

CAPITAL STRUCTURE AFFECTS FIRM VALUE:
TECHNOLOGY SECTOR IN MALAYSIA

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We hereby declare that:

- (1) This undergraduate research project is the end result of our own work and that due acknowledgement has been given in the references to ALL sources of information be they printed, electronic, or personal.
- (2) No portion of this research project has been submitted in support of any application for any other degree or qualification of this or any other university, or other institutes of learning.
- (3) Equal contribution has been made by each group member in completing the research project.
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LIST OF ABBREVIATIONS

ROA	Return on Asset
Prof	Profitability
Tang	Tangibility
F.Size	Firm Size
G.Opp	Growth Opportunity
Liq	Liquidity
Lev	Leverage
α	Constant
β	Beta
ε	Random error term

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PREFACE

This final year project is submitted in partial fulfilment of the requirement for the Bachelor of Business Administration (Hons) Banking and Finance. The supervisor that guided us throughout our research project is Miss Zuriawati bin Zakaria.

We choose the topic of Capital Structure affects Firm Value: Technology Sector in Malaysia because we are interested to study how the investors and shareholders make their decision in term of capital structure that influences the firm value. Capital structure is relatively link with firm value. Thus, the relationship between capital structure decisions and firm value has been extensively investigated. Since Malaysia is a potential Asian country to move towards a technology driven, it is important to find out how the firm's value affect on technology sector. Few variables are selected in this paper and we think it might affect the firm value and also the decision making of the investors.

There are different difficulties and challenges all the way through the progress, but with the passion interest in this topic and the help from our supervisor, Miss Zuriawati bin Zakaria, we are able complete this research project on time. We had learned a lot from this research and we do believe that it will help us in our future career.

ABSTRACT

This researcher paper mainly examine on the firm value of technology sector in Malaysia as the technology able to thriving the economic growth. We have studies on 50 companies in the technology sector for duration of 5 years from 2005 to 2009.

We investigated the firm performance by using dependent variable which is return on asset (ROA) that mostly supported and applied by previous researchers. However, the factors used to test on the firm value are profitability, growth opportunity, leverage, firm size, tangibility and liquidity which act as independent variables. We found that firm value on technology sector in Malaysia is significantly affected by firm size, liquidity and profitability. The significant variables are supported by previous researchers.

Profitability variable shown positive significance to firm value which supported by Chakraborty (2010), Pandey (2004) and Bas et al. (2009). And it explained with the theory of Tobin's Q. Furthermore, liquidity variable are aligned to Prasit et al. (2011), Suhaila et al. (2008) and Kahn & Winton (1998), which are positive relationship to firm value on technology sector.

Next, firm value that supported to research paper Margaritis & Psillaki (2008), Mahakud & Misra (2009) and Majumdar & Chhibber (1997) presented positive significant to firm performance. Furthermore, we also found that the firm size is the main factor among independent variables, which derived critical impact to firm value and it had been used to explain the theory applied such as cash flow and agency theory.

CHAPTER 1: RESEARCH OVERVIEW

1.0 Introduction

Firm value can represent the potential growth of a firm as well as the efficiency daily business operation of a firm. In fact, many investors always referred to firm value in making the decision of investment due to firm value able to provide the intrinsic value which is the actual value of the firm. However, the study of the factor that influences the firm value is attracting to the firm in the view of investor and shareholders. In chapter 1, we are going to define the background of firm value, the problem statement, objective, hypothesis, and significant of our research. The research on this issue is quite important to debate since the emergence of Modigliani & Miller (1958) found that firm value is not a good tool to test on capital structure. Thus, following important argument may help to explain this divergence.

1.1 Research Background

1.1.1 Capital Structure

Capital structure is imperative for every business organization. It defines as the firm's financial framework which consists of the debt and equity used to finance the firm (Ong & Teh, 2011). We cannot omit this important derivation because by using capital structure, companies are able to carry out the stakeholders' needs.

In the past decades, the relationship between capital structure decisions and firm value has been extensively investigated. To determine the capital structure, there are alternative capital structure theories have been developed. In reality, capital structure of a firm is difficult to determine accurately. Nadeem & Wang (2011) proposed that different theories concerning capital structure differ in their relative emphasis. For example, the trade-off theory emphasizes taxes, the pecking order theory emphasizes differences in information, and the free cash flow theory emphasizes agency costs. Therefore, by using these theories we are able to understand the financing behaviour of firms as well as in identify the potential factors that affect the capital structure. Myers (2001) concludes that there is no universal theory of the debt-equity choice and no reason to expect one.

Modigliani-Miller (MM) theorem is the origin capital structure's theory which had used by many previous researchers. According to MM Theorem, the theory must work under perfect market and few assumptions of perfect market have to be made which including perfect competition, absence of bankruptcy costs, no taxes, rational investors, and efficient market (Neil, 1981). MM Theorem states that capital structure or finances of a firm is not related to its value in perfect market (Martin, 1981; Merton, 1977).

Capital structure is relatively link with firm performance (Tian & Zeitun, 2007). Firm performance can be measured by leverage, profitability, growth, firm size and so on. Furthermore, financial measurement is one of the tools which indicate the financial strengths, weaknesses, opportunities and threats. Capital structure states that the value of firm depends on real variables (Modigliani & Miller, 1958). A firm debt funding provides a corporate tax shield and the benefit of tax shield is to offset by the prospect of potential bankruptcy costs. Perhaps differences in capital structure will reflect differences in the growth opportunities. However, there are still no

possibilities have been proved either relevant or excluded in Malaysian capital market.

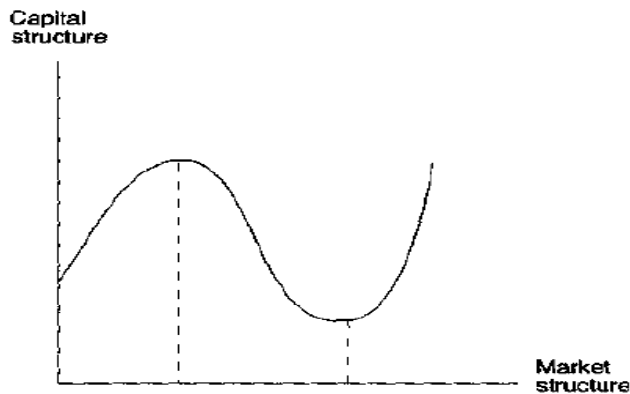
1.1.2 Capital Structure in Malaysia

In Malaysia, Pandey (2004) has used the data from 208 Malaysian companies from the period 1994 to 2000 to examine the relationship between capital structure and market structure; capital structure and profitability. Tobin's Q test has been used by the author and the results shown that both capital structure and market power; capital structure and profitability are related.

There is a cubic relationship between capital structure and market power due to the complex interaction of market conditions, bankruptcy costs and agency problems. Furthermore, the author also found a saucer-shaped relation between capital structure and profitability due to the interplay of agency costs, costs of external financing and debt tax shield.

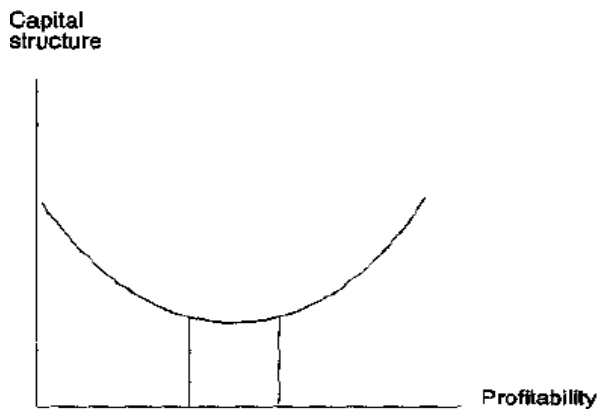
Profitability is an important independent variable to influence on capital structure (Rajan & Zingales 1995). In their paper, they found that there is a negative relationship between capital structure and profitability. In contrast, Modigliani & Miller (1963); Jensen (1986) found a positive relationship between capital structure and profitability by consider the interest, tax shield and debt.

Figure 1.1: Capital structure and market structure



As shown in Figure 1.1, when firms at lower and higher levels of market power, they employ more debt to pursue their output, while firms at an intermediate level of market power, they have to reduce their debt to avoid the financial distress and bankruptcy.

Figure 1.2: Capital structure and profitability



Source: Pandey, I. M. (2004)

There is a U-shaped relationship between capital structure and profitability as shown in Figure 1.2. Firms have more profits to shield from taxes and able to generate more output at a higher level of profitability. In fact, the relationship may be saucer-shaped where firms may not have enough incentive to increase or reduce debt in the medium range of profitability.

1.1.3 Firm Value and the Enterprise Value

Firm value has been described as firm performance which can be determined by examining the firm annual report. However, enterprise value is one of the most accurate value to represent the firm's value because various considerations and business element is taking into account to evaluate the firm's value such as firm's financial resource, firm's asset and its capital structure which play an important roles in determining and showing the strategies that the firm used to build the firm's business foundation as well as future firm's growth potential and cash flow (Kennon, n.d).

Much internal information can be observed through the assessment of enterprise value. Enterprise value is precise takeover valuation which signifies the total cost of a company if buyers want to procure it and take over the company. This is because the value calculation involves many components which are influence the firm performance such as firm's market capitalization; preferred stock; debt and also cash and cash equilibrium. Enterprise value seems to be the key formula for all market players and shareholders as well as managers in making investment and management decision due to the enterprise value is able to defining resources and competencies of the firm. The investors can make investment by following the value philosophy based on the enterprise valuation of the company while the shareholder and firm's managers manage the cash flow and adjusting the capital structure according to firm value that can be evaluate in enterprise value calculation (Kennon, n.d).

1.1.4 Firm Value and Marketing Philosophy

The firm value creation philosophy is based on the profit earned by a firm. The return of a company is not only depends on how firm's financial and administration management yet it also rely on the marketing strategies that applied by the company. Based on Warren Buffett, the well-known American investor had mentioned that the reputation of a firm able to tackle business for the poor fundamental economics. The value creation or reputation is the key strategy to help company to survive and generate money for a firm in different stage of business cycle. Understanding and analyzing the business environment enable firm to identify the sources of profit, the firm should investigate the political, economic, social, and technology factor which is known as "PEST analysis" in order to retain and attract the customers who is the main driven where the money flow into the company (PEST Analysis ,n.d).

The formation of competitiveness on a firm is derived from three main players, who are customer, supplier, and competitor. Thus, firm should take awareness in competing with the market competitors; few strategies that the firm should keep in mind are the firm needs to create value to customer, have a good relationship with its supplier, and able to crap the value-creating opportunities in the competition. The firm must understand the customer behaviors and fulfill their needs (Lake, 2009)

1.1.5 Overview of Malaysia Services Sector

The Malaysian economy is targeted to grow an average 6.3% per annum during the entire Third Industrial Master Plan (IMP3) for the period of 2006 to 2020 (Hong Leong Markets,2006). The IMP3 rides on its objective to attract and generating quality investments, developing

innovative and creative human capital and integrating Malaysian industries and services. To meet the targets of the IMP3, the government has identified 12 target growth industries in the manufacturing sector and 8 services sub-sectors for further development which include ICT services.

Table 1.1: Third Industrial Master Plan (IMP3) - Towards Global Competitiveness

<u>MANUFACTURING INDUSTRIES</u>		<u>SERVICES SUB-SECTORS</u>
Resource based: <ul style="list-style-type: none"> • Petrochemicals • Pharmaceuticals • Wood-based • Rubber-based • Oil Palm-based • Food Processing 	Non-resource based: <ul style="list-style-type: none"> • Electrical and Electronics • Medical Devices • Textiles and Apparel • Machinery and Equipment • Metals • Transport Equipment 	<ul style="list-style-type: none"> • Business and Professional services • Logistics • ICT services • Distributive trade • Construction • Education and training • Healthcare services • Tourism services

Source: Fixed Income & Economic Research HL Markets

Table 1.1 shows the overall industries of manufacturing sector as well as services sub-sectors in Malaysia that important to contribute to greater growth. From the table, we can see that there is a high expectation of Malaysian government to stimulate the economy into a fast growth track in IT sector in order to achieve high income economy by 2020.

1.1.6 The impact of IT to business

The application of IT in business is very common today; the working environment is fully relying on computer. IT enable all of us to have a better communication with each other, the present of interdependent

system helps business to share information to the partners and it also provide easy communication for the up-side stream and down-side stream. Moreover, exchanging valuable idea from different business culture enable to enhance the internal business processes; increase the productivity and grapping global customer in international market.

Furthermore, IT able to satisfying a company operational and functional need as technology provides smooth function for all the department in a company; as well as figuring problem and error when system unable to work well. Besides, IT also plays an important role in providing, retrieving, managing, and arranging data or information for company to operate daily business (Data Processing & Data Management, n.d). The implementing of a new system in a company is critical because it may bring huge impact to the company as IT supports the company main activities such as creation and delivery of product and services.

1.1.7 Technology Implementation in Malaysia

Government Linked companies (GLCs) referred to the companies that involved the participation of local government who is holding more than 20% of company's share and act as part of stakeholders, leading to the company decision making. The government of the country, many of them has been taking part as the owner of company which including china, Korea, India and also Malaysia. There were 210 companies being examined to test the value of the firm and the result shown that the performance of GLC is better than non-GLC (Razak et al., 2011).

From the period of 1971 to the late 2000s, Malaysia has transformed from a country of export on primary commodities to an emerging multi-sector country. To ensure the success of industrial development, Malaysia has moves from the traditional commodity and agriculture base to a more technology and industrial base country.

SIRIM focuses on discovering and developing new technologies to help businesses compete better through quality and innovation (Destination: Asia, 2010). SIRIM Berhad is a wholly owned by the Malaysian Government under the Minister of Finance Incorporated with over forty years of experience and expertise as the governments mandated machinery for research and technology development. It is the national organization of standardization and quality, its play an important role for industrial research and development. With the helped form SIRIM, most of the small and medium enterprises of SIRIM's clients are given technical assistance to upgrade their businesses and to stay competitive.

The Multimedia Super Corridor (MSC) is Malaysia's most powerful initiative for the global information and communication technology (ICT) industry, it was conceptualized in 1996 and grown into a thriving dynamic ICT hub, hosting more than 900 multinationals, foreign-owned and homegrown Malaysian companies. (The Multimedia Super Corridor, n.d). Among the 1000 MSC companies, software development is the biggest component with 213companies (27%) and there is another 8% in software application (Growth of SSO sector in MSC Malaysia, 2010).

The main idea behind the MSC is to assisting and helping the small and medium enterprises (SMEs) in transforming themselves into world class companies. With this, many commitments has been promised to support the development such as world-class infrastructure and the cyber law in order to attract more foreign and local investor to involved into the MSC program.

MSC Malaysia (Multimedia Super Corridor) program was launched by the former Prime Minister, Dr Mahathir Mohamad during 1990s with the main objective of accelerate the transformation on Malaysia into a modern state, the vision 2020. However, the main idea behind the MSC is to assisting

and helping the small and medium enterprises (SMEs) in transforming themselves into world class companies. With this, many commitments has been promised to support the development such as world-class infrastructure and the cyber law, in order to attract more foreign and local investor to involved into the MSC program.

The Share Services & Outsourcing (SSO) sector that with 180 companies nowadays has been growing strongly. According to the local and foreign investors' feedback, MSC Malaysia is active in SSO activities and currently which is higher value than China, India and Philippines (Growth of SSO sector in MSC Malaysia, 2010).

Figure 1.3 :The growth of MSC Malaysia over the recent year

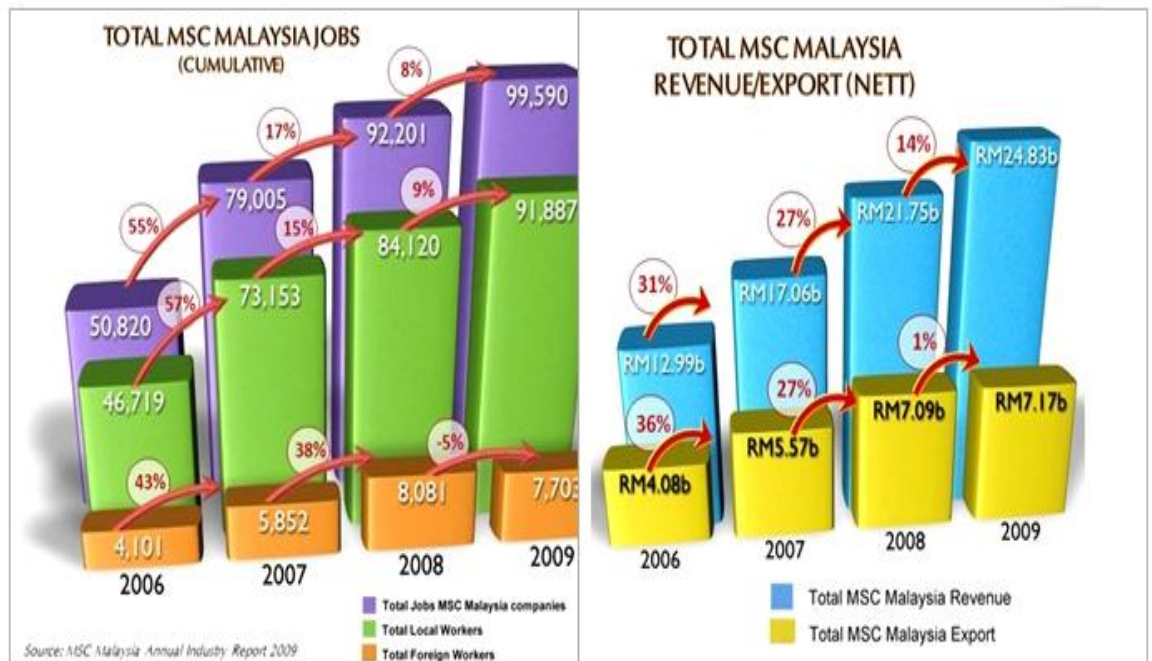


Figure 1.4 :The growth in the SSO sector over the recent years

Description	2006		2007		2008		2009	
	Industry Total	SSO	Industry Total	SSO	Industry Total	SSO	Industry Total	SSO
Revenue (RMbil)	12.99	3.19	17.06	5.34	21.75	6.18	24.83	6.39
Export (RMbil)	4.04	2.16	5.57	3.45	7.09	3.84	7.17	3.93
Jobs	63,907	22,852	79,005	32,449	92,201	37,438	99,590	38,032

Source: My Sinchew on April 19, 2010.

The introduction of SIRIM and MSC are significance in developing Malaysia economics and they are the key players in helping the growth in Malaysia's industry sectors. As conclude, both SIRIM and MSC are important to increase the confidence level of investors to invest in Malaysia and thus it will attract more investors enter into the IT sectors.

1.2 Problem Statement

Coming to the 21st century, technology has plays an important role in the new era of the business world which is quite competitive. Every sector is relying on the technology to managing the company day-to-day business operation either internal management or front-line services that dealing with customer. Thus, innovation is very helpful in improving the firm return and attracting customers as new technology able to provide an efficient and effective management on the company. According to Stoneman & Kwon (1996), they found that the firms that able to adopt in the technological change are able to gain advantages for its firm. The implementation or the innovation of a firm on technology contributed to

the company value and performance as the IT innovation able provide concrete benefit particularly at the process level instead of increase profit to the firm (Prasad, 2008). Moreover, Dehning et al. (2005) revealed that the innovative firm able to enjoy higher firm value than old firm industry.

Previous researchers have indicated that benefit gain from IT not only allowed firm to earn profit (Stoneman & Kwon, 1996; Geroski et al., 1993) yet it also improve the firm value and performance (Liker et al., 1999). The investment in IT is very important to a firm. Larsson & Malmberg (1999) indicate that profit can be generated when firm able to handle the technology that they investing. Understanding and discovering the background or internal information on the technology firm that company will choose for investing is the necessity due to the stability of the IT firm's services and performance will influence the company value and performance. Sabherwal (2005), he explains that the implementation of knowledge management (KM) able to improve the operation for organization and increase the firm value. However, if the IT firm unable to perform well, this will lead the company which making investment on IT sector incurs losses. The productivity paradox is occurring in all industry sectors whereby the productivity gain on a company is less although there is an increase expenditure on information technology (Peslak, 2003). Ramamani (2010) clarified that in order to have successful innovation the manager should considered the process and product level of the firm. Thus, Firm should make technology investment based on their needs; they should take care on its cost.

The firm should make sure the machines or the software products they invest are worth. For this, firm value of technology sector is the preference review for them to making investment. Firm's realized value can be measured from its Information Technology investment (Davern & Kauffman, 2000). In order to attract investors, the technology's firm value is the key element that we should examine. Chen (2000), the researcher found that the high debt technology company is influenced by the element

of firm size, cost variability, tax, research and development cost, and earning variability. Cash financing will increase the value in technology industry that participate in serial acquisition (Adavikolamu, 2008). The industrial policy has brought impact to the software industry in China (Li, 2007). Debt and equity usually being studied in the capital structure research paper (Myers, 2001). Overall, there is still an inadequate component to be examined in order to understand how the capital structure affects the firm value for technology sector. More variables should be found out and tested in order to derive a better perceptiveness on the performance of technology sector.

Malaysia is one of the developing countries in Asia. Therefore, Information technology is important to enhance the economic progress of the country. Perkins & Neumayer (2005), they mention that the developing country will grow rapidly with the diffusion of new technology. However, they also claim that international trade will increase under the condition when the technology diffuses faster. Despite, researchers and government are focus on policy and investment plan when decide for country economic growth. Example, “Look East” policy in 1980s had been implemented by Mahathir who Malaysia could achieve economic growth by learning the development strategy from Japan and South Korea (Furuoka, 2007). However, less of the studies deal with the relative firm performance on technology sector in improving the economic growth in Malaysia, and when they do so, they usually examined in the key elements for technological development to progress. Furthermore, there is a gap between the firm value of technology sector and the Malaysia economic growth.

In nutshell, firm value of technology indicated that the ability of technology firm to provide good services to other industry sector in improving the productivity. At the same time, it also indicated that how productive of the technology sector. Dollar et al. (2003) found that productivity is directly influence by the investment climate. They also

explain the firm able to grow if the return which influence by investment climate is high. Lee (2009), the author examined that FDI is correlated to the Malaysia output. Good performance on the IT sector is able to attract foreign and local investors involve into country project, local firms can save their cost and prevent the country risk and economic risk in importing the machine from foreign country like US and Japan as companies make long term investment in technology. Local IT sectors firm's value increase as investors have high confidence level toward local IT industry.

1.3 Research Objectives

1.3.1 General Objective

The main objective of this research is to provide in-depth understanding of how the firm's characteristics would affect the capital structure on software and computer services sector in Malaysia. The purpose of the present study is showing how the firm's profitability, tangibility, size, growth opportunity, liquidity, and leverage influence the firm value. Among all the six variables, which variable would investors and shareholders likely take into consideration in valuing of the firm. The specific objectives of this research are as follow.

1.3.2 Specific Objectives

The objectives of this proposed study are to:

1. Investigate the impact of firm's profitability on firm's value of technology industry sector in Malaysia;
2. Investigate the impact of firm's tangibility on firm's value of technology industry sector in Malaysia;

3. Investigate the impact of firm's firm size on firm's value of technology industry sector in Malaysia;
4. Investigate the impact of firm's growth opportunity on firm's value of technology industry sector in Malaysia;
5. Investigate the impact of firm's liquidity on firm's value of technology industry sector in Malaysia;
6. Investigate the impact of firm's leverage on firm's value of technology industry sector in Malaysia;
7. Investigate which variable has the strongest impact on firm's value of technology industry sector in Malaysia.

1.4 Research Questions

Seven research questions for the proposed study are:

1. Does firm's profitability have capability to influence the firm's value of technology industry sector in Malaysia?
2. Does firm's tangibility have capability to influence the firm's value of technology industry sector in Malaysia?
3. Does firm's firm size have capability to influence the firm's value of technology industry sector in Malaysia?
4. Does firm's growth opportunity have capability to influence the firm's value of technology industry sector in Malaysia?
5. Does firm's liquidity have capability to influence the firm's value of technology industry sector in Malaysia?
6. Does firm's leverage have capability to influence the firm's value of technology industry sector in Malaysia?
7. Which of the variables influence the firm's value the most in technology industry sector in Malaysia?

1.5 Hypothesis of the Study

In our study, we only include one independent variable which is firm value as known as return on asset (ROA). While, profitability, tangibility, firm size, growth opportunity, liquidity, and leverage are chosen as our independent variables. Here, we make a hypothesis either there is a significant relationship between these dependent variable and independent variables. We believe that at least one of the independent variables has positive effect to influent firm value.

1.6 Significant of Study

In our paper, we mainly focus on the relationship between the independent variable and dependent variable. We were testing how the profitability, tangibility, firm size, growth opportunity, liquidity, and leverage would likely to affect the firm value in capital structure. The overall of this study can be used by investor or marketer to determine among all the independent here, which has the most significant impact on firms' value in Malaysia.

Some researchers may use return on Asset (ROA) or return on Equity (ROE) as their dependent variable (Choi et al., 2010). In our research, the ROA variable had been chosen to represent firm value because of ROA bring a clear and simple message to readers how stable that the value of the particular sector or firm they have been invested (Ken, n.d.).According to Ken (n.d.), return on assets is an important metric which every investor should know, it measures how efficiently a company turns assets into net income, which are in returned to the investor.

According to NITC Malaysia (2010), the launching of MSC Malaysia (Multimedia Super Corridor) has resulted computers becoming a popular appliance in Malaysian homes. In view of that, we chose software and computer services sector in Malaysia as our investigate target. This research paper is

contribute to investors; corporate in Malaysia that would like to make investment on software and computer services sector and also to the government and economist who are implementing policy. Our research paper emphasizes on factor based on historical data from the year 2005 to 2009, this may also contribute to the foreign investor who are going to make investment in Malaysia about the growing trend in IT sector in the coming year.

Malaysia has been categorized as one of the potential countries which have a strong basis to formulating its own technological development on their own (Mani, 2000). Since Malaysia is a potential Asian country to move towards a technology driven and high technology production based pattern of development, it is important to find out how the firm's value effect on software and computer services sector. By knowing the important of firm value in the industry, the company may make improvement on its product and service delivery to customer.

In the paper of Modigliani & Miller (1958) , we just understand the most departures from Modigliani and Miller's assumption are capital structure is relevant to firm's value, and it is not at all clear how these facts relate to other countries. We found that factors identified by previous researchers are normally based on firms in United States, however, we do not know is the results are similarly correlated to other countries as well. In our paper, we attempts to establish whether capital structure in Malaysia is similar to the factors that influence the capital structure in U.S.

Moreover, IT has not only a normal strategic enabling tool but an important element to support our Malaysia economy. The important role of IT in the economy has been well stated in our paper and that it is a contribution to output and productivity growth in Malaysia IT sector.

1.7 Chapter Layout

Basically, Chapter 1 is the background of firm characteristics that affect firm value. While in Chapter 2, it will be the literature review of various theories in capital structure. Chapter 3 is the research methodology. Empirical results and data analysis are presented in Chapter 4 and lastly Chapter 5 concludes the findings and also provided recommendation and implication.

1.8 Conclusion

This chapter has explicated the background of the firm value and the broad idea about the firm value in IT industry Malaysia. It provides the sample of historical record in software and computer services sector to give a basic notion that related to Malaysia's IT industry. In the next chapter, we would like to review of relevant theoretical models that are applying in our research paper, and understand the effect on independent variables that would impact the firm value (ROA).

CHAPTER 2: LITERATURE REVIEW

2.0 Introduction

There are multiple factors or variables which are potential to be used as an investigation for firm value. However, the components on the financial statement or balance sheet of a firm had become the most critical element that should be taking into consideration. Profitability, tangibility, firm size, growth opportunity, liquidity, and leverage are popular to be reviewed for firm value investigation by previous researchers.

2.1 Review of relevant Theoretical Models

In the theory part, economist use some theory to explain that why the firm prefer using capital structure to investigate for firm value.

2.1.1 The Modigliani-Miller Theorem Proposition I (debt irrelevance proposition)

The relationship between stock market value (firm value) and firm financial decision had been questioned under the Modigliani & Miller (1958). Two sources that firm can get funding either from the shareholder equity or debt to run business. According to the MM-theory, the financial decisions are irrelevant in influencing the firm value. However, the financial decisions do correlate and effect to stock market value in reality. To make the evidence acceptable, Miller theorem involving few assumptions: (i) neutral taxes; (ii) Frictionless capital market; (iii) Investors can borrow or lend on the same terms as firms; (v) Existence of

risk classes; (vi) Absence of Bankruptcy; (vii) firm financial policy reveals no information. All the assumptions are important because it indicated that the debt or equity financing is similar in term of their cost. It also brings an idea of firm can “undo” the financial structure and the decision on holding of debt or equity. Moreover, Miller theorem also stress on the financing decision does not play the key in influencing the firm value if the assumptions hold. The question about the factor behind on affecting the firm value has raise. The firm value normally depends by the return itself based on MM-theory. The firm debt-equity ratio would affect the return on securities (Martin, 1981).

Merton (1977) remains his previous version of view that the capital structure is independent to the firm value; even the interest payment on debt can get an advantage in tax shield. However, the shareholder may face the problem on the bankruptcy cost which being claimed as the direct cost to the company when debt finance achieve at maximum level. The researcher further explained that bankruptcy cost and agency cost still exist and it does not relate to the tax saving. Merton (1988) convinces people that there is no difference on issuing securities for the firm in the “frictionless” world. The average cost of capital (WACC) would remain unchanged as the cost of cheaper debt capital will be counterbalance by the riskier equity capital.

The Modigliani-Miller Theorem Proposition I also been on the research paper of Neil (1981) that linked irrelevance proposition which had been highlighted by the MM theory to the government fiscal and monetary policy. Several assumptions had made related to the asset market that the government involved such as Open-Market Operation. The budget set is similar between every government portfolio with the arbitrage proposition (Neil, 1981). In addition, issuance various securities by a firm will result “leverage-irrelevance” (Myers, 2001). M&M irrelevance proposition depends on the arbitrageur’s action assumption (Grundy, 2001).

2.1.2 Pecking Order Theory

Pecking order theory also known as information asymmetry theory was originated by Myers (1984) and Myers & Majluf (1984) which it explained the financing behaviour of the firms in terms of their capital structure decisions. According to pecking order theory, there is no standard capital structure for a firm. Myers (1984) and Myers & Majluf (1984) further explained it by assumption in which the new private information that held by the insiders enabled the firms are better informed about the current value of the firms and their future progress compared to the outsider. Since the new information that held by insider does not revealed to outsider, it causes the asymmetry information. Myers & Majluf (1984) concluded that if the information were favourable to the management and by acting on behalf of the old shareholders, the firms would not issue the shares even there is a good investment opportunity. Thus, by following the pecking order theory, they choose internal financing. Due to the asymmetry information, investors always think that there is a good signal when a firm does not issue new shares. Therefore, it affects the price that investors would likely to pay for the issue. On the other hand, the firm that does not issues shares and grabs the investment opportunities at the right time causes the misallocation of capital that finally influenced the firm value (Myers & Majluf, 1984; Brendea, 2011).

Subsequently, Myers (1984) studied that the firm value is accounted by the option value on which the investment is used. By making the decision to finance the investment using risk free debt or no debt indirectly influenced the firm value. Naturally, the firm with utilization of risky debt would lead to valuable investment which contributes to firm market value. However, he stated that the firms would choose retained earnings as their first source of financing, then with safe debt, follow by risky debt and lastly with equity.

Krasker (1986) further studied the Myers & Majluf (1984) ideas by eliminating the assumption held by Myers & Majluf (1984) in which whether the investment opportunities exist or not with cash requirement fixed and known by investors, allowed the firm to choose not merely whether to issue stock and how much stock to issue. By filling the gap that Myers- Majluf model does not study on, he contributed a lot in relating and explaining the relationship between the stock price and the issue size by strengthening the model. He came out a conclusion that there is a negative relationship existed in the issuance of risky securities such as debt and equity. Besides, he also recommended that investors must analyse larger stock issues unfavourably than the smaller stock issues.

The research that studied about the factors that determine firm performance of New Zealand listed companies by Sarafova (2010) supported the pecking order theory in which the firm operating performance found to be negatively related to leverage (Myers, 1984). The author mentioned that the results indicate that the internal funds are preferable than external funds in financing the New Zealand listed companies' investment as the external funds are costly and risky. Therefore, the high cost of debt with high dividend yield would make sense based on the pecking order theory.

Based on the pecking order by Myers & Majluf (1984), Lee & Hurr (2009) had done their studies on the Korean listed non-financial firms. Consistent with the theory, the result shown the corporate debt ratio is adversely affected by ROA or cash flow in every sub-samples built by Lee & Hurr (2009) to examine the magnitude in terms of firm value and firm size around the period of Korean Financial Crisis in 2007. However, they found that coefficient of firm size is not statistically significant after Korean financial crisis. Therefore, they concluded that the roles played by the firm size as to reduce the information asymmetry weakens after the financial crisis as Korean financial market becomes more transparent.

2.1.3 Static trade off theory

Previous study from Modigliani & Miller (1958) was predicted a number based on unrealistic assumptions, and Modigliani and Miller introduced taxes into the model in 1963. Earlier models from Kraus & Litzenberger (1973) stated that optimal leverage reflects a trade-off between tax benefits of debt and bankruptcy costs. This led to balance out the corporate tax advantages of that against cost disadvantages of bankruptcy by using this approach (Kraus & Litzenberger, 1973; Kim, 1978).

Frank & Goyal (2005) claimed that there are two types of the trade-off theory: the dynamic and statistic trade-off theory. The static trade-off theory states that after trade off the interest tax shields of debt and the costs of financial distress determine the firms' optimal capital structure. The dynamic trade-off theory shows the firms' adjustment behaviour to the target debt ratio requires the firm's own a target debt ratio and achieve the target.

According to the static trade off theory firm is viewed as setting a target debt to equity ratio. This theory implies that the value of firm should be maximized by holding the firm's assets and investment plans, while minimized the costs to cash flow streams, such as agency costs, taxes, and bankruptcy costs (Carmen & Joseph, 2009). The firms are supposed to substitute debt for equity until the value of the firm is maximized.

Furthermore, static trade-off theory argues that book value of debt ratio and the optimal capital structure have probability to be positively correlated with earnings on assets before taxes and interest. With these arguments, when the firms are having high levels of profitability, they can protect more income which minimizes the danger of bankruptcy. Thus, according to static trade-off theory, the more profitable firms

should always maintain a high debt to equity ratio (Junaid-al-haq et al., 2011).

Moreover, previous researches have shown that the otherwise is true. For instance, there was study which conducted over 50 years in five countries show that although the firms with high profitability can shelter most of income, they still borrow the least (Baskin, 1989). Therefore, trade-off model is not entirely supported by empirical evidence, there is still some alternative to model of capital structure.

Corporate finance should be limited to debt financing when there is no compensation, (Brendea, 2011). When the firm relies on too much debt, debt reflects the cost of potential distress. To overcome this extreme measure, it takes some of the cost of debt and the most suitable in this respect would be the cost of financial distress (Frank & Goyal, 2005). The most important view of the trade-off theory is when the profitable firms less likely go to bankruptcy, they will use more debt and enjoy the tax advantages of debt (Myers, 2001).

2.1.4 Free Cash Flow and Agency Theory

The agency cost of free cash flow arises when there is a conflict between stockholders and manager. Theory of free cash flow developed by Jensen (1986) emphasizes on agency costs associated with free cash flows. It postulates that firm with high leverage tends to have high firm value, despite the threat of financial distress, when a firm's operating cash flow significantly exceeds its profitable investment opportunities (Myers, 2001). When a firm has free cash flow which is underutilized, it results an agency cost. Besides, he also claimed that 'debt' could be used to control and thus motivate managers to distribute the free cash among shareholders instead in engaging an unproductive investment or activities. It has been research and debate to understand whether there are truly costs

to free cash flow, yet the free cash flow theory did shift the focus away from earnings and towards the free cash flow concept (Drake, 2006). In contrast, Grossman & Hart (1982) argued that 'debt 'can push managers to work harder with fewer perquisites which make better investment decisions while bankruptcy is costly. Therefore, firm with higher debt ratio may harm the firm itself. However, it also increases the value of the firm by putting the firm on diet (Nadeem & Wang, 2011).

Based on the relevant theory above, the Pecking order theory is the most suitable and applicable for our research purpose. In general, the firm's financing behaviour is described by the theory. The decision of using debt or equity financing is depends on the manager because manager is the one that know more about the internal information of the company. Myers & Majluf (1984) argue that the extra payoffs can be prevented from issuance of securities. The firm value is directly affecting the firm value during assessment. The main point that Pecking order theory deriving is encourage the firm to use the internal resource rather than external resource due to the information asymmetry reason.

Based on our research, there are 50 IT firms was used as our relevant data after filtering. Each of the firm size might be different; their financing and capital structure is not similar as each other, even the efficiency of information on the firm that flow within the market also dissimilar. Nowadays, the economic is in an unstable and fluctuate condition, the market efficiency as stated in MM-theory is assumed not to appear. Besides, agency cost usually happened in firm when stakeholder know more about the internal information and control the resources. Thus, the capital structure that determines the firm value should not just only focus on either debt or equity, but it should also taking the consideration on internal resource. To be more convince, the independent variable (profitability, tangibility, firm size, growth opportunity, liquidity, and

leverage) indirectly attached to the theory. It is because they can be fund by using internal resources instead of debt or equity. Moreover, due to asymmetric information the management on manager is important; the profitability and the cost from the asset or securities should be managed and controlled by manager. Thus, the value of a firm more likely depends on the management efficiency.

The MM- theory and Static trade off theory is not favourable to be applied to support our research objective. There are many assumptions and proportions irrelevant to be implemented in the MM-theory, the theory assume that the market is highly efficient and the information is asymmetric. Referring to the history of IT sector, IT is the most volatile sector as compared to the other sectors because innovation continually is needed. Moreover, MM-theory similar to static trade off theory which are more focus on the determinant of optimal capital structure between debt and equity but both theories denied the internal resource. The static trade off theory explain that the debt and equity financing normally partly used by the firm. The volume ratio between debt and equity is being pay close attention so that a firm is optimizing its overall value. Besides, the free cash flow and agency theory is also not relevant for our research purpose. This is because the theory is not stress on the component in the capital structure but it is more likely to explaining the conflict between stakeholder and shareholder. In nutshell, the Pecking order theory is the most suitable theory for our research due to its broad interpretation ideas on the capital structure that influences the firm value.

2.2 Review of the Literature

2.2.1 Firm Value

2.2.1.1 Return on Asset (ROA)

Return on asset is accepted as a widely used financial measurement of firm and corporate value (Leckey, 2011; Lin et al., 2005; Ebaid, 2009; Chen, 2010; Onaolapo & Kajola, 2010). It is a measure of management's efficiency in utilizing all the assets under its control, regardless of source of financing.

Leckey (2011) studied on the IT investment by using panel data set of 15 banks in Ghana over a period of 10 years from 1998 to 2007. The studies seek to indicate the effects of investment in information technology on the profitability and firm performance by using the Balanced Scorecard (BSC) framework in banking industry. He found that IT investment does not increase the return on asset. In contrast, as the IT expenditures increase, it lowers the return on assets. However, he explained that it was due to the increases in expenses which increase in assets and reducing the operating profits at the same time, therefore resulting in declining in return on assets which affects the bank's performance in Ghana. Furthermore, the author also explained that as the expansion of bank's branches and high competition in the industry, the return on assets is relatively low. Therefore, he concluded that the effects of investment in IT on rising the return on assets for high IT banks is greater than low IT banks.

Another stream of research work focus on the impact of capital structure choice on firm performance in Egypt as one of emerging or transition economies in the research of Ebaid (2009). Multiple

regression analysis is used in the study in estimating the relationship between the leverage level and firm's performance during the period of 1997-2005. Ebaid (2009) examines the relationship of capital structure (leverage) and firm performance (ROA). In his studies, he used three accounting measurement for the financial performance such as return on asset (ROA), return on equity (ROE) and gross profit margin (GM). The studies contributed the result as there is negative impact of short-term debt (STD) and total debt (TTD) on financial performance in terms of ROA measures. Besides, the author also tested that there is no relationship between the long-term debts (LTD). Therefore, he concluded that capital structure impacts negatively the firm's performance measured by ROA.

The agency cost theory predicts that higher leverage is expected to lower agency costs, reduce inefficiency and therefore lead to improvement in firm's performance. In the studies of Nigeria Stock Exchange (NSE) data, Onaolapo & Kajola (2010) use ROA as the proxy for performance measures. The study comprises a dataset of thirty non-financial firms starting from year 2001 to 2007 and analyzed by using the Ordinary Least Square (OLS). However, the result shows that firm's capital structure have a negative impact on its financial performance. Since it is consistent with the agency cost hypothesis, it can be explained that firm tend to over-leveraged themselves due to agency conflicts between a firm's stakeholders which cause negative financial performance. Therefore, the firm's capital structure is an important determinant of firm's value.

Both Lin et al. (2005) and Chen (2010) focus their studies in Taiwan's banking and tourism industry respectively. In view of Taiwan's banking industry, Lin et al. (2005) explore the relationship between capital adequacy (CA) in assessing on IR and

financial performances (ROA) by applied the index of insolvency-risk (IR) to the failure risk in Taiwan's banking. In their studies, it comprises new-private banks and state-owned banks for the weekly sample's period from 1993 to 2000. They regressed the results by using Ordinary Least Square and Weighted Least Scale (WLS). There are positive relationship between the CA and the IR index, and a significantly positive relationship exists between the CA and various financial performances. On the other hand, the authors also concluded the negative relationship between insolvency risk index and financial performance. This revealed that the lower the insolvency risk, the better the financial performance. When return of assets (financial performance) is higher, it shows operational efficacy is high, hence it enhance the firm value.

As for studies on tourism growth and economic factors in affecting the corporate performance of tourist hotels in Taiwan, Chen (2010) gathered the financial variables and stock performance for eleven years (1997-2008) by considers occupancy rate (OPR), ROA and ROE as their corporate performance's measurement. Chen (2010) concluded that both economic factors and tourism growth have positive impact on the hotel's ROA. Yet, only the tourism growth is statically significant. He explained that it is due to the profitability of the hotels are closely related to the industry factors rather than the economic factors. Besides, economic factors and industry factors are positive and significant independent variables of the overall hotel's firm value. This can be explained that the firm value can be improved if the economic performance of the country and development of tourists market are good.

2.2.1.2 Return on Equity (ROE)

Besides ROA, there are many literature measure used return on equity as an accounting measure of firm performance (Berger & Udell, 2002; Uadiale, 2010; Choi et al., 2010; McGowan et al., 2011; Pombo & Gutiérrez, 2011). A survey had been conducted by Castelli et al. (2012) based on Italian samples consisted of 4,680 manufacturer firms which have ten or more employees. They examined the relationship between the number of bank relationship and firm's performance. The number of bank relationships increases as the firm performance (ROE) declined especially in smaller firms. This is due to fewer bank relationship minimize the agency problem, information asymmetries, and outweigh hold-up problems. Besides, the authors also found that as the number of relationships increases, it also increases the interest expenses over assets, which indicates more borrowing or high interest rate incurred.

An analysis related to bank was done by McGowan et al. (2011) which the paper developed a model based on the DuPont system of financial analysis. The DuPont system is derived from the analysis of return on equity in which it consists of operating efficiency, asset use efficiency and financial leverage. The research measured the performance of Bank Al Bilad, an Arabian financial institution covered from the period from 2005 to 2009. However, the authors observed that the Bank Al Bilad relied heavily on debts to increase the return on equity, but not sales, income from banking operations and profit margin.

In examining the impact of board structure on corporate financial performance in Nigeria, Uadiale (2010) used return on equity as their firm performance measures to investigate the relationship between the board characteristics and corporate performance. The

author found that there are positive relationship between outside board director and the firm performance. However, the effect of directors' shareholding is negatively related to the firm performance. In the literature with respect to the same analysis on board structure, Pombo & Gutiérrez (2011) studied the Colombian business group which consists of 244 private firms and 285 non-financial business groups for the period 1996 to 2006. They found that the ratio of outside directors and degree of board interlocks are positively related with the return on assets on firms. Yet, return on equity acts as the robustness checking was not focused by them due to the heavy dependence on the firm capital structure.

2.2.1.3 Tobin's Q

Other than ROA there are alternative measures for firms' performance such as Tobin's Q Test. This ratio shows the all companies on the stock market should be approximately equal to their replacement costs (Safarova, 2010). The ratio is calculated as the market value of a firm divided by the assets value. When the value of the Q ratio is between zero and one it means costs involved to replace the company's assets are greater than their market value. However, Smirlock et al. (1984) said that when Tobin's Q ratio is greater than one indicates the company has high growth potential, higher market value and lead to better firm performance.

In the other hand, Holmes (2010) indicated that Tobin's Q is based on a company's equity book value and market value of a firm's stock. However, he said to increase more investment, Tobin's Q should have high value. To measure Tobin's Q ratio, it is important to adopt a variable called market value of debt (Adekunle & Sunday, 2010). Tobin's Q is not used in this study because market

value of debt is not provided by the selected firms. Besides, some researches such as Zeitun & Tian (2007) found Tobin's Q ratio were not a good performance measure.

2.2.2 Capital structure

2.2.2.1 Profitability

Profitability has always been used as one of the independent variables in the determinants of capital structure in affecting the firm value and confirms that profitability and capital structure is related (Pandey, 2004; Jong et al., 2008; Rajan and Zingales, 1995)

The relationship between the profitability and leverage is ambiguous (Frank & Goyal, 2003). Chakraborty (2010) include two theories which is pecking order theory and static trade-off theory to explain the relationship in his case of India. According to the pecking order theory, firm use only the external financial after utilized the retained earnings. In other words, the firm with higher profitability tends to choose the internal sources of financing which give a negative relationship between leverage and profitability. The result of the analysis is consistent with the pecking order theory which suggested the negative relationship between leverage and profitability (Rajan & Zingales, 1995; Chen, 2004). Rajan & Zingales (1995) and Chen (2004) argued that equity financed is preferred than debts. The listed firms are more attracted to the equity financing due to the capital gains in the market. Issuance of shares has become the easiest way of getting the sources of financing. In contrast, the static trade off theory suggests the profitable firm would prefer debt than other sources due to the tax shield benefit. Hence, this theory comes out with positive relationship expected between profitability and leverage. However, Myers (1977) explained that the firm's value is maximized

whenever the cost of issuance the debt and equity is minimized in terms of agency cost and cost of external equity.

In the literature with respect to the same analysis, Bas et al. (2009) further extend his studies to examine the differences of capital structure decisions in small, medium and large firm as compared the previous studies that only focus on the large listed firms. He argued that the importance of profitability is confirmed regardless of how the firm defines according to the capital structure theory. Small, medium and large firms uses the maturity matching principle and pecking order on their debt financing decisions while listed firms prefer equity financing to long term debt financing.

Pandey (2004) used the listed company on the Kuala Lumpur Stock Exchange from 1993 to 2000 to examine the relationship between capital structure and market structure. He conducted the GMM method for their panel data to estimate the results. The result shows a saucer-shaped relationship between capital structure and profitability due to the involvement of agency costs, costs of external financing and the interest or tax shield. He also explained that firms with higher profitability are able to intense competition to exploit in the market by increased borrowings to expand their output which resulted in the growth in firm value. It is also an advantage that the profitable firms able to shield from taxes.

Based on the reviewed article, we concluded that the profitability is positive related to the firm value.

2.2.2.2 Tangibility

Firm performance has negative relationship with tangibility. According to Mahakud & Misra (2009), there are two reasons behind to explain this negative relationship. First, it was due to firm did not fully utilize the asset to reach the maximum production which can enhance firm daily business operation efficiency. Second, the cost of borrowing on fixed asset will become the heavy leverage for the firm.

The tangibility is negatively related to firm performance had proved when the collateralization of fixed asset did not been valued well in India under the research of Mahakud & Misra (2009). However, Rajan & Zingales (1995) was found that tangibility is an important determinant of capital structure.

On the other hands, there are some previous empirical studies found that firm value in term of their leverage is positively associated with firm tangibility. The findings are in line with Schmukler & Vesperoni (2006), Agca et al. (2007) and Fan et al. (2010).

In contrast, Morri & Beretta (2008) found that tangibility of assets is negatively correlated with short-term debt but positively correlated with long-term debt in US real estate investment trusts (REITs). It is due to the investors are more willing to lend long-term debt when a greater portion of the assets are fixed as provides a security on liquidation, thus the probability of recovering the investment is higher. In the study, REITs usually holding their properties for a long time, the chosen of long-term debt allows them to match their assets and liabilities better. Besides that, since the growth opportunities are usually in the form of intangible

assets, we can draw a conclusion that there is negatively related with asset tangibility.

Based on the reviewed article, we concluded that the tangibility is negative related to the firm value.

2.2.2.3 Firm Size

Firm size is considered to be a crucial characteristic of the capital structure. Therefore, firm size has always been used as one of the independent variables in the determinants of capital structure in affecting the firm value (Mahakud & Misra, 2009).

According to Mahakud & Misra (2009), the size is positively impact on firm performance. This is because bigger firm able to produce in cheaper financial sources while it is hard for small firm to rise funds from market less costly. Besides, large company able employed the best managers for management as the greater benefit was offered to them. The authors also found that the performance of firm was not influenced when using lagged value of the size. In addition, big firm have the ability of market power will increase the performance of firm (Majumdar & Chhibber, 1997).

In the study of Jong et al. (2008), support the impact of firm size is strong and consistent with standard capital structure theories across a large number of countries. In the study, firm size acts a reverse proxy for chances of bankruptcy. Larger firms tend to have lower probability to face financial distress and default risk. In the other hand, firm size can also acts an inverse proxy for costs of bankruptcy. The smaller firms are expected to be financed less by debt because of the relatively larger information asymmetry problem. Thus, firm size has a positive effect on leverage. The study found that the impact of firm size on cross-country capital structure is consistent and significant related to leverage while each

country are not significantly with the prediction of capital structure theories.

Besides than positively correlated, there are studies shows that size is negative related to performance. Islamic banks of Malaysia are also consistent with the agency cost hypothesis and size of the bank is negatively correlated with the bank's performance (Pratomo & Ismail, 2007).

Based on the reviewed article, we concluded that the firm size is positive related to the firm value.

2.2.2.4 Growth Opportunity

Broad cross section samples with 17 years of period was used by Chauvin & Hirschey (1997) in their paper to investigate what are the possible factors that enable to influence the effect of growth on the current firm's market value. From the results, future investment is not a good market structure to influence the effect of growth. However, other variable which is market share, advertising and R&D expenditure was interactive effect with growth. In overall, there is only a small positive or statistical significant between growth and firm's market value.

Different geographical areas have different findings; Gurunlu & Gursoy (2010) had used the pooled data set of 286 Turkish non-financial firms listed in the Istanbul Stock Exchange (ISE) for the year 2007 to 2008. As a result, they found out growth is a well proven determinant to influence ownership structure on capital structure.

According to Bokpin (2009), there is a positive relationship between growth opportunity and firm value. In the paper, author has found out some interesting findings regarding the impact of macroeconomic factors on the capital structure decisions of firms. His data consists of 34 emerging market countries from the period 1990 to 2006 and the result was argued that firms with growth opportunities will utilize external financing and choice of external financing may increase the financial leverage hence the negative relationship. Besides, he found that bank credit is significant in predicting capital structure decision of firms, thus the development in the banking industry has significant impact on firms' capital structure choices.

As growth opportunities constitute an important part of firm value. Hao et al. (2011) further investigate the effect of investment growth on the relation between firm value and accounting variables. They found that growth opportunity may increases the firm value in high profitability firms which means there is only consistent with growth having positive NPV. For the lower profitability firms, there is a negative effect in between the growth opportunity and firm value, it shows that the result is no longer consistent with growth that having non-positive NPV.

Based on the reviewed article, we concluded that the growth opportunity is positive related to the firm value.

2.2.2.5 Liquidity

According to Suhaila et al. (2008), there is negative relationship between liquidity of the firms and its debt ratio. It is because they believe on firm with high liquidity will tend to use less debt since high liquidity can generate more income to finance their

operations and investment activities. Compared with low liquidity firms, they tend to go for debt in financing their activities. High debt ratio will lead to bad firm performance thus it is proven that liquidity is significant to firm performance. This result is inconsistent to Kinsman & Newman (1999) observe a significant negative link between firm performance and liquidity by using different type measures of performance on a sample of US firms while Diamond & Rajan (2000) which argue that liquidity is a function of the degree to capital structure in US.

From the recent study, an important challenge which applies illiquidity measurements to examine the illiquidity proxies in asset pricing literature in the Chinese stock market was done by Wong & Kong (2011). They were constructed illiquidity measures as benchmark based on available intra-day data of the Chinese stock market and evaluate the suitability of proxies of illiquidity prevalent in the asset pricing literature. The result was shown that turnover is a better illiquidity indicator and provides strong explanatory power in the asset pricing models of China's stock market. Consistent with Zhang & Liu (2006), there is a negative relationship between turnover and expected return. As a result, the aggregate illiquidity of the market may affect the expected return of individual stocks.

On the other hand, Boulton et al. (2010) indicate that investors pay higher prices for financial assets if managers and shareholders focus on investors' wealth, which means that stronger investor protections lead to positive outcomes. They find that initial public offerings (IPOs) with greater after-market liquidity have lower underpricing or in other words the higher firm values, the greater market liquidity. However, the results is inconsistent with Booth & Chua (1996) findings, they argue that the more underpricing

shares, firms may attract more investor and leads to higher after-market liquidity.

Different in Manconi & Massa (2009) findings, they study on how the organizational complexity affects capital structure and firm value. From their results, it shows that information asymmetry will increase from the complexity of the firm's organizational structure. Further, they also found that organizational complexity will decrease the value of equity and value of asset. However, they argued the findings of Holmstrom & Tirole (2001) which stated that information asymmetry reduces liquidity and illiquidity increases the required return on the stock, thus reducing firm value.

Based on the reviewed article, we concluded that the liquidity is positive related to the firm value.

2.2.2.6 Leverage

Leverage is the most often variable that used to be investigated under firm value. However, the relationship of leverage and firm value is ambiguous because the relationship can be negatively or positively related. The decision on leverage or cost of capital is either to achieve the goal of maximization of profit or maximization of market value Modigliani & Miller (1958).

According to Iturriaga & Crisostomo (2010), leverage plays a dual character in affecting the firm value while there are two hypotheses were stated in their research. First, the firm value is negatively related to corporate debt if the firm with growth opportunities. Second, the firm value is positively related to corporate debt if the firm without growth opportunities. Besides, Iturriaga & Crisostomo (2010) also discovered that the leverage which is indirectly

influence the firm value is affected by the current investment that the firms make.

In the research of Mahakud & Misra (2009) found that the leverage was negatively impact on the performance in India company, the result reflected that the high leverage will incurred restriction on financial flexibility. Mahakud & Misra (2009) also mention that the high leverage ratio bring a meaning of high agency cost and interest burden which would be the obstacle for manager to perform optimally in the India market. The result is similar to the research paper of Ghosh & Ghosh (2008), they found that there was negative impact on growth of future firm value in India as the leverage increase due to the potential conflict equity holder and stakeholder. Myers (1977) demonstrated that the motivation manager to sacrificing the investment projects is high as too much debt on firm value.

However, Iturriaga & Crisostomo (2010) proved leverage is positively impact on firm value when firm lack profitable project. This is because the prevention on manager from incurring wasteful expense is achieved when free cash flow had been reduced. The point is supported by Jensen (1986), shareholder and manager would have conflict as substantial free cash flow is generated in the organisation; manager who hold the free cash flow might not disgorge the cash while wasting it on organization inefficiencies. On other hand, Jensen (1986) revealed that the free cash flow would have exceptionally good performance unless the free cash flow is for the acquisition purpose. Innovations bring better performance to the firm. Thus, leverage is core assistant for the expenditure on R&D in the research paper's (Majumdar & Chhibber, 1997). They also explained based on the Modigliani-Miller (MM) idea that firm value is positively related to level of

debt with the assumption that capital market are efficient enough to avoid investors to arbitraging the market.

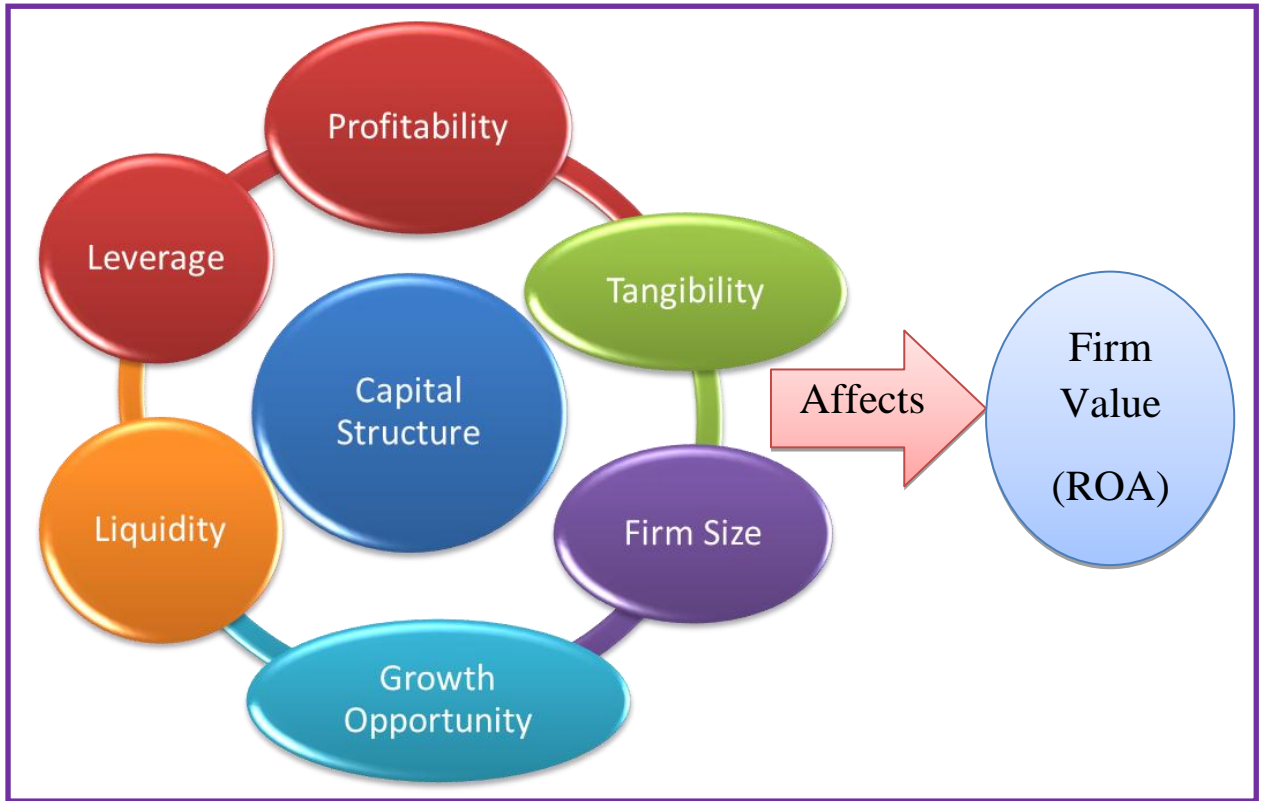
According to Li et al. (2009), state-owned firms and the firm in better developed regions having a good performance with the long term debt while firm foreign ownership have an adverse result to the leverage. However, Modigliani & Miller (1958) revealed that the firm value is unrelated to financial leverage in less frictional world, but it is positively related in the world with tax-deductible interest payment (Hatfield et al., 1994).

However, Ghosh (2008) which applying the data in India's manufacturing sector from 1995 to 2004 indicated that the return and cash flow of firm is negatively related to leverage. While in the international debt market, the foreign debt does not affect firm performance unless the firm involved in exporting; Ghosh (2008) founded the traded sector is able to generate profit and benefit from foreign financing.

Based on the reviewed article, we concluded that the leverage is positive related to the firm value.

2.3 Theoretical Framework

Figure 2.1 shows the determinants of capital structure affect firm value.



The diagram above showing the factors that involved in capital structure effect the firm value (ROA). In our research, the factors that have been taken into consideration are profitability; tangibility; firm size; growth opportunity; liquidity; and leverage. Those factors are independence variables while the dependence variable is ROA were being tested and investigated in our research. We examine the relationship between dependence and independence variable. We also provide related articles for reviewing purpose as well as supporting our research.

2.4 Hypothesis on Dependence variables

2.4.1 Profitability and firm value

The pecking order theory and static trade-off theory are related theory that used to explain the profit. The ideas of two theories are correlated to the resource expenses cost that used to run business and it also included the agency cost. Costs bring the major impact in influencing the profitability of the firm.

Basically, most of the reviewed articles showed the positive relationship between profitability and firm value by using pecking order, static-off theory or capital structure theory (Chakraborty, 2010; Pandey, 2004; Bas et al., 2009).

According to the explanation of Pandey (2004), the firm with high profitability would able to exploit in the industry they involved in by relating the involvement of agency costs, external financing costs and tax shield. The profitable firms would probably borrowed more to expand their outputs. Therefore, it enhances the firm earnings and increased the firm value.

However, Armen et al. (2003) proved that there is a negative relationship between profitability and firm value by interpreted the importance of firm profitability and stock market performance in explaining the corporate debt ratios and the financing choices of firms that raise external funds. This paper derives its conclusion from two sets of regressions and the results show that profitability has no effect on leverage. They found that unprofitable firms may offset the excess leverage by issue the equity. Thus, profitable firms do not seem to be offsetting the accumulated leverage deficit by issuing debt. They suggested that firm profitability is not a good

determinant to evaluate firm value as it is all depends on the firms' internally generated fund.

Although the results from Armen et al. (2003) is argued by other researchers, but based on the most reviewed article, we expect to see that profitability has positive relationship to firm value.

H0: Profitability and firm value are not significant

H1: Profitability and firm value are significant

2.4.2 Tangibility and firm value

Based on our literature review, previous researcher found that the relationship between tangibility and firm value is negative because the firm does not applied assets effectively.

Both Mahakud & Misra (2009) and Rajan & Zingales (1995) suggested a negative relationship between tangibility and firm value as the firm did not fully utilize the asset to maximize production which can enhance firm daily business operation efficiency. Furthermore, the costs of borrowing on fixed asset were an issued as it is a load for the firms. Thus, we expect that tangibility is negatively related to firm value.

H0: Tangibility and firm value are not significant

H1: Tangibility and firm value are significant

2.4.3 Firm size and firm value

The relationship between firm size and firm value is argued by researchers. Some senior researcher mentioned that the firm size is not connected to the firm value. However, some of the researchers proved that the firm value is negatively related to firm size because of the agency costs rising. While

most of the researchers show that the relationship between firm size and firm value is positive because of fully utilising asset.

The studied of Mahakud & Misra (2009), Jong et al. (2008), and Majumdar & Chhibber (1997) proved that there is a positive relationship between firm size and firm value. Mahakud & Misra (2009) mentioned that the larger firms would tend to employ the best personnel for management as it brings greater benefit in terms of decisions and performance that enhances the firm value. Majumdar & Chhibber (1997) also explained that firm size and firm value are positive related in terms of the market power as the larger firm has the ability to exploit the market that will increase the performance of the firms. Larger firms would tend to have lower probability of financial distress and default risk while the smaller firms are tend to have more liquidity problem as they are expected to be financed less by debt because of the relatively larger information asymmetry problem (Jong et al., 2008).

Yet, there is a negative relationship suggested by Pratomo & Ismail (2007) by the argument that Islamic banks of Malaysia are consistent with the agency cost hypothesis and size of the bank is negatively correlated with the bank's performance.

Due to the lack of article reviewed on the negative relationship between firm size and firm performance, we expect that the firm value has positive relationship to firm size.

H0: firm size and firm value are not significant

H1: firm size and firm value are significant

2.4.4 Growth opportunity and firm value

The positive relationship between growth opportunity and firm value has been verified by researchers with the assumption that the NPV of the firm is positive (Hao, et al., 2011). However, the firm with negative NPV is no longer and consistent effect the firm value by the factor of growth opportunity.

In the investigation of Chauvin & Hirschey (1997), the future investment is not a good market structure to influence the effect of growth. However, other variable which is market share, advertising and R&D expenditure was interactive effect with growth. There is only a small positive or statistical significant between growth and firm's market value in their paper but growth is a well proven determinant to influence ownership structure on capital structure in Gurunlu & Gursoy (2010) paper in pooled data set of Turkish non-financial firms listed in the Istanbul Stock Exchange (ISE).

Bokpin (2009) also proved that there is a positive relationship between growth opportunity and firm value. However, there are some interesting findings regarding the impact of macroeconomic factors on the capital structure decisions of firms. He argued that firms with growth opportunities will utilize external financing and choice of external financing may increase the financial leverage hence the negative relationship. Moreover, bank credit is important in predicting capital structure decision of firms, thus the development in the banking industry has significant impact on firms' capital structure choices.

Thus, we expect that the growth opportunity and firm value is positively related.

H0: growth opportunity and firm value are not significant

H1: growth opportunity and firm value are significant

2.4.5 Liquidity and firm value

Difference researchers might have difference method in measuring the performance of firm especially in the factor of liquidity. But, most of previous researchers stated that the liquidity able to bring positive result to firm performance due to funding resources might be got easily.

Prasit et al. (2011) examine how the firms' liquidity influences capital structure decisions in Thailand. They found that Thai firms that enjoy more liquidity are expected to have less debt in their capital structure. The results show that firms with more liquid equity are significantly less leveraged and better firm value which is consistent with our hypothesis.

Similarly in Malaysia, Suhaila et al. (2008) show there is a negative relationship between liquidity of the firms and its debt ratio and positive relationship between firm's liquidity and firm's value. From the quick ratio, we know that the ability of the firm is deal with its short term liabilities. They proved that firm with high liquidity is tend to use less debt while firm with high liquidity is able to generate high cash inflows and return. Therefore, high liquidity firm with better firm value tend to use less debt compared to those firm that have low liquidity. This result has been suggested in "pecking order" theory. Thus, we expect that the liquidity is positively significant to firm value.

H0: liquidity and firm value are not significant

H1: liquidity and firm value are significant

2.4.6 Leverage and firm value

The impact for leverage to firm value is quite ambiguous, various type of debts such as foreign debt; short term debt or long term debt might be categorised in leverage. Many of the research might provide vague answer

in explaining the relationship between the leverage and firm value. Some of the researcher mentioned that the leverage is negative related to firm performance as leverage being treats as cost which does not been utilised effectively. However, a positive relationship between leverage and firm value is discovered as leverage being treats as funding resources and effectively used to earn profit.

Iturriaga & Crisostomo (2010) came out two hypotheses that suggested that leverage plays a dual character in affecting the firm value: the firm value is negatively related to corporate debt if the firm with growth opportunities; the firm value is positively related to corporate debt if the firm without growth opportunities. In the paper of Iturriaga & Crisostomo (2010), they discovered that the leverage which is indirectly influence the firm value is affected by the current investment that the firms made.

Mahakud & Misra (2009) and Ghosh & Ghosh (2008) also found that leverage and firm value are negative related. The high leverage will incurred restriction on financial flexibility and thus result in declined of firm value as agency costs and interest burden would affects the firm performance.

On the other hand, Jensen (1986) proved that leverage is positively impact on firm value when firm lack of profitable project. Iturriaga & Crisostomo (2010) further support Jensen (1986) due to the prevention on manager from incurring wasteful expense is achieved when free cash flow had been reduced. Shareholder and manager would have conflict as substantial free cash flow is generated in the organisation; manager who holds the free cash flow might not disgorge the cash while wasting it on organization inefficiencies (Jensen, 1986). In addition, he revealed that the free cash flow would have exceptionally good performance unless the free cash flow is for the acquisition purpose.

Thus, we expect that the leverage is positively affect firm value.

H0: leverage and firm value are not significant

H1: leverage and firm value are significant

2.5 Theories of Capital Structure

The capital structure is how a firm finances its overall operations and growth by using different sources of funds such as company's long-term debt, specific short-term debt, common equity and preferred equity.

Capital structure can be defined in different ways. In US, it is common to define capital structure in terms of long-term debt ratio. Many companies particularly in the emerging markets employ both short-term and long-term debt for financing their assets, including current assets and fixed .It is also common for companies in developing countries to substitute short term debt for long-term debt and roll over short-term debt.

In Malaysia, Pandey (2004) found that capital structure and market power normally measured by Tobin's Q. Tobin's Q shown to have a cubic relationship, due to the complex interaction of market conditions, agency problems and bankruptcy costs. Somehow, consideration of the choice between debt and equity financing has been directed to seek the optimal capital structure, Under the agency costs hypothesis, a high leverage tends to have an optimal capital structure and therefore it leads to produce a good performance, however the result is argue with Modigliani-Miller theorem which proven that it has no effect on the value of the firm.

In term of International Evidence, the less leverage used, more profits is earn by firms. Firms with more investment opportunities will normally apply less leverage. From the research, it also shows that leverage has closely relation to the tangibility of assets and the volatility of a firm's earnings (Drobetz & Fix, 2003).

CHAPTER 3: METHODOLOGY

3.0 Introduction

According to the Zikmund (2003), research methodology is a discussion within the body of research report of the research design, data collection, sampling techniques, fieldwork procedures, and data analysis efforts. Keeping in view the important of technology sector, this paper investigate the firm value in Malaysia technology sector by using ROA as dependent variable which expressed by net income divided by total asset. The other chosen independent variables are profitability, tangibility, firm size, growth opportunity, liquidity, and leverage.

The data set of this study is composed of 50 software and computer services firms in Malaysia for the period of 2005 to 2009 which the data are mainly come from DataStream database. In this context, panel data model is used to find out the impact of capital structure on firm value in technology sector. In general, the purpose of this chapter is to generate the major methodology used to test the hypotheses that develop in chapter 2.

3.1 Research Design

It is a quantitative research where can indicate the current firm value of Malaysia technology sector in term of ROA. This study presents interesting findings on how capital structure effect firm values and showing how the independent variables impact on firms' capital structure significantly and insignificantly. All the data for analysis can be gathered from DataStream database and panel data method were used in our research.

The reason we choose panel data models is because panel data is more flexible and they provide a better substitute methodology for financial time series cross sectional data (Josef & Rosa, 2005). Since unobserved heterogeneity is a common problem that occur in time series data method , panel data models which is more informative, more degrees of freedom and carry less collinearity among the variables are allow to control this problem (Muhammad & Adnan, 2010). Mahakud & Misra (2009) use panel data analysis in their research and they proved that panel data is an efficient instrument to control for endogeneity and able to control the firm specific effects which are unobservable. Therefore, we apply the panel data estimator in our research which suggested by the authors.

3.2 Data Collection Methods

The variables used in the research are profitability, tangibility, firm size, growth opportunity, liquidity, leverage and dividend. In order to find the relationship between the chosen independent variables and dependent variable, we are using some measurement to calculate the independent variables. Selected independent variables are measured as follows: Profitability is defined as profit before interest tax and depreciation divided by total asset; Tangibility is defined as fixed assets divided by total asset; Firm size is measured by natural logarithm of net sales; Growth opportunity is percentage change in sales over the year;; Liquidity is defined as current ratio which is total asset divided by total liabilities; Leverage is defined as total debt divided by equity and last dividend is defined as dividend paid divided by net income.

The data are all come from the financial statement of listed Malaysian firms derived from DataStream database. There are more than 100 of companies are listed in DataStream database; however, after considering the missing data, there were only 50 companies are available for further analysis.

3.2.1 Secondary Data

Secondary data are used for research that was not gathered directly and purposefully for the project under consideration (Hair et al., 2007). Secondary data collection method and panel data analysis has been used in our research as they are more appropriate with our research setting and aligns with our research objective. This is because secondary data is the best method of getting information regarding a particular area where the direct collection of data is impossible. In this research study, secondary data are gathered through web based internet, books, academic journals from previous researchers and some articles on the relevant sectors.

In this paper, the source of data is come from DataStream which chosen 50 Malaysia's software and computer services firms as sample size for the period 2005 to 2009 while for the theoretical part, it is all come from the articles review from previous researchers. The online database, which included ProQuest and Google, was utilized in this research to assess plenty of articles and journals internationally. By using secondary data collection method, it provides a larger database than what would be possible to collect on one's own. Thus, we are able to save time that would otherwise be spent collecting data.

3.3 Sampling Design

3.3.1 Target Population

The technology sector in Malaysia has been chosen as our investigate target. At the first glance, we had 60 software and computer service firms from data stream. However, after we managed the data properly, we found that there are some firms have missing data in few years. For instance, net income, total assets, cash flow and so on for few firms was not found in

year 2005. Therefore, after we eliminated the 10 samples which had missing data, now our sample size was only 50 software and computer service firms in Malaysia will be selected and 5 year annual report which is from 2005-2009 for each sample will be examined.

Sampling is the process of using a small number of items or parts of large population to make conclusion about the whole population (Zikmund, 2003). Due to the limitation of budget and time constraints, a sampling method was used to conduct this research project.

3.3.2 Sampling Frame and Sampling Location

Sampling is the process of using a small number of items or parts of large population to make conclusion about the whole population (Zikmund, 2003). Due to the limitation of budget and time constraints, a sampling method was used to conduct this research project.

3.4 Data Processing

Our research has included a dependent variable which is return on asset and six independent variables: profitability, tangibility, firm size, growth opportunity, liquidity, and leverage. The company's financial statement is used and the collected data was found in the DataStream database. We calculated the data and make it into table form for the preparation of the data processing.

3.4.1 Return on Asset

$$ROA = \frac{\text{Net Income}}{\text{Total Asset}}$$

Return on assets is an indicator of how profitable a company is relative to its total assets. ROA determine how efficient management is at using its assets to generate earnings (Athanasoglou et al., 2008). Sometimes this is referred to as "return on investment". It is a widely used measurement of firm and corporate performance (Leckey, 2011; Lin et al., 2005; Díaz et al., 2008; Pombo & Gutiérrez, 2011; Chen, 2010). On the other hand, ratio of net income to total assets is applied by Lin et al. (2005) & Leckey (2011) as the formula for the indicator.

The financial position and operating performance which indicated to company financial health can be judged by Return on Equity (ROE) and Return on Asset (ROA). ROE and ROA seem quite similar as both are the measurement of firm return, many might get confuse as both shown the ability of a firm in generating profit on the investment. ROE is net income divided by shareholder's equity; it is useful for comparing the earning of a company to other company in same industry sector. ROE is important in revealing the profit companies earned by using the amount of shareholder equity found on balance sheet that equal to total asset minus total liabilities. Moreover, shareholder equity brings a meaning of what the amount the retained earnings of the company and also financial contribution of owner. The higher ratio of ROE indicates that the companies have higher potential to generating income internally which directly reflected the net worth and the return that the owner earned in the company.

Return on Asset (ROA) is net income divided total asset, it shows how efficient that a firm using their asset in generating earning. The function of ROA is similar with ROE, as the measurement of return. However, ROA is difference to ROE in term of its formula and its specific concept. The denominator of ROA is total asset, it is measure how efficiently firm apply its asset that contribute from the financial resource to generate income in business. The ROA ratio indicates the firm's asset usage in generating cash inflow, which clearly identify the efficiency of firm applying its asset to generate income.

The ROA is more advance as compared to ROE for indicating the firm performance. This is because total asset equal to total liabilities and total share's equities. In other words, ROA including the total debt that ROE did not take into consideration. In general, firm's capital structure is including the equity and debt. In this case, ROE misleading the firm value as compared to ROA because ROE did not include debt that plays an important role in for firm performance, this clearly to prove that ROA is more accurate when the debt is used to earn profit. On the other hand, ROA is also precise in determining the firm value if the firm only used debt as their financial resources to generate income; although ROE is more advance. Despite, ROA and ROE provide a clear picture of the effectiveness of firm business management, but the concept on generating the earning is different for both ROA and ROE.

Thus, we choose ROA as our dependent variables to represent the financial performance because we found that ROA is the most appropriate and it suites our objectives study relating to capital structure in which ROE is ruled out due to its sensitivity to capital structure differences (Sher & Yang, 2005).

3.4.2 Profitability

$$\textit{Profitability} = \frac{\textit{Profit before interest, tax and depreciation}}{\textit{Total Asset}}$$

Studies show that capital structure and profitability are related (Pandey, 2004; Rajan & Zingales, 1995). We use ratio of profit before interest, tax and depreciation to total assets as our formula which is supported by Udomsirikul et al. (2010), Chakraborty (2010), Chen (2004) and Yang et al. (2010) as the formulas for measurement of profitability.

3.4.3 Tangibility

$$\textit{Tangibility} = \frac{\textit{Fixed Asset}}{\textit{Total Asset}}$$

Rajan & Zingales (1995) also claimed that tangibility is an important determinant of capital structure in its comprehensive comparative cross-country study. Besides, tangibility is used by Chen (2004) in its study of the determinants of capital structure of Chinese-listed companies.

We used tangibility as our independent variable because tangible assets are a key determinant of the cross section and dynamic behaviour of the capital structure Rampini & Viswanathan (2008). Chakraborty (2010), Chen (2004), Pandey (2004), Rajan & Zangales (1995) and Huang & Song (2006) use the same formula of ratio of fixed assets to total assets as their tangibility measure due to the particular measure of tangibility gives a better perspective of the level of fixed assets as opposed to total assets.

3.4.4 Firm size

Firm Size = log sales

We include firm size as one of the variables in the analysis of firm value because of its well-known relationship with firm value, risk and accounting performance. According to trade off theory, firm size could be an inverse proxy for the probability of the bankruptcy costs. Larger firms are likely to be more diversified and fail less often. They can lower costs (relative to firm value) in the occasion of bankruptcy (Bas et al., 2009). Thus, we use firm size as our independent variable because it affects firm value. Jong et al. (2008), Bhabra (2007) and Rajan & Zangales (1995) used natural logarithm of total sales as their formula for proxy of firm size.

3.4.5 Growth opportunity

Growth opportunity = percentage change in sales over the year

Growth opportunity is included in one of the determinants of capital structures which indirectly affect the firm value in terms of future growth potentials and profitability. Chakraborty (2010) suggests percentage change in sales over the year as alternative measurement for growth opportunity. Chen et al. (1998) uses percentage change in sales over the year as the formula for growth opportunity. While in our research paper, we tend to use the same formula to calculate the growth rate which could affects the firm performance.

3.4.6 Liquidity

$$\text{Liquidity} = \text{Current Ratio} \quad \text{Or} \quad \text{Liquidity} = \frac{\text{Current Asset}}{\text{Current Liabilities}}$$

Liquidity is one of the independent variable we used it in this paper. The measurement is defined as current ratio (total asset divided by total liabilities) which is used to determine a company's ability to pay off its short-terms debts obligations (Konia & Bacon, 2005).

Current ratio is easier to understand compared with Quick ratio and it would not mislead in both a positive and negative sense. There is a related literature on the empirical linkage between capital structure and liquidity. From the research of *An Investigation of Market Microstructure Impacts on Event Study Returns*, Lease et al. (1991) was using liquidity to test the capital structure changes. According to Acharya & Pedersen (2005), they argue that liquidity itself is a source of risk. However, it is different from that proposed by Gorton & Pennacchi (1990) who suggest that the firm's equity liquidity can minimize their trading costs by holding the less sensitive security and raise external capital. To further investigate the results done by previous researchers, we are using liquidity as another independent variable, testing on how liquidity affecting ROE in term of significant and insignificant.

3.4.7 Leverage

$$\text{Leverage} = \frac{\text{Total debt}}{\text{Equity}}$$

Leverage is another independent variable that we choose to examine the firm value. It is because leverage able plays a dual role in corporation. According to Iturriaga & Crisostomo (2010) found that debt management is critical for the firm as debt may positive or negative relative to firm value. The value of firm with growth opportunity with might have negative relationship to debt while value of firm without will have positive relationship to debt.

Besides, the variable of leverage in influencing the firm value also support by Li et al. (2009); Hatfield et al. (1994); Jensen (1986); and Majumdar & Chhibber (1997). In addition, Muhakud & Misra (2005) also used leverage as the variable to examine the firm performance for the sample of India.

3.5 Data Analysis

3.5.1 Inferential Analysis (Multiple Regressions)

In this research, the linear regression equations are:

$$\text{Linear Equation: } Y_i = \alpha + \beta_1 X_{i1} + \beta_2 X_{i2} + \beta_3 X_{i3} + \beta_4 X_{i4} + \beta_5 X_{i5} + \beta_6 X_{i6} + \epsilon_i$$

$$ROA = \alpha + \beta_1 Prof + \beta_2 Tang + \beta_3 F.Size + \beta_4 G.Opp + \beta_5 Liq + \beta_6 Lev + \epsilon_i$$

Where :

Y	ROA	= Return on Asset
X1	Prof	= Profitability
X2	Tang	= Tangibility
X3	F.Size	= Firm Size
X4	G.Opp	= Growth Opportunity
X5	Liq	= Liquidity
X6	Lev	= Leverage

Chapter 4: Data Analysis

4.0. Introduction

In this chapter, we use Eview 6 to analyse to obtain the regression result. First, we do basic finding about our data followed the descriptive statistics. By using panel data, we analyse our results in terms of relationship and significance. Therefore, we comes out our regression results by examined the dependent variable (Return on assets) and independent variables (profitability, tangibility, firm size, growth opportunities, liquidity and leverage).

4.1. Frequency Analysis.

Figure 4.1 Sum of profitability and ROA for 50 firms from the period 2005 to 2009

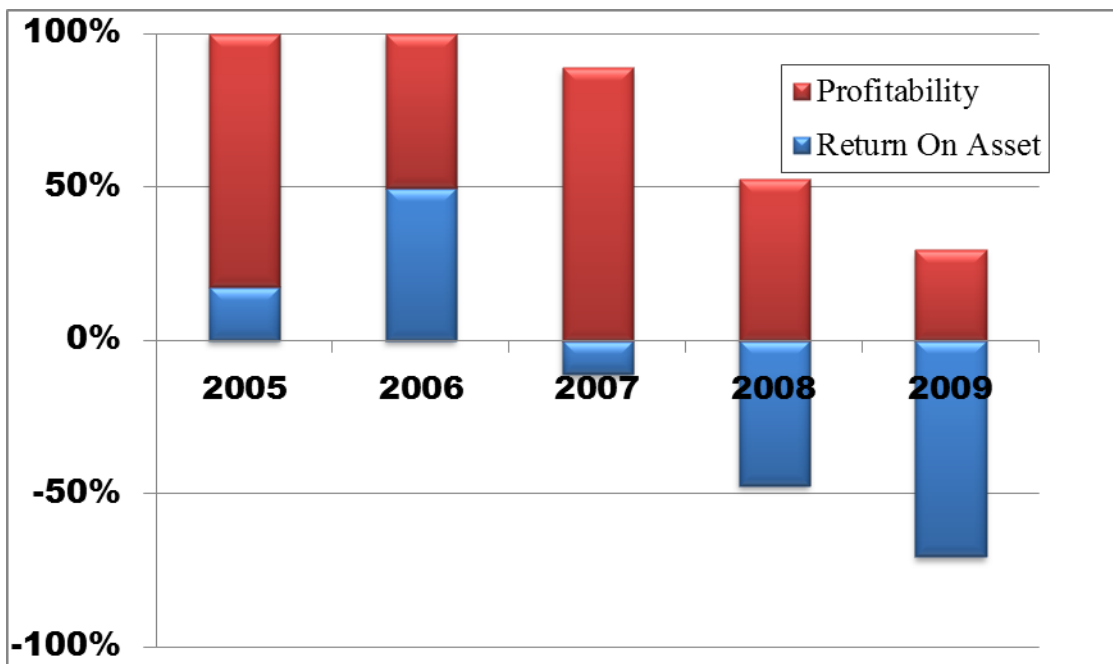


Figure 4.1 shows the profitability decreased from 2005 to 2006. Then, it increased by 30% for the following year. However, it decreases continuously starting from year 2007 to 2009.

On the other hand, the return on assets increases from 2005 to 2006. Yet, it decreased dramatically starting from the year 2006 to 2009 by 30%.

According to Goh & Lim (2010), the decline in both profitability and return on assets may due to weaknesses and deep slump in United States which caused by the financial crisis. Although we are not directly affected by the crisis, the deteriorate U.S. economy indirectly affects Malaysia’s economy for being a small open country. Since Malaysia highly dependent on the imported components and machine from U.S. and Japan, thus it suffer declining in profitability and return on assets caused by the financial crisis in the U.S. They also claimed that although the government provides new investment incentives, but there are still decreased in return on assets on the investment during the crisis.

Figure 4.2 The relationship between growth and ROA (firm value)

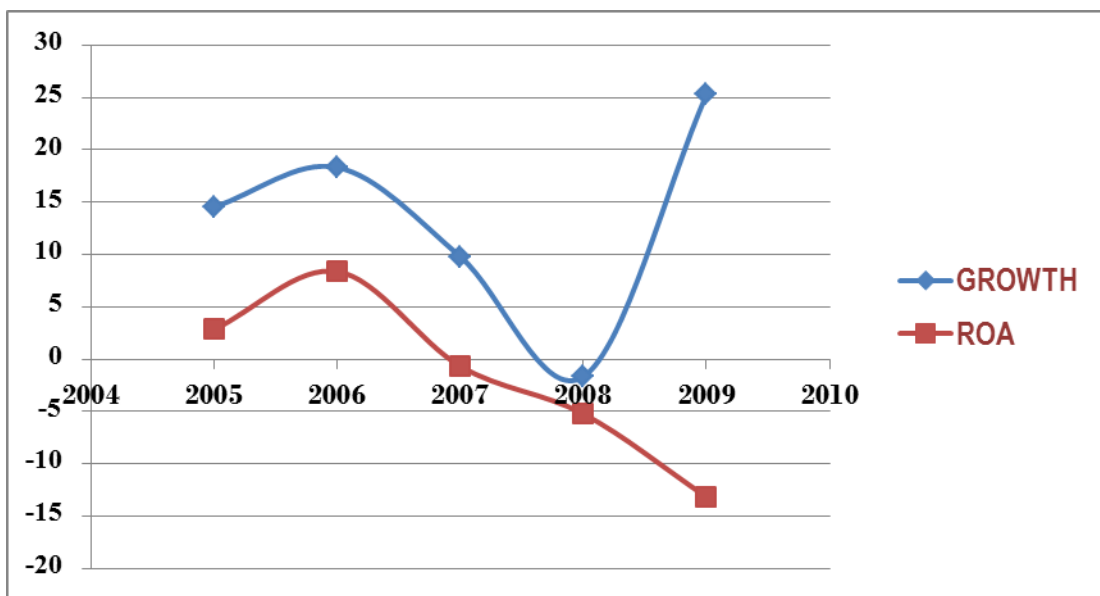


Figure 4.2 shows the relationship between the growth opportunities and return on assets. Growth and return on assets moves in the same direction across the period from 2005 to 2008. However, it moves in opposite direction in 2009 in which the growth opportunity increases, it decreases the firm value measured by the return on asset. This is due to the new incentives provided by the government, hence increased in growth of the industry. However, the return on assets still declines during the crisis (Goh & Lim, 2010).

4.2 Descriptive Analysis

Table 4.1 Summary descriptive statistics of all variables

	ROA	PROFITABILITY	TANGIBILITY	FIRM_SIZE	GROWTH_OPP	LIQUIDITY	LEVERAGE
Mean	-0.03134	0.155134	0.410927	4.363188	0.265352	8.44064	18.77692
Median	0.020864	0.118575	0.345037	4.356011	0.082451	3.47	2.82
Max	3.072082	1.34285	76.33333	5.738673	20.747	143.26	543.75
Min	-9.46679	-0.68163	-37.3065	2.756636	-0.84437	0.24	-334.51
Std.dev.	0.727787	0.261846	5.741558	0.621915	1.478089	15.26137	66.47381

Table 4.3 provides the descriptive statistics of the dependent and independent variables for the period 2005 to 2009. The sample covers 50 technology firms over a 5-year period. It summaries the mean, median, maximum, minimum and standard deviation of all the variables used in the study.

The firm value, measured by the ROA has a mean value of -0.03134 and has 0.727787 as the standard deviation. It has a median value of 0.020864 with a minimum and maximum ROA of -9.46679 and 3.072082. Bokpin (2009) have reported a higher mean value of 6.66 with a minimum and maximum return of 217.79 and 51.90, respectively. The standard deviation is also reported as 5.37.

Profitability registers an average score of 0.155134 over the period with a standard deviation of 0.261846. The minimum and maximum of this variable is -0.68163 and 3.072082. Therefore, there is variation in this variable in the overall sample as well as within the technology firms. Besides, the value is relatively close to an average value of 0.124 reported in Chakraborty (2010) in a study on the Indian market.

The mean value for the tangibility is 0.410927. This implies on the average across the sample, tangibility is 0.410927. Moreover, it has a standard deviation 5.741558 and median 0.345037 with a minimum and maximum tangibility of -37.3065 and 76.33333. However, Chakraborty (2010) is relatively lower tangibility than our studies. The study has a mean value of 0.355 and standard deviation of 0.201 with a minimum and maximum value of 0 and 0.996. In the other hand, Bokpin (2009) has a higher mean value of 56.44. This study also shows a standard deviation of 9.98 with a minimum and maximum of 29.77 and 82.34, respectively.

Firm size has a mean value of 4.363188 and a median value of 4.356011. There is, however, a variation in this variable across the firms over the time period as shown by standard deviation of 0.621915 with a minimum and maximum value of 2.756636 and 5.738673, respectively. Chakraborty (2010) also finds that firm size mean is 4.327 which are very close with our studies. The researcher also finds that a standard deviation of 2.008 201 with a minimum and maximum value of -4.605 and 12.508 between the years 1995 to 2008.

Growth opportunity also registers an average score of 0.265352 with a standard deviation of 1.478089. Some firms recorded negative growth opportunity as shown by the minimum score of -0.84437. In the other hand, there are some firms had positive growth which found in maximum value of 20.747. In the study of Chakraborty (2010), it has a large difference of statistics value. The researcher obtains an average score of 37.408 with a standard deviation of 475.649. They also recorded a negative growth opportunity as shown by minimum value of -99.997.

Liquidity measured as the current assets over current liabilities has a mean and median value of 8.44064 and 3.47. The minimum and maximum values for this variable are 0.24 and 15.26137. The standard deviation is also shown as 15.26137 which are higher than many variables.

And finally the average leverage for the sample is 18.77692 and also has a large variation as shown by the standard deviation 66.47381. Leverage registers a median value of 2.82 with a minimum and maximum return of -334.51 and 543.75, respectively.

4.3 Panel Data findings

4.3.1 Normality test

In econometrics, Jarque-Bera test use to examine the normal distribution of the data. As usual, the levels of significance tested are 1% and 5%.

H0: The data are sampled from a normal distribution

H1: The data are not sampled from a normal distribution

Hence, if the p-value >0.01 and 0.005 , we do not reject our null hypothesis. On the other hand, we reject null hypothesis if the p-value is smaller 0.01 or 0.05 .

The results shown are:

Table 4.2 Jarque-Bera test

	ROA	PROF	TANG	F.SIZE	G.OPP	LIQ	LEV
Jarque-Bera	139302.5	91.70391	178727.6	0.67554	230692.3	13443.49	10728.52
Probability	0	0	0	0.713359	0	0	0

From the above result, all the independent variables we tested are generally not normally distributed as we reject the null hypothesis (p -value < 0.01, 0.05 and 0.10). However, firm size is the one shows the figure of 0.713359 which is greater than 0.01, 0.05 and 0.10 signifies that we cannot reject the null hypothesis. In conclusion, the data are sampled from normal distribution for firm size.

4.3.2 Regression results

Table 4.3 Regression results

Independent Variable	Coefficient	Prob.
PROFITABILITY	0.502914***	0.0054
TANGIBILITY	-5.33E-05	0.9944
FIRM_SIZE	0.35839***	0
GROWTH_OPP	0.01384	0.6562
LIQUIDITY	0.005821**	0.0472
LEVERAGE	-0.000475	0.4917
C	-1.716931	0
R-squared	0.138536	
F-statistic	6.513018	
Prob(F-statistic)	0.000002	

*Significant at ***1% and **5%*

By using Eview 6, we examine the relationship between the impacts of the six factors of the capital performance that affect the firm value.

As the model has been constructed, we examine the goodness of fit of the model and the statistical significance of estimated parameters. R square or the goodness of fit varies from 0 to 1. The closer the R-square value to 1, the stronger the relationship between the dependent and independent variables being bounded. In contrast, the R square moves closer to 0, it indicates that there is no relationship between dependent and independent variables.

Table 4.4 shows that the goodness of fit of 0.138536 which indicates the weak relationship between the firm value and capital structure (profitability, tangibility, firm size, growth opportunities, liquidity and leverage) in our case. According to explanation of Albright & Park (2009) and AmrSadek (2011), R square reported in panel data estimation is commonly to be low compared to time series analysis which is closer to one. Albright & Park also explained that it is difficult to retain the null hypotheses as the number of observation increases implies that it is sensitive to the sample size. However, the F-statistics reported is 6.513018 and its probability of 0.000002 is statistically significant at level 1%, 5% and 10%.

Based on the output above in table 4.2, we come out an equation:

$$Y \text{ (firm value)} = 0.502914(\text{Profitability}) - 5.33\text{E-}05(\text{Tangibility}) + 0.35839(\text{Firm Size}) + 0.01384(\text{Growth Opportunity}) + 0.005821(\text{Liquidity}) - 0.000475(\text{Leverage}) - 1.716931$$

From the equation, we found that profitability is the main factor in contributing the firm value. The positive coefficient of 0.502914 in the table 4.4 explained that as the profitability increase 1%, the firm value will increase by 50.29% in ROA, holding other variables constant. It is normal

and no doubt to explain as the firm earns more profit, the return on assets will increase as well.

On the other hand, tangibility has negative relationship with the firm value. $-5.33E-05$ indicate that when the tangibility increased by 1%, the firm value will decrease by $5.33E-05\%$, holding other factors constant. Firm may not utilize the fixed assets effectively which lowers the firm value.

In addition, the firm size is also impact more on the firm value. The positive coefficient of 0.35839 implies that when the firm size increase by 1%, the firm value will increase by 35.89% measured in return on assets, holding other factors constant. It indicates that when the firm size is bigger enough, the firm value will increase as the firm able to do more investment and return on assets.

For growth opportunity variable, the results shows positive coefficient of 0.01384 indicates that when there is an increase in 1% of growth opportunity, the firm value will increase by 1.34%, holding other factors constant. This is logic that if the firm grows well, the firm value measured by return on assets will increase too.

Besides, positive coefficient of 0.005821 for liquidity also shows that as the liquidity increased by 1%, the firm value will increased by 0.5821%, holding other variables constant. Positive relationship between liquidity and firm value can be explained by a higher liquidity ratio enable the firm to pay off its short-terms debts obligations, therefore results in increasing of firm value.

However, the coefficient of leverage shows -0.000475 which can be analysed as increased in 1% of the leverage, the firm value will decrease by 0.475% measured in return on assets, holding other variables constant. It indicates that the lesser the borrowing is, the better the firm performance.

4.3.3. Hypothesis Testing

Furthermore, we form null hypothesis and alternative hypothesis to analyse on the test statistical based on the result we derived using E view 6 where X represents the independent variables (profitability, liquidity, tangibility, firm size, leverage and tangibility) while Y represents the dependent variable(firm value).

H0: X and Y are not statistically significant

H1: X and Y are statistically significant

If we reject the null hypothesis, X and Y are statistically significant. In contrast, if we reject the alternative hypothesis, it signifies that X and Y are not statistically significant. We test on 1%, 5% and 10% significance level.

4.3.3.1. Test of β_1 (Profitability)

H0: Profitability and firm value are not significant.

H1: Profitability and firm value are significant.

Since the p-value of profitability 0.0054 is smaller than 0.01 and 0.05, therefore we reject null hypothesis by concluded that profitability is significant to firm value in 1%, 5% and 10%. As postulated by Izah & Ahmad (2011) of Malaysia case on the enterprise risk management, profitability measures are important to firm in such profit increased affects in increasing in market price, thus increase in return on assets. In addition, if a firm revealed high return, it will attract investments that enhance the firm value. Mohamad & Saad (2010) studied on the 172 listed companies from Bursa Malaysia main board for five year period using the return on asset as their proxy measure of profitability shows a significant

positive relationship to the firm value. This result holds in our research.

4.3.3.2 Test of β_2 (Tangibility)

H0: Tangibility and firm value are not significant

H1: Tangibility and firm value are significant

As for tangibility, the p-value 0.9944 is greater than 0.01 and 0.05. Hence, we cannot reject H0 by concluded that tangibility and firm value are not significant in any level of significance which is 1% and 5%. The expected negative sign is consistent with Kyereboah-Coleman (2007) in which he explained that assets tangibility would not enhance firm performance in the case where the assets themselves do not promote efficiency. The author gave an example Ghana Bank with large asset bases however performed poorer than the bank whose bank with smaller asset tangibility. Safarova (2010) found the similar result of negative non-significant relationship with our research using the return on assets and economic profit as their performance measurement.

4.3.3.3 Test of β_3 (Firm Size)

H0: firm size and firm value are not significant

H1: firm size and firm value are significant

P-value of firm size is the smallest among all independent variables. The result shows 0 p-values which is smaller than in any level of significance, we reject the null hypothesis which indicates that firm size is very significant to the firm value. Margaritis & Psillaki (2008) revealed that larger firm is expected to have better technology, diversification and management and thus result in

increasing of firm value in explaining the positive significant sign of firm size.

4.3.3.4 Test of β_4 (Growth Opportunities)

H0: growth opportunity and firm value are not significant.

H1: growth opportunity and firm value are significant.

Since the p-value of growth opportunities is 0.6562 which is greater than 0.01 and 0.05, we do not reject the null hypothesis. Thus, this shows that the growth opportunity and firm value are not significant at any level of significance. This is consistent with the research of Onaolapo & Kajola (2010) in which their result shows positive relationship between growth opportunities but not significant. Hence, they conclude that growth opportunity is not the major factors that contribute the firm performance based on the sample size.

4.3.3.5 Test of β_5 (Liquidity)

H0: liquidity and firm value are not significant

H1: liquidity and firm value are significant

However, the p-value of liquidity is 0.0472 which is greater than 0.01 but smaller than 0.05. Thus, we concluded that liquidity is significant at 5% and 10% by rejecting the null hypothesis. Suhaila et al. (2008) show positive relationship between firm's liquidity and firm's value. The authors postulated that firm with high liquidity able to generate high cash inflows and return without using excess debts. Hence, high liquidity firm results better firm value than those firm facing illiquid problem. This is also consistent with the study of Udomsirikulet et al. (2011) on Thailand

firms with the authors found that the increasing of liquidity lowers the cost of equity, which make the equity attractive than less. Therefore, Thai firm prefer liquid equity than debts in adopting their capital structure.

4.3.3.6 Test of β_6 (Leverage)

H0: leverage and firm value are not significant

H1: leverage and firm value are significant

Same as tangibility and growth opportunities, leverage have the p-value of 0.4917 indicates that there is leverage and firm values are not significance in 1% and 5% by not rejecting the null hypothesis. The leverage shows non-significant with positive sign examined by Nabawanuka & Lee (2009) which is consistent in our study. They explained the non-significant was due to the small sample size which is only 46 observations in their research that could not reveal any issues or pattern to explain the relationship between leverage and firm size. However, they mentioned that the explanation was due to pure speculation but further investigation is needed.

Chapter 5: Discussion, Conclusion And Implications

5.0. Introduction

Referring to our research in chapter four, we show the pattern of the result and analyses of the result which are relevant to the research objective, research question, and hypothesis. In chapter five, we will further summarise for the statistical analyses that we had done in previous chapter. This chapter also discuss about the major finding, implication, and limitation of our studies. Last, we will provide suggestion for future research and summarises the result and contribution on the research.

5.1. Summary of Statistical Analysis

5.1.1. Descriptive Statistical and Panel Data Result

To analyse for the sample data, we applied panel data test and descriptive statistic to show our result. Normality and regression analysis were included under the panel data test. In general, the descriptive statistical analysis for this report is support to the previous researchers. The dependent variable and independent variables are fall into the range of previous researcher's result. However, the firm size has shown the closest result in mean value to the previous researcher which is 4.363188.

Next, the panel data result shown that there are three independent variables are significant to firm performance which are profitability, firm size, and liquidity. And there are three independent variables shown insignificant to firm performance which are tangibility, growth opportunity, and leverage.

The sign for the three significant variables all are positively related to the firm value. The profitability had shown the highest impact among other variables to the firm value as its positive coefficient is 0.502914 while the firm value is the second independent variable that gives higher effect to the firm value compared to the liquidity.

For the insignificant independent variables, the tangibility and leverage showed negative sign to the firm performance while the growth opportunity presented positive sign to the firm value. Last, there is only one independent variable which is firm size sampled to the normality test.

5.2. Discussions of Major Findings

Table 5.1: Summarize of significant of independent variable in different level of significance.

Independent Variable	Significant/not significant	Hypothesis (Accept or Reject H0)
Profitability	Significant at 1%	Reject H0
Tangibility	Not significant	Accept H0
Firm Size	Significant at 1%,	Reject H0
Growth Opportunity	Not significant	Accept H0
Liquidity	Significant at 5%	Reject H0
Leverage	Not significant	Accept H0

5.2.1 Effect of Profitability, Firm Size and Liquidity to the firm value.

Our results on control variables are quite consistent with relevant theories and empirical studies. As shown in Table 4, profitability, firm size and liquidity are the independent variables showing significant result to the firm value and there are all positively associated with ROA.

Profitability is positive and significant at 1 percent. It shows there is a relationship between profitability and firm value. The importance of profitability is regardless of how the firm defines according to the capital structure theory. Chakraborty (2010), Pandey (2004) and Bas et al. (2009) had explained that firms with higher profitability are able to intense competition to exploit in the market and has advantage to shield from taxes. As suggested by theory of Tobin's Q, if a company is able to produce net income, the company creates value. However, if a company more on debt such as bond, the obligation for company to pay interest is compulsory; hence it will affect the net profit of the company. In overall, we can conclude that firm's profitability has been found to have a positive impact on the firm's value due to the fact that increasing the sales level will generate more cash flows and keeping liquidity at an acceptable level.

Firm size establishes a positive and significant relationship with firm value. This may be attributed to the fact that larger firms can take the advantage of any favorable investment opportunity. Moreover, they also have more funds to invest or raise external funds compared with the small firm. The result is similar to the findings of Margaritis & Psillaki (2008), Mahakud & Misra (2009) and Majumdar & Chhibber (1997) which mentioned that the larger firms would tend to employ the best personnel for management, have lower probability of facing financial distress and has the ability to exploit the market that will increase the performance of the firms. Besides that, Amanda (2002) found that larger firms with more tangible assets are able to

borrow more because they have a lower probability of bankruptcy, lower costs in the event of bankruptcy and provide more collateral to lenders relative to other firms.

Other than that, liquidity has shown a significant result to the firm value. Prasit et al. (2011) and Suhaila et al. (2008) found that more liquidity are expected to have less debt in their capital structure and lead to good firm value. On other hand, Kahn & Winton (1998) suggest that greater liquidity can be an opportunity for large shareholders to increase their profit. They mention the case where a large shareholder chooses to buy more shares when the firm's performance is expected to improve as a result of monitoring activities. It is because the greater the liquidity, the more shares can be bought in the market due to lower transaction costs. Therefore, liquidity is an important element to monitor the firm's management.

5.2.2. Effect of Tangibility, Growth opportunity and Leverage to the firm value.

Some of the independent variables were shown an insignificant result to the technology sector firm value. There are tangibility, growth opportunity and leverage. In general, the sign of these independent variables were supported by previous researchers with definite and precise finding and explanations.

The result shown that tangibility variable was negatively related to firm value which supported by previous researchers Mahakud & Misra (2009) and Rajan & Zingales (1995). Growth opportunity also provide the same result with the previous researchers such as Hao, et al., (2011) and Gurunlu & Gursoy (2010) which mentioned that firm value is positively affected by the growth opportunity of the firm. However, Hatfield et al.,

(1994) and Li et al. (2009) presented that the leverage is negatively related to the firm performance and it was shown similar result with this report.

Although the sign of these variables were perfectly matched and supported to previous finding or studies but unfortunately these variables were not shown significant to the firm value. Hence, these variables cannot be used to explaining the theory or idea behind the firm value which influenced by leverage, growth opportunity. However, these variable is belief still reliable for the research but not applicable for this research paper. This is due to these variable were examined by various researcher with their strong supporting theory and perspective especially the study of Modigliani & Miller (1958) which mainly researched on the capital structure and firm value.

There are various reasons leading the independent variables become insignificant to the firm value. According to the research paper of Pilotte (1992), the researcher found that the growth factor will be significant to firm value at certain point or hypothesis. He stated that growth opportunity affect the firm value significantly when the firm used new financing.

Next, the sample size of data collection for this paper might not bigger volume enough causing the result not accurate and there were 50 different technology firms were being chosen for analysis. Some firms might have unique financial practice and capital management for achieving its shareholder's goal. Asset investment and financial resource even the efficiency of business operation is totally dissimilar with each other. Furthermore, some technology companies are multinational company such as Asion Berhad Green Packet Berhad and Formis Resources Berhad; the way they get funding will not be the same and even their asset, liability and capital portion are also difference. Multinational corporates have opportunity to raise fund by entering financial market and sometime the cost for funding might lower as they have a sound capital and good management on their business practice. Moreover, the service

provided and the goal for the companies is dissimilar. For example, Formis Resources Berhad has a broad business service and operation segment compared to the others. The company engages in properties development; provide technology services and solutions to multinational industry and also government sector instead of just focusing on selling and maintaining the hardware and software. In contrast, Ebworx Berhad mainly focuses in delivering quality technology advice to banking sector. This would be one of the reasons why some of the components structure might not be so important to be examined in this report and its produce a mix result and insignificant result in the hypothesis testing.

During the period of study 2005 until 2009, there are few crises happened such as financial crisis; subprime crisis; oil crisis and Asian crisis which affect Malaysia market that could lead to our result not significant and contradict with previous authors. Ariff et al. (2008), they discovered that the leverage shown insignificant due to the speed of adjusting on the firm leverage toward the company goal during crisis. The authors also mentioned that the financial crisis happened would show the financial weakness of the relative firm, the companies might get sources based on company financial ability.

Moreover, the company will changed their strategies in funding due to the changes on the government policy and impact of capital flight. There was an unpredictable capital flight of the short-term portfolio investment due to the economic fundamental in Malaysia is not strong enough to absorbed the impact on financial crisis (Hassan 2002). Generally, during crisis Malaysia did not approach IMF to meet the crisis, yet Malaysia government was taking few steps to control and enhance the stability of Malaysia's currency and stipulate capital inflow. Government was implementing monetary policy via controlling the interest rate and pegged Ringgit Malaysia at 3.80 to dollar (Hassan, 2002). The company's financial decision and operation planning would change spontaneously according to the government policy and also the impact of the policy. This

led the capital structure for the technology and software company dissimilar before and after the crisis as the company try to achieve optimum capital when government successful push the economy to recovery stage. Thus, the independent variable such as tangibility, growth opportunity, and leverage which might be the key variables to bring impact to firm performance shows insignificant result in this report.

5.2.3 The influence of firm size to the technology and software firm performance

Based on the result, firm size is one of the significant variables which result 35.89% increase in the firm performance when 1% increase in firm size. The size of the firm indicated the growth and the capacity potential of the firm. Difference firm size might have difference management style in capital structure and organisation structure. This will reflect the way of the specific technology firm's operation decision which is supported by Mahakud & Misra (2009).

Large technology and software firm able to employ professional and expertise to help in managing the firm's asset and budgeting planning. However, the financial resource for bigger firm is lower in cost compared to smaller technology firm. The decision of the financial planning expertise in the firm will bring large impact on the capital structure of the firm. The financial decision whether to raise fund using debt or share is also rely to the firm objective and budget planning of the manager. Normally, the financial decision will be determined by the top manager based on the firm size.

However, bad manager will provide bad planning for the firm. Firm size can also be applied in explaining the relevant theory in the study such as cash flow and agency theory. The inefficiency information flow in the market happened when firm size is small and this will create agency cost

within the company whereby the stakeholder try not to control the cash flow well even though they know more than stakeholder. This may induce the firm fall into bankruptcy. In contrast, good manager will provide good planning. A qualify manager will able to diversified the risk and portfolio effectively assuming there is agency cost is absent. This will prevent the firm from higher financial cost and bankruptcy cost.

Next, the choice of financial manager in choosing the financial resources with the concern on firm size is related to the Pecking order theory. The growth of the firm will signals to the manager whether to use internal financing or external financing. The financial sources will then determine the asset investment for the firm. A quality asset will generate profit and increase the firm value must incorporate with the best management on asset control and application. Large technology and software firm should be able to provide high quality and high tech asset for their business operation as compared to smaller firm. In addition, high portion asset to lower portion liability will provide high liquidity that will reduce the bankruptcy pressure on the technology firm during the critical season.

In conclusion, the firm size seems to be the core variable to influence the firm value. This is because the firm size will determine the organisation structure operation practice for the technology firm. The employment of the firm will influence the financial structure change of the firm which related to the asset investment and financial resources. All of this will bring impact on the technology firm value.

5.2.4. Explanations of Pecking Order Theory on the firm performance

As discuss previously, the Pecking order theory explained that internal financing resource should be taken into consideration due to asymmetric information. Furthermore, it also mentioned that various firms would have difference capital structure. Based on our research, the data that we had chosen was derived from multiple firms with difference capital structure, which indicated that the firm we selected will have difference firm size. Asymmetric information will reduce as firm size increase (Lee & Hurr, 2009). According to this report, the firm size is significant and has positive related to firm value which means asymmetric information is related to our research. Thus, we should considered internal funding as one of the main sources to finance the companies.

Asymmetric information would affect the financial decision of the company; the company will decides to choose debt, equity or internal resource as their financial resource. Based on pecking order theory, the insider is more understood and clear about on the position of the firm in the market and they will make decision based on the company's progress and future expectation. However, the management on internal resources will also reflect the company firm value. For example, firm manager try to generate profit by effective used on the asset in order to reduce the share issuance and debt financing.

In general, the theory is mainly suit to our research. This is because the theory had included and focused on the internal financial resource which might be used by the firms that has high symmetric information level. The firm performance can be further examined for the firm which used the internal source.

5.3 Implication of the study

5.3.1 Capital management and planning implication

In policy maker's perspective, this report is more likely related asset and liability management on a firm and it is also provide a greater insight on the planning on the capital structure that the firm had made. Furthermore, the report also showed the needs on organisation management for the growth of technology companies. The firm put effort to increase their firm performance through either investment on asset or management planning based on current company capacity. The technology firm can able to decide the financial source which is matching the planning for asset development.

The report also provides guideline on the portion of capital structure that the technology firm should focus on and show a precise decision or direction that the firm should perform to increase the firm performance

5.4 Limitation of the Study

In studying the firm value of technology sector, there was various limitations appeared in our report and there are few parts that we need to take note when making interpretation and analysis especially in the part of data retrieved.

The data of technology and software sector that the report provided is limited and inadequate there was 50 companies selected after 60 companies had been filtered. There are difference types of companies such as multinational company had been included in the report. This might provide a vague info for the reader as difference type of company will have difference capital structure management style and business practice. Thus, some of the result might not be a preferred review report for certain company such as non-multinational or small technology and software firms because the business scope is difference. The period for investigated data is

from 2005 until 2009. The 5 years data might not sufficient to provide a better analysis for the report as technology sector is the most risky sector in the market.

Furthermore, the technology company is only focus on Malaysia the developing country, while the other underdeveloped capital country such as Pakistan and the advance country such as Unite State (US) were neglected. In addition, there is no comparison between Malaysia and other countries in the analysis of technology firm value. The assessment is only focus on the Malaysia and it bring a narrow interpretation on the firm value as the firm performance can be broadly influenced by others factor such as policy practice in alien country.

5.5 Recommendation

As for the limitation, it is suggested that the sample size should be increased in order to provide a definite analyses but not merely rely on 50 companies. However, it is an advice for future researcher to select the data with same accounting practice for data running purpose. For future research, it is also recommended to use the data from difference country side so that it able to provide a broader scope of data analysing and idea for policy maker.

In order to make report more interesting, it is recommend that to provide an analysis to compare Malaysia between Asian countries. Besides, there was only six variables used to be investigated in our report so it is encouraged to discover more variable to be included in the analysis or data running for example, dividend or uniqueness.

5.6 Conclusion

It is important for a firm to ensure an optimal capital structure in order to increase the firm value. This study empirically examines the relationship between the capital structure (profitability, tangibility, growth opportunity, liquidity and leverage) and the firm value using the data for year 2005 to 2009 of 50 Malaysia's technology firms by panel data analysis. We use return on assets as our proxy measure for the firm value, expressed as net income to total assets. Normality test and regression has been tested to obtain the result. The normality test reported the data sampling of firm size is the only independent variable that is normally distributed. It indicates that there is different firm size with different capital structure.

As for analysis part, our regression results show significant and consistent sign with our hypotheses made for profitability, liquidity and firm size. Profitability reported the highest coefficient of 0.502914 and lowest standard deviation of 0.261846 shows that profitability is positive, statistically significant and reliable independent variables in this paper. Approximately 50.3% of profitability measured able to influence the firm value expressed as return on assets, holding other variables constant signifies that it has the largest impact on the firm value. Moreover, it can be explained that increasing of sales level will generate more cash flows and keeping liquidity at an acceptable level, therefore increase in firm value. Positive significant relationship between liquidity and firm value in our results supports the pecking order theory in such firm tend to use less debt as they able to generate high cash flow while employ the excess cash inflow for financing investment activities.

Besides, firm size which has the similar result with liquidity also supported the pecking order theory as the capital structure of our selected firms are different and hence results asymmetric information. The assumption of pecking order being applied in this paper as the management of the firms are assumed to know more about the future prospects of the firms than outsider especially for technology firm.

However, tangibility, growth opportunities and leverage reported non-significant relationship in our paper but consistent sign with hypotheses made. These variables may not suitable to explain the theory or idea behind the firm value which influenced by leverage, growth opportunity and tangibility in this data form or technology sector. Yet, these variables are believed to be reliable for similar research but not applicable for this research paper.

Therefore, future research is suggested to be continuing in a wider sample size with comparison across the different country for a broader view in explaining capital structure and firm value so that it can be considerate factors for firms in determining the capital structure.

Overall, this paper has achieved the main objective which is to determine the capital structure affects the firm value.

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APPENDIX

Appendix 1: List of Companies in the Technology Sector

1	M3 TECH	26	INTELLIGENT EDGE TEC
2	ASDION BERHAD	27	IRIS CORPORATION
3	ASIAEP BHD	28	INGENUITY SOLUTIONS
4	CBSA	29	ISS CONSULTING
5	CWORKS SYS BHD	30	KZEN SOLUTIONS BHD
6	CYBERTOWERS BHD	31	MESINIAGA BERHAD
7	DATAPREP HOLDINGS	32	MICROLINK SOL BHD
8	CUSCAPI BERHAD	33	MTOUCHE TECH BHD
9	EBWORX BERHAD	34	FORMIS RESOURCES BHD
10	EDARAN BERHAD	35	PATIMAS COMPUTERS
11	ELSOFT RESR BHD	36	N2N CONNECT BERHAD
12	EXCEL FORCE MSC BHD	37	NOVA MSC BHD
13	EXTOL MSC BHD	38	GREEN OCEAN CORP
14	FSBM HOLDINGS BERHAD	39	OPENSYS (M) BHD
15	FAST TRACK SOL HLDGS	40	PRIVASIA TECHNOLOGY
16	GHL SYSTEMS BERHAD	41	MEDIA SHOPPE BERHAD
17	GPRO TECH BERHAD	42	ORIENTED MEDIA
18	ARIANTEC GLOBAL	43	PUC FOUNDER (MSC)
19	I-POWER BHD	44	REXIT BERHAD
20	IFCA MSC BHD	45	TIME ENGINEERING BHD
21	GREEN PACKET BERHAD	46	SMR TECHNOLOGIES BHD
22	GRAND-FLO SOL BHD	47	SCAN ASSOCIATES BHD
23	INSAS BERHAD	48	YTL E-SOLUTIONS BHD
24	HEITECH PADU BERHAD	49	YGL CONVERGENCE BHD
25	INFORTECH ALLIANCE	50	WILLOWGLEN MSC BHD