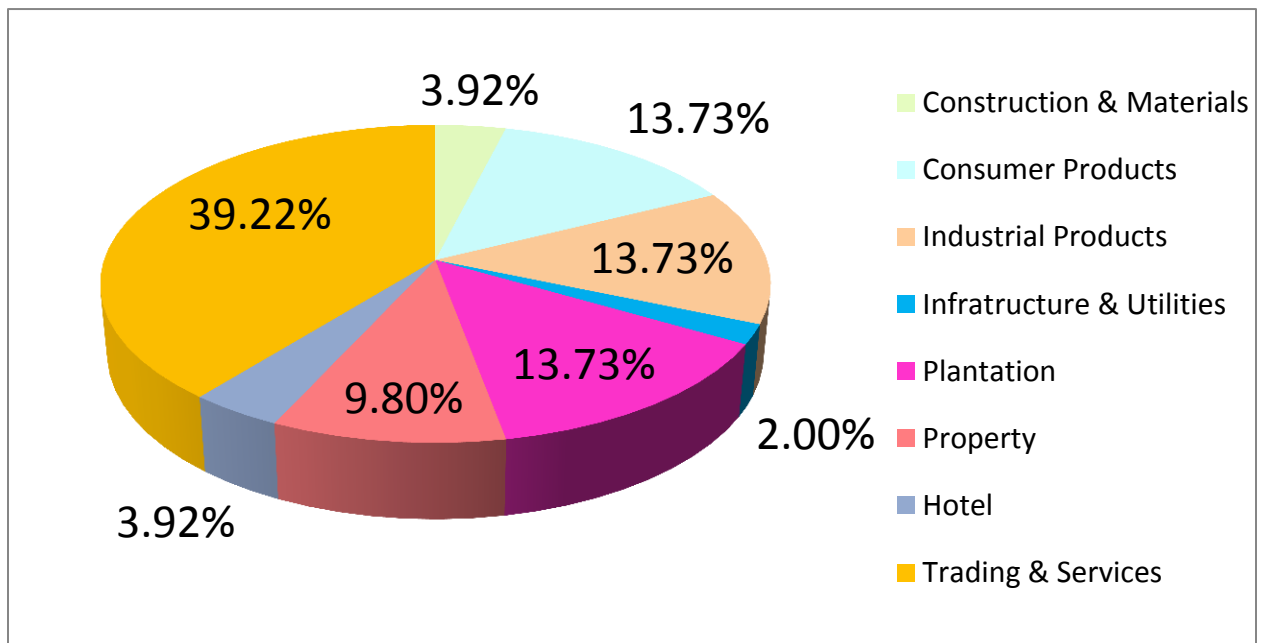
Table 3.2: Sample Selection from 100 Public Listed Companies

Number of top 100 companies from 2009 to 2013 (measured by market capitalizations obtained from the DataStream)	100
---	-----

²www.harimaucapital.com/2013/03/2012-2009-bursa-malaysia-top100-listed.html

Less : Banking companies	8
Less : Insurance company	1
Less : Financial services companies	3
Less : REITs companies	4
Less : Entertainment companies	3
Less : Investment company	1
Less: Services exchange company	1
Less : Foreign company	1
Less : Newly listed company	1
Less : Missing data on DataStream	19
Final sample	51

Figure 3.2: Pie Chart of Final Sample - Breakdown According to Industry



3.7 Techniques of Data Analysis

Ordinary least square (OLS) is performed in this study to examine the relationships between growth of companies and working capital management (proxies by cash conversion cycle (CCC), receivable conversion period (RCP), inventory conversion period (ICP), and payable conversion period (PCP). Control variables namely firm size (LnTA), fixed financial asset (FFA) and financial debt (FD) are also tested. Descriptive statistics, Pearson Bivariate correlation analysis and regression analysis are applied to show the results for the study and to arrive at the conclusion of and provide recommendations for an effective working capital management system.

CHAPTER FOUR

RESULTS AND DISCUSSION

4.0 Descriptive Statistics

Table 4.1 presents descriptive statistics of tested variables. There are 255 total firm-year observations for 51 public listed companies in the 5-year study period (2009-2013).

From the statistics in the Table 4.1, average growth rate in total assets of the top market cap companies is 12.87% with a maximum of 177% and minimum of -24%. This growth is parallel to the 11.1% average growth of the market capitalization of Malaysian capital market during the ten-year period of 2000-2010³, and a growth of 10.5% in 2013⁴.

A cash conversion cycle is the amount of time it takes for a company, business or organization to receive payment for its products after it has paid for its materials or inventory. It is snapshot of the way a company's working capital is being used.

Our finding on CCC shows a mean value of 93.09, indicating that the large companies sampled had an average of 93 days to get back cash. The standard deviation is 223.252; indicating a variation of a high 223 days to receive payments among the public listed

³(Securities Commission: Capital Market MasterPlan2 http://www.sc.com.my/wp-content/uploads/eng/html/cmp2/cmp2_final.pdf)

⁴(<http://www.thesundaily.my/news/984558>)

companies. The negative CCC shows that the days in payable conversion period (PCP) is longer than the days combined for receivable conversion period (RCP) and inventory conversion period (ICP).

The sample companies convert their inventory into sale on an average of 121.09 days (about four months). They take a maximum of 2,560 days and a minimum of one day of inventory conversion period with a standard deviation of 272.684 days. Based on receivables conversion period result, the companies receive their cash from their customers at an average credit term of 73.45 days. The shortest period that customers pay the companies is 9 days and the longest period is 488 days. However, result for payable conversion period is 100.58 days, indicating companies only manage to pay their creditors in average range of 100 days.

The average firm size (LnTA) defined by natural logarithm of total asset is RM15.68 million as shown in the descriptive statistics analysis. The range for firm size is between RM13 million to RM18 million. The actual size of the highest market capitalization in the sample is Tenaga National Berhad (TNB) with a market capitalization of RM66 billion. The standard deviation of financial debt ratio is highest at 17.617% with an average of 21.2% from total assets. The average fixed financial asset (FFA) is 37%, while the minimum percentage is 4% for total assets and maximum percentage of 84% for total assets.

Table 4.1: Descriptive Statistics of Dependent, Independents and Control Variables (2009- 2013)

	N	Minimum	Maximum	Mean	Std. Deviation
g	255	-24	177	12.87	21.828
CCC	255	-1639	1344	93.09	223.252
RCP	255	9	488	73.45	61.906
ICP	255	1	2560	121.09	272.684
PCP	255	0	3763	100.58	309.213
FD	255	0	71	21.2	17.617
LnTA	255	13	18	15.68	1.313
FFA	255	4	84	37	19.624
Valid	N 255				

(Listwise)

N = Total of observations

Other information can also be explained from Figure 4.1. Since cash conversion cycle (CCC) has an average of 93 days, companies in the sample have an extra 19.64 days cash holding period when average receivable conversion period (RCP) is 73.45 days. For inventory conversion period (ICP), companies need an additional 28 days to cover the holding stock since inventory conversion period convert (ICP) to sale in average 121.09 days. Lastly, the payable conversion period (PCP) gives companies an average of 7.49 days when the average payment to supplier is 100.58 days compare to cash conversion

cycle (CCC). Therefore, this is not good in terms of working capital management when companies actually need only another 1 day to cover the additional day in holding stock when they earn an extra 19.64 day in receivable conversion period (RCP), with a surplus of 28 days in inventory conversion period (ICP) and another extra 7.49 days in payable conversion period (PCP).

Since the companies on average take 28 days extra to convert inventory into sales, some alignment should be taken up by the companies in managing their inventories in an efficient manner. They must take serious action to establish an inventory control policy to overcome this inefficient management of inventory.

Figure 4.1: Efficiency of Working Capital Management

Cash holding period
CCC 93.09 days less RCP 73.45 days = + 19.64 days
Inventory holding period
CCC 93.09 days less ICP 121.09 days = - 28 days
Payable holding period
PCP 100.58 days less CCC 93.09 days = + 7.49
Overall holding period = - 0.87 days

4.1 Correlation Analysis

Table 4.2 presents the correlations of all variables in this study. The finding from Pearson correlation coefficients determines the association among independent variables (cash conversion cycle, receivable conversion period, inventory conversion period and payable conversion period) and the dependent variable, that is, growth of the companies.

Findings show that there are positive correlations between growth (g) of the companies and all the independent variables of the working capital management components. Therefore, when cash conversion cycle, receivable conversion period, inventory conversion period and payable conversion period are longer or increase from day to day, growth also increases. Among the independent variables, cash conversion cycle has shown a strong significant and positive relationship (0.163) with growth of the companies. It indicates that within the positive cash conversion cycle, companies can establish the policy to increase their cash conversion cycle for better growth in future.

Besides, the results of the correlations for the two of the three control variables have negative relationships except for financial debt ratio (FD). Financial debt shows a positive, but a non-significant relationship with growth. The negative relation of fixed financial asset (FFA) to growth is rather weak but significant. For firm size and growth, the negative relationship is weak and not significant.

The correlation between cash conversion cycle (CCC) with other independent variables are significant. The receivable conversion period (RCP) and inventory conversion period

(ICP) show a positive relationship but payable conversion period (PCP) has a negative relationship to growth.

Since all components of working capital management have correlation coefficient of below 0.8. According to Gujarati (1995), multicollinearity problem occurs when the correlation coefficients exceeds 0.8. However, values are also provided in table 4.3 to confirm that there is no multicollinearity between these independent variables.

Table 4.2: Pearson Bivariate Correlation Analysis

	Growth	CCC	RCP	ICP	PCP	FD	LnTA	FFA
Growth	1	0.163**	0.125*	0.154*	0.043	0.013	-0.087	-0.144*
CCC		1	0.447**	0.287**	-0.372**	-0.133*	-0.150*	-0.161**
RCP			1	0.451**	0.277**	0.082	0.028	-0.143*
ICP				1	0.766**	-0.051	-0.080	-0.236**
PCP					1	0.066	0.043	-0.118
FD						1	0.497**	0.279**
LnTA							1	0.113
FFA								1

** Correlation is significant at the 0.01 level (2- tailed).

* Correlation is significant at the 0.05 level (2- tailed).

Table 4.3: Multicollinearity Statistics

MODEL I		MODEL II		MODEL III		MODEL IV	
Variables	VIF	Variables	VIF	Variables	VIF	Variables	VIF
CCC	1.047	RCP	1.038	ICP	1.065	PCP	1.025
LnTA	1.424	LnTA	1.444	LnTA	1.336	LnTA	1.329
FD	1.343	FD	1.329	FD	1.426	FD	1.434
FFA	1.106	FFA	1.119	FFA	1.148	FFA	1.108

4.2 Linear Regression Analysis

This study proceeds with the regression analysis since the correlation analysis in a conventional matrix does not take into consideration of each variable's correlation to others explanatory variables. Therefore in this analysis, the study discusses the empirical finding on the relationship between working capital and growth of the public listed companies based on 255 firm-year observations.

4.2.1 Regression analysis of Model I

Table 4.4 explains the regression result between cash conversion cycle (CCC) and growth (g) of model I. The result reveal that R- squared stated at 0.055. This indicates 5.5% of the variable is able to explain by this regression. It implies that 5.5% contribute to the effect of the cash conversion cycle (CCC) in explaining the growth of the companies.95% of the variation in the companies' growth was not able to be explained by this model.

However according to Jim Frost (2013)⁵, R- squared does not indicate whether a regression model is adequate. The research can have a low R- squared value for a good model, or a high R- squared value for a model that does not fit the data. Therefore, when R-squared value is low but the study has statistically significant predictors, it can still draw important conclusions about how changes in the predictor values are associated with changes in the response value. Regardless of the R- squared, the significant coefficient still represents the mean change in the response for one unit of change in the predictor while holding other predictors in the model constant. Obviously, this type of information can be extremely valuable.

The P value (F – statistic) of 0.007 means a good model has been developed, and the independent variables give good interpretation of dependent variable. The constant coefficient value is 43.770 describe that the value of growth (g) at 43.770 when independent and control variables are equal to zero.

According to table 4.4, the main finding of this model is the positive significant relationship between cash conversion cycle (CCC) and growth (g). The finding describe by the positive value of cash conversion cycle (CCC) coefficient and p-value of 0.028, that show the same direction movement between cash conversion cycle (CCC) and growth (g). This finding was supported by previous researches that have been mention in chapter two. In other word, the longer cash conversion cycle (CCC), the grater the growth of the companies. Therefore the hypothesis that is there is a significant relation between

⁵ <http://blog.mimitab.com/blog/adventures-in-statistics/regression-analysis-how-do-i-interpret-r-squared-and-assess-the-goodness-of-fit>

cash conversion cycle (CCC) proxy of working capital management and growth (g) is accepted.

Besides, there are negative coefficient value for firm size (LnTA) and fixed financial assets (FFA) in relation to growth (g). Since the ratio of fixed asset over total asset represents the fixed financial assets, the inverse relationship indicates that the more value of fixed asset of the companies, the lower the growth of the companies. This finding was supported by previous researchers that have been mentioned in topic control variables in chapter two.

Based on Table 4.1, descriptive statistics indicate the average fixed financial asset has contributed 37% of total asset of the sample companies. Thus, the element of fixed asset influences the firm size (LnTA) to be in an inverse relationship with growth of the companies. This finding was supported by Deloof (2003) that the researcher found a negative relationship between fixed financial asset and sales growth.

Meanwhile, financial debt (FD) contributes a positive coefficient but is only marginally significant to the growth (g). The positive relationship between financial debt and growth of the companies indicates that companies can perform growth with external sources of funding. The more companies get financial debt, the higher is the growth of the companies. According to Abu Bakar et al. (2011) financial debt in terms of availability of loans and other credit is significant and has a positive relationship with growth of the companies.

Table 4.4: The Regression Analysis Results for Model I

Regression Equation (Model I): Growth (g) = 43.77+0.14CCC + 0.159FD – 1.888LnTA – 0.161FFA					
+18.111					
	Un- standardized Coefficients	standardized Standard Coefficients		t	Sig.
	B	Std. Error	Beta		
(Constant)	43.770	18.111		2.417	0.016
CCC	0.014	0.006	0.139	2.213	0.028**
FD	0.159	0.091	0.129	1.752	0.081
LnTA	-1.888	1.185	-0.114	-1.593	0.112
FFA	-0.161	0.072	-0.145	-2.237	0.026**
R- square 0.055		Adjusted R- square 0.040		Sig.(F- statistic) 0.007	

4.2.2 Regression analysis of Model II

Table 4.5 show the regression analysis of model II .The regression result reveal the R-square is 0.46. It can be explained that the result from regression in the range 4.6% of the variables. The sig. (F-statistic) is 0.019 determine the dependence variable is well interpreted by the independent variables. Meanwhile, the constant coefficient value of 46.669 indicates value of growth when all independent variables are zero.

Based on table 4.5, the positive relationship between receivable conversion period (RCP) and growth (g) is found. However, the result of probability value (p-value) of 0.117

indicates the weak relationship between these two variables. The relationship becomes insignificant when the probability value (p-value) exceeds 0.05. Therefore the hypothesis that there is a positive relationship between receivable conversion period (RCP) and growth (g) is accepted. Since the receivable conversion period (RCP) involves conversion of trade receivables to cash in balance sheet, it does not bring any changes to the growth of the companies.

However, firm size (LnTA) and fixed financial asset (FFA) show negative coefficients, but only fixed financial asset (FFA) has a significant relation to growth of the companies. The financial debt (FD) reflects positive but weak and insignificant relationship with growth.

Table 4.5: The Regression Analysis Results for Model II

Regression Equation (Model II): $Growth(g) = 46.669 + 0.35RCP + 0.135FD - 2.120LnTA - 0.162FFA$					
	Un- standardized Coefficients	Standard Error	Standard Coefficients Beta	t	Sig.
(Constant)	46.669	18.101		2.578	0.011
RCP	0.035	0.022	0.099	1.575	0.117
FD	0.135	0.092	0.109	1.471	0.142
LnTA	-2.120	1.184	-0.127	-1.790	0.075
FFA	-0.162	0.073	-0.146	-2.232	0.026
R- square 0.046		Adjusted R- square 0.031		Sig.(F- statistic) 0.019	

4.2.3 Regression analysis of Model III

Table 4.6 shows the regression analysis of model III .The regression results reveal that R-square is 0.050 which explains that the independent variable are able to explain 5 percent of the variation in the companies' growth. However, the 0.012 sig. (F-statistic) value is indicates that the dependent variable (growth) is well interpreted by the independent variables.

According to Table 4.6, there is a positive relationship between inventory conversion period (ICP) and growth (g). This is consistent with (quote studies). A p-value of 0.063 shows a weak relationship between inventory conversion period (ICP) and growth (g).Therefore the third hypothesis that is there is a positive relationship between inventory conversion period (ICP) (which is one of the proxies of working capital management) and growth of the companies (g) is accepted.

The coefficient values for firm size (LnTA) and fixed financial assets (FFA) in relation to growth (g) are negative, while financial debt (FD) has a positive but insignificant relationship to growth (g).

Table 4.6: The Regression Analysis Results for Model III

Regression Equation (Model III): $Growth (g) = 45.548 + 0.010ICP + 0.145FD - 1.999LnTA - 0.150FFA$					
	Un-standardized		Standard Coefficients	t	Sig.
	Coefficients				
	B	Std. Error	Beta		
(Constant)	45.548	18.098		2.517	0.012
ICP	0.010	0.005	0.119	1.869	0.063
FD	0.145	0.091	0.117	1.587	0.114
LnTA	-1.999	1.185	-0.120	-1.687	0.093
FFA	-0.150	0.073	-0.135	-2.043	0.042
R- square 0.050		Adjusted R- square 0.035		Sig.(F- statistic) 0.012	

4.2.3 Regression analysis of Model IV

In table 4.7, the regression analysis of model IV reveals the result of R-square. The R-square of explains that 3.7% of the variation in the dependent variable is caused by the independent variables. Even though this r-square is low, the sig. (F-statistic) value is 0.051 which shows a better picture of how well the variation in the dependent variable is determined by the independent variables. A constant coefficient value of 50.024 indicates the value of growth when all independent variables are set to be zero.

Table 4.7: The Regression Analysis Results for Model IV

Regression Equation (Model IV): Growth (g) = 50.024 + 0.002PCP + 0.150FD – 2.161LnTA – 0.179FFA + 18.054					
	Un- standardized Coefficients	Std. Error	Standard Coefficients Beta	t	Sig.
(Constant)	50.024	18.054		2.771	0.006
PCP	0.002	0.004	0.022	0.342	0.732
FD	0.150	0.092	0.121	1.632	0.104
LnTA	-2.161	1.190	-0.130	-1.816	0.071
FFA	-0.179	0.073	-0.161	-2.245	0.015
R- square 0.037		Adjusted R- square 0.022		Sig.(F- statistic) 0.051	

CHAPTER FIVE

CONCLUSIONS AND RECOMMENDATION

5.0 Introduction

Chapter Five concludes the present study by summarizing and discussing the findings obtained. Implications and further research recommendations are put forward at the end of this chapter.

5.1 Discussion of the Result

This study examines the impact of working capital management (WCM) on the growth of Malaysian companies a five-year using data (2009 – 2013). In this study, growth is measured by total assets growth (TAG), applied as the dependent variable. Meanwhile, cash conversion cycle, number of days' trade receivable, number of days' inventory and number of days' trade payable are used as the independent variables in order to determine the effect of working capital management on the growth of the Malaysian companies. Additionally, control variables are used in this study to clarify the relationships between growth and working capital management. The control variables are represented by firm size, financial debt ratio and fixed financial assets ratio. A balanced panel data of 51 largest public listed companies are used as the sample with a total of 255 firm-year observations.

The study was conducted based on the four objectives mentioned in chapter one. In this chapter, the explanation and discussion are expanded based on results obtained. Below are the objectives of the study:

1. To determine if there is a positive relationship between cash conversion cycle and growth of Malaysian public-listed companies.
2. To determine if receivable conversion period positively affects the growth of Malaysian public-listed companies.
3. To determine if there is a positive relationship between inventory conversion period and growth of Malaysian public-listed companies.
4. To determine if payable conversion period positively impact the growth of Malaysian public-listed companies.

5.1.1 Discussion on the Result of Objective 1

The first objective proposed in this study is to determine if there is a positive relationship between cash conversion cycle (CCC) and growth of Malaysian public-listed companies. The Pearson correlation analysis and regression analysis are used to measure the relationship for this objective. The result shows that there is a significant and positive relationship between these two variables with a correlation of 0.163 with the significance reflected by a probability value (p-value) of 0.009. The coefficient result from the linear regression also shows a positive and significant relationship between the growth of these companies and cash conversion cycle as a proxy for working capital management. When cash conversion cycle is higher, there is higher profitability to the companies.

This finding is supported by previous research on the relationship between working capital management and profitability. According to Gill et al. (2010), cash conversion cycle as proxy of working capital management is positively and significantly related to profitability. In other studies, the relationship between growth of companies and profitability has been examined. Ting, Kweh & Chan (2014), measure the impact of organizational growth on profitability and conclude that total asset growth (TAG) has a positive and strong significant impact on profitability of companies.

Since the present study finds a positive and significant relationship between cash conversion cycle and growth of the companies, it can be concluded that higher cash conversion cycle contribute to higher growth for the companies. This should not be the case since a lower cash conversion cycle indicates that managers have managed the working capital in an efficient manner. Our finding on this implies that there should be other reasons in the working capital components that interact with cash conversion cycle in such a way that there is a positive impact on the growth of these large companies.

5.1.2 Discussion on the Result of Objective 2

The second objective developed for the research is to determine if there is a positive relationship between receivable conversion period and growth of Malaysian public-listed companies. The result is shown by the Pearson correlation analysis and multiple regression analysis.

Receivable conversion period has been found to be a significant factor in the relationship of working capital with growth of Malaysian companies. The relationship is positive with a correlation of 0.125 and significant with a probability value (p-value) of 0.045.

However, the coefficient result from the linear regression shows that there is a positive but insignificant relationship between the growth of Malaysia companies and receivable conversion period as another proxy of working capital management, implying that the receivable conversion period does not give any impact toward the growth of the Malaysian companies. When receivable conversion period is measured together with the control variables of firm size and financial debt, the relationship with growth becomes insignificant. However, the other control variable, fixed financial asset (FFA) shows a negative but significant relationship with the growth of the Malaysian companies.

On the contrary, in previous research, the relationship between receivable conversion periods with profitability was found to be significant. According to Gill et al. (2010), the coefficient of receivable conversion period as a proxy of working capital management is negative and significant in relation to profitability of the firms in their sample. However, Sharma and Kumar (2011) found that there is positive relationship between numbers of day accounts receivable and profitability.

5.1.3 Discussion on the Result of Objective 3

The third objective is to establish if there is a positive relationship between inventory conversion period and growth of Malaysian companies. Using the same method of analysis, result indicates a positive and significant relationship with probability (p-value) of 0.14. However, the coefficient result from multiple linear regression shows a positive but insignificant relationship between inventory conversion period (as proxy of working capital management), and growth of the Malaysian companies, implying that the inventory conversion period (ICP) does not have any significant impact toward growth. Huge increases or decreases of inventory conversion period do not bring any significant effect toward growth of the companies even though both variables have a positive association.

5.1.4 Discussion on the Result of Objective 4

The last objective is established to determine if payable conversion period positively affect growth of Malaysian companies. The probability value (p-value) of 0.495 indicates that the relationship between payable conversion period and growth of Malaysia companies is not significant. The weak relationship also is supported by the coefficient result from the multiple regression analysis which shows a probability value (p-value) of 0.732. Therefore any changes to the payable conversion period do not impact significantly the growth of Malaysian companies.

Even though profitability was used in previous studies as a firm performance measure, unlike the present study which uses growth a firm performance measure, the finding on this component of working capital in this current study is consistent with previous research. Gill et al. (2010) find that the number of days of accounts payable and profitability is positively but insignificantly correlated.

However, Linderhof's (2014) found a negative and significant relationship on the relationship between the number of days' account payable (a proxy of working capital management) and profitability of Dutch listed firms. The negative relationship indicates that when the number of days' of payables increases, companies' profitability decreases.

5.2 Limitations of the Study

This study focuses only on a sample of public-listed companies in Malaysia selected from the top one hundred companies based on market capitalization. Thus, the findings reached may not be able to be generalized to other companies that are excluded in this study, particularly those of small- and medium- sized companies. This present study also just concentrates on trade receivables, inventory and trade payables to represent working capital. More and other aspects and variables of working capital should be explored to provide a clearer relationship with growth.

5.3 Recommendations of the Study

Working capital management has a significant impact on the growth of Malaysian companies. This study suggests managers to evaluate and scrutinize seriously the components of working capital in developing an efficient working capital management policy.

Working capital is important and yet is often under-managed. Improving its performance can generate cash to fund value-creating opportunities and reveal insights that improve other aspects of business performance. Managers must therefore control the components of working capital so that they are consistently at the optimal level in order to maximize their shareholders' wealth.

Thus, to achieve companies' inspiration maintaining sustainability and acquiring better growth in the future, management must make sure that all the tools of finance are exercised so that company's performance is at the maximum level. This can be achieved by having a better policy of working capital management that can gear up total asset value, not only to be sufficient at all times to cover liabilities, but also to expand and be competitive in the global market.

5.4 Suggestions for Future Research

Future research is suggested to include the examination and explanation on generalization of the findings beyond public-listed companies in Malaysia. In addition, future research can include more variables; including more control variables since the present study show very low R-squares for all the four models applied for the working capital components.

The investigation on this area can be improved further by increasing the sample size to provide a more robust and more significant relationships between working capital management and firm performance.

The working capital components can also be extended to include marketable securities, inventory management and cash management, so that it can be viewed from various angles to reveal real situation in terms of performance and survival in the Malaysian context.

5.5 Conclusion

The aim of this paper is to provide empirical evidence of the relation between working capital and corporate performance as measured by growth. Although few studies empirically examine

whether investment in working capital is associated with firm value, the idea that working capital management influences firm value seems to be generally accepted.

The findings from the panel data on the four models applied in this study reflect that the four components of working capital (cash conversion cycle, receivable conversion period, inventory conversion period, and payable conversion period) indeed do have an impact on the growth of Malaysian companies. Thus, it is important for the companies to focus and establish the policy of working capital management in an efficient manner.

There are several implications of the present study which may be relevant for managers and research on investment in working capital. First, the results suggest that managers should be concerned about working capital, due to the costs of moving away from the optimal working capital level. Managers should avoid negative effects on firm performance because of lost sales and lost discounts for early payments or additional financing expenses. Second, the findings extend research on the relevance of a good working capital management and suggest that future studies on working capital should also control for financial constraints.

REFERENCES

- Abu Bakar, A. H., A. Awang, M. N. Yusof & A. Adam (2011). Strategies for survival during economic downturn in construction industry: A survey on construction companies in Malaysia. *World Applied Sciences Journal*, 13(9), 1967-1974.
- Abu Bakar, A. H., Tabassi, A. A., Abd Razak, A., & Yusof, M. N. (2012). Key factors contributing to growth of construction companies: A Malaysian experience. *World Applied Sciences Journal* 19 (9), 1295-1304.
- Abuzayed, B. (2012). Working capital management and firms' performance in emerging markets: The case of Jordan. *International Journal of Managerial Finance*, 8(2), 155-179
- Afza T., & Nazir, M. S. (2007). Is it better to be aggressive or conservative in managing working capital?, Singapore Economic Review Conference (SERC), Singapore, 02-04 August,
- Ashraf, C. K. (2012). The relationship between working capital efficiency and profitability. *Journal of Accounting and Management*, 2(3), 21-45.
- Baños-Caballero, S., García-Teruel, P. J., & Martínez-Solano, P. (2013). Working capital management, corporate performance, and financial constraints. *Journal of Business Research*, 67(3), 332–338.
- Bank Negara Malaysia. Retrieved from <http://bnm.gov.my>
- Berryman, J. (1983). Small business failure and bankruptcy: A survey of the literature, *European Small Business Journal*, 1(4), 47-59.
- Bonaccorsi, A., & Giannangeli, S. (2008). One or more growth process? Evidence from new Italian firms. *Small Business Economics*, 27, 387-407.
- Carpenter, R. E., Fazzari, S. M., & Petersen, B. C. (1994). Inventory investment, internal finance fluctuations, and the business cycle. *Brookings Papers on Economic Activity*, 2, 75–138.
- Charitou, M. S., Elfani, M., & Lois, P. (2010). The effect of working capital management. *Journal of Business & Economic Research*, 8(12), 63–68.
- Churchill C. F. (1997). Managing growth: The organizational architecture of microfinance institutions. ACCI on International. <http://www.ebook-search-engine.com/organization-growth-ebookall.html>.

- Cooper, M. J., Gulen, H., & Schill, M. J. (2008). Asset growth and the cross-section of stock returns. *Journal of Finance*, 63(4), 1609-1651.
- Deloof, M., & Jegers, M. (1996). Trade credit, product quality, and intragroup trade: Some European evidence. *Financial Management*, 25, 33-43.
- Duellman, S. (2006). Evidence on the role of accounting conservatism and corporate governance. North Dakota State University, North Dakota.
- Dunn, P., & Cheatham, L. (1993). Fundamentals of small business financial management for start-up, survival, growth, and changing economic circumstances. *Managerial Finance*, Vol. 19, No. 8, 1-13.
- Eljelly, A. (2004). Liquidity-profitability tradeoff: An empirical investigation in an emerging market. *International Journal of Commerce and Management*, Vol.14 (2), 48-61.
- Gray, P., & Johnson, J. (2011). The relationship between asset growth and the cross-section of stock returns. *Journal of Banking & Finance*, 35(3), 670-680.
- Ganesan, V. (2007). An analysis of working capital management efficiency in telecommunication equipment industry. *Rivier Academic Journal*, 3(2), 1559-9396.
- García-Teruel, P. and Martínez-Solano, P. (2007). Effects of working capital management on SME profitability. *International Journal of Managerial Finance*, Vol. 3, No. 3, 164-86.
- Geroski, P. A., Machin, S. J., & Walters, C. F. (1997). Corporate growth and profitability. *The Journal of Industrial Economics*, 45(2), 171-189.
- Ghosh, S. & Maji, S. (2004). Working capital management efficiency: A study on the Indian cement industry. *The Management Accountant*, Vol. 39, No. 5, 363-72.
- Gill, A., Biger, N., & Mathur, N. (2010). The relationship between working capital management and profitability: Evidence from the United States. *Business and Economics Journal*, 10, 1-9.
- Glen, J., Lee, K., & Singh, A. (2003). Corporate profitability and the dynamics of competition in emerging markets: A time series analysis. *The Economic Journal*, 113(491), F465-F484.
- Fagiolo, G. and Luzzi, A. (2004) Do liquidity constraints from the Italian manufacturing industry. *Laboratory of Economics and Management Working Papers 2004/08*, Sant'Anna School of Advanced Studies, Pisa.

- Gitman, L. (1974). Estimating corporate liquidity requirements: A simplified approach. *The Financial Review*, Vol. 9, No. 3, 79-88.
- Gujarati, D. (2003). *Basic econometrics* (4th ed). New York: McGraw-Hill.
- Gupta, M. C. (1969). The effect of size, growth, and industry on the financial structure of manufacturing companies. *The Journal of Finance*, 24(3), 517-529.
- Harris, A. (2005). Working capital management: Difficult, but rewarding. *Financial Executive*, Vol. 21, No. 4, 52-53.
- Ho, J. A. (2009). Association between board characteristics and accounting conservatism: Empirical evidence from Malaysia. Master of Business (MBus) thesis, Auckland University of Technology (AUT), 39-41.
- Jose, M. L., Lancaster, C., & Stevens, J. L. (1996). Corporate returns and cash conversion cycles. *Journal of Economics and Finance*, 20(1), 33-46.
- Kaddumi, T. A., & Ramadan, I. Z. (2012). Profitability and working capital management: The Jordanian case. *International Journal of Economics and Finance*, 4(4), 217.
- Kim, C., Mauer, D., & Sherman, A. (1998). The determinants of corporate liquidity: Theory and evidence. *Journal of Financial and Quantitative Analysis*, 33(3), 335-59.
- Lamberson, M. (1995). Changes in working capital of small firms in relation to changes in economic activity. *Mid-American Journal of Business*, 10(2), 45-50.
- Lazaridis, I., & Tryfonidis, D. (2006). Relationship between working capital management and profitability of listed companies in the Athens stock exchange. *Journal of Financial Management and Analysis*, 19(1), 26 – 35.
- Linderhof, J. H. (2014). Does working capital management affect the profitability of public listed firms in the Netherlands?. Master of Business (MBus) thesis, University of Twente, 2-47.
- Lo, N. (2005). "Go with the flow", available at: www.cfoasia.com/archives/200503-02.htm.
- Majeed, S., Makki, M. A. M., Saleem, S., & Aziz, T. (2013). The relationship of cash conversion cycle and profitability of firms: An empirical investigation of Pakistani firms. *Journal of Emerging Issues in Economics, Finance and Banking (JEIEFB)*, 1(1), 36-49.
- Mathuva, D. (2010). The influence of working capital management components on corporate profitability: A survey on Kenyan listed firms. *Research Journal of Business Management*, 3(1), 1-11.

- Mohamad, N. E. A., & M. Saad, Noriza. (2010). Working capital management: The effect of market valuation and profitability in Malaysia. *International Journal of Business and Management*, Vol. 5, No. 11,140–147
- Nazir, M. S., & Afza, T. (2009). Impact of aggressive working capital management policy on firms' profitability. *The IUP Journal of Applied Finance*, 15(8), 19-30.
- Nazir, M. S., & Afza, T. (2009). Working capital requirements and the determining factors in Pakistan. *IUP Journal of Applied Finance*, 15(4), 28-38.
- Nwankwo, O., & Osho, G. S.(2010). An empirical analysis of corporate survival and growth: Evidence from efficient working capital management. *International Journal of Scholarly Academic Intellectual Diversity*, 12(1), 1-7.
- Opler, T., Pinkowitz, L., Stulz, R. and Williamson, R. (1999). The determinants and implications of corporate cash holdings. *Journal of Financial Economics*, 52(1), 3-46.
- Padachi, K. (2006). Trends in WCM and its impact on firms performance: An analysis of Mauritian small manufacturing firms. *International Review of Business Research Papers*, 2(2), 45 -58.
- Pandey, J. M. (2006). *Financial management* (p. 1225). New Delhi: Vikas Publishing Company Ltd.
- Raheman, A., & Nasr M. (2007). Working capital management and profitability – Case of Pakistani firms. *International Review of Business Research Papers*, 3(2), 275 – 296.
- Recklies, O. (2001). *Managing Growth – Barriers and Preconditions*, Recklies Management Project GmbH. <http://themanager.org/pdf/ManagingGrowthII.PDF>.
- Richards, V. & Laughlin, E. (1980). A cash conversion cycle approach to liquidity analysis. *Financial Management*, Vol. 9, No. 1, 32-8.
- Rossi, G. B., Salieri, P., & Sartori, S. (2002). Measurement growth in a total quality perspective. *J. Measure.*, 32, 117-123.
- Sanghamitra, D. (1995). Size, age and firm growth in an infant industry: The computer hardware industry in India. *International Journal of Industrial Organization*, 13(1), 111-126.
- Schneider, J., Dowling, M., & S. Raghuram (2007). Empowerment as a succes factor in start-up. *RMS*, 1,167-184.
- Securities Commission Malaysia “Capital Market Masterplan2: Malaysia” Chap 1, pg 3. ISBN 978-983-9386-66-0.

Shin, H.-H., & Soenen, L. (1998). Efficiency of working capital management and corporate profitability. *Financial Practice and Education*, 37-45.

Siddiquee, Moniruzzaman & Khan, Shaem Mahmud, (2009). Analyzing working capital performance: Evidence from Dhaka stock exchange (DSE) Ltd), [Online] Available: <http://ssrn.com/abstract=1374210>.

Skrt, B., & Antoncic, B. (2004). Strategic planning and small firm growth: An empirical examination. *Managing Global Transition*, 2(2), 107-122.

Sekaran, U. (2000). *Research Methods for Business: A Skills-Building Approach* (3rd ed.). Carbonadale, USA: John Wiley & Sons, Inc.

Ting, K. I. W., Kweh, L.Q. & Chan, C. Y. (2014). Does organizational growth contribute to profitability? Evidence from Malaysian public listed companies. *International Journal of Business and Society*, Vol. 15 No. 2, 267 - 276

The Sun Daily “Malaysian capital market grows 10.5% to RM2.7 trillion in 2013”
Posted on 13 March 2014

Uyar, Ali. (2009). The relationship of cash conversion cycle with firm size and profitability: An empirical investigation in Turkey. *International Research Journal of Finance and Economics*, ISSN 1450-2887, Issue 24, Euro Journals Publishing, Inc.

Van Horne, J. C. & Wachowicz, J. M. (2000) .*Fundamentals of Financial Management*. (11th ed.). Prentice Hall Inc, New York.

Watanabe, A., Xu, Y., Yao, T., & Yu, T. (2011). The asset growth effect: Insights from international equity markets. University of Alberta working paper.

Wijewardena, H. & A. De Zoysa (2005). A factor analytic study of the determinants of success in manufacturing SMEs, 35th EISB Conference-Sustaining the Entrepreneurial Spirit Over Time, Barcelona, Spain, 12-14 September, 1-11.

WEBSITE

Wawasan 2020: from <http://www.wawasan2020.com/>

Top one hundred (100) public listed companies based on market capitalization over five years from 2009 to 2013: from. <http://www.harimaucapital.com/2013/03/2012-2009-bursa-malaysia-top100-listed.html>.

Securities Commission: from. Capital Market MasterPlan2 http://www.sc.com.my/wp-content/uploads/eng/html/cmp2/cmp2_final.pdf)