AUTHOR'S DECLARATION

At no time during the registration for the degree of Doctor of Philosophy has the author been registered for any other University award without prior agreement of the Graduate Committee.

Various related research methodology courses organized by the Graduate School have been attended. In addition, relevant conferences were attended at which work was presented and published.

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**FINANCING PREFERENCES AND CAPITAL STRUCTURE
AMONG SUCCESSFUL MALAYSIAN SMEs**

by

SHAFIE MOHAMED ZABRI

**A thesis submitted to the University of Plymouth
in partial fulfilment for the degree of**

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September 2013

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**FINANCING PREFERENCES AND CAPITAL STRUCTURE
AMONG SUCCESSFUL MALAYSIAN SMEs**

ABSTRACT

The increasing importance of economic contributions of small and medium-sized sized enterprises (SMEs) around the world, especially in developing countries, motivated a better understanding of financial practices among SMEs. Financial support is among the factors affecting the success of SMEs. However, studies on the financial practices among successful SMEs in Malaysia are still limited. An understanding of the financial practices of this particular group of SMEs is essential in developing a supportive financial framework to achieve national agenda for improving SMEs sustainability and increasing the overall SMEs' contributions to the Malaysian economy.

This research investigates the financial practices among successful SMEs in Malaysia based on the list of Enterprise 50 award winners from 1998 to 2010. This specific database was chosen to serve the objective of this study. Investigations into SME managers' level of preferences for various sources of financing, and their firms' capital structure, are the main scope of financial practices under study. Electronic surveys among 444 SMEs were conducted with 120 responses, yielding a response rate of 29.6%.

The results of analyses revealed that retained earnings and banking institutions were the most preferred sources of internal and external financing among SMEs managers. Generally, successful SMEs depend more on debt over equity-sources of financing with Debt-to-Equity ratio (DER) of 57 to 43. Furthermore, managers' ownership status, highest level of education and level of experience are found to have a statistically significant association with their level of financing preferences. On the other hand, non-debt tax shields, tangibility and liquidity were found to have a statistically significant relationship with a firm's capital structure. Managers' levels of financing preferences were also found to be significantly associated with the proportion of their firm's capital structure. Multivariate analyses revealed that managers' levels of financing preferences were explained by their ownership status, highest level of education and level of experience, while the proportions of a firm's capital structure are significantly explained by the manager's levels of financing preferences. Finally, firms' capital structures were found to be influenced by non-debt tax shields, tangibility and liquidity.

This research enhances the existing body of knowledge of the financial practices of successful SME in Malaysia, by providing information on managers' level of financing preferences and firms' capital structure. This is the first study to focus on investigating the level of financing preferences among managers of SMEs in Malaysia. In addition, the firm's capital structure was also investigated. This new knowledge will improve understanding and will enable further enhancement of knowledge in this area of financial practices among successful small businesses, in general, and particularly in the case of Malaysian SMEs.

DEDICATIONS

To my late mother:

Umi Selamah binti Shahid
(1944 – 2009)

Your last words still remain in my mind.
This success would be more meaningful if you were around.

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In the name of Allah most gracious most merciful

Praise be to Allah, the lord of the worlds. And the blessings and the peace be upon the last messenger of Allah, Mohammed (peace be upon him).

I would like to thank God Almighty, praise be to Him Who has given me perseverance and patience in my study.

Our Prophet said. "Who doesn't thank people doesn't thank Allah ".

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ABBREVIATIONS

SMEs	Small and Medium-sized Enterprises
NSDC	National SME Development Corporation
SME Corp	SME Corporations of Malaysia
IEF	Internal Equity Financing
DFIs	Development Financial Institutions
DF	Debt Financing
EEF	External Equity Financing
STF	Short-term Financing
LTF	Long-term Financing
EF	Equity Financing
DR	Debt Ratio
STDR	Short-term Debt Ratio
LTDR	Long-term Debt Ratio
DER	Debt-to-Equity Ratio
EDU	Level of education
EXP	Working experience
OWN	Business Ownership status
PROF	Profitability
SIZE	Firm's Size
TANG	Asset Tangibility
GRO	Growth Opportunities
AGE	Firm's Age
NDTS	Non-Debt Tax Shields
LIQ	Liquidity

Chapter 1

Introduction

1.1   Introduction

The aim of this chapter is to provide a general overview of the thesis. It begins with a section that discusses the background of the study, focusing on the importance of Small and Medium-sized Enterprises (SMEs, hereafter) in general and in Malaysia in particular. This then leads to a discussion of the challenges faced by SMEs. The following section looks into the constraints faced by Malaysian SMEs, especially in regards to financing-related issues. The research aims, objectives and questions are then presented in the next section followed by a brief justification of the significance of undertaking further research on the financial practices among SMEs in Malaysia. A brief explanation of the research methodology employed in this study is also included. The final section outlines the organization of the thesis.

1.2   Background to the study

SMEs are important to almost all economies in the world, but especially to those of developing countries. SMEs, in total, constitute a large proportion of economic activity, and are considered to be an engine of growth in both developed and developing countries (Boocock and Shariff, 2005). In developing countries, the concern for the role of SMEs in the development process continues to be at the forefront of policy debates (Cook, 2001) as they comprise a majority of the business population in most countries,

and therefore play a crucial role in the economy (Mitchell and Reid, 2000). Mac an Bhaird (2010) adds that the realization of the significant economic contribution of SMEs has resulted in increased attention to the sector from policy makers, as well as academics. Cook (2001) points out the following aspects of the importance of SMEs within an economy:

1. the encouragement of entrepreneurship;

2. the impact on employment generation, as there is a greater likelihood that SMEs will utilize labour intensive technologies;

3. rapid establishment of SMEs will produce quick returns;

4. the ability of SME development to encourage the process of both inter and intra-regional decentralization; and

5. the notion that they may become a countervailing force against the economic power of larger enterprises.

In addition to this list, Cook (2001) adds that, in general, the development of SMEs is seen as accelerating the achievement of wider economic and socio-economic objectives, including poverty alleviation. Reports by the United Nations Development Programme (UNDP) in 2007 show that SMEs in Malaysia have contributed primarily to expanding output, providing value-added activities in the manufacturing sector, creating employment opportunities especially in the services sector, and broadening Malaysia's export base. They have also been found to have evolved to become key suppliers and service providers in large corporations. These significant contributions to economic growth are demonstrated by their contribution to output, their numbers and substantial

employment (Aris, 2007). SMEs play a significant role in creating more employment, economic output, income generation, export competencies and training, as well as encouraging competition, innovation and promoting entrepreneurship, whilst supporting large-scale industries (Hashim, 2000)

The Census of Establishment and Enterprises, conducted by the Department of Statistics in 2005, shows that 99.2% of establishments in Malaysia are SMEs. This percentage reflects similar figures, as compared to some other economies such as Japan (99.7%), the Republic of Korea (99.8%), Taiwan (97.8%), Thailand (99.6%), the Philippines (99.6%) and Indonesia (99.9%), as reported in the same census. These figures show that SMEs not only encompass a large number of business establishments in Malaysia, but also play a dynamic role and are a major source of monetary contributions to the Malaysian economy. The economic potential of the SME sector makes SME development an important Government agenda. Indeed, its contribution is crucial, and remains an integral part of the economic development of the country. The role of SMEs in promoting endogenous sources of growth and strengthening the infrastructure for enhanced economic expansion and development in Malaysia has been acknowledged (Aris, 2007).

SMEs in Malaysia have been recognized as being important drivers of the economy, contributing primarily to the growth of domestic industries and also providers of employment. In terms of SMEs' share of value added and output, SMEs in Malaysia contribute 41.3% and 38.4%, respectively. Within this figure, and compared to large enterprises, the services sector contributes large proportions of overall SMEs, with a

total of 46.4% of value added and 49.5% of output. This is due to the overall number of establishments in the services sector, which comprises 86.6% of SMEs. The agriculture sector, on the other hand, contributes 45.4% of value added and 47.9% of output. The manufacturing sector, with a total of 7.2% of total SMEs establishment reported in the Census contribute only 32.4% of value added and 29% of output. These indicate a large proportion of contributions by large enterprises. In terms of size, the value added of SMEs in Malaysia is mainly contributed by small and medium-sized sized enterprises. Their contributions to the overall value added by SMEs' to the Malaysian economy are 96%, 64.2% and 78.5% for the manufacturing sector, the services and agriculture sector respectively. SME productivity per establishment is recorded at MYR0.7 million of output and MYR0.3 million value added. Although the manufacturing sector's contributions to the overall SMEs value added and output are the lowest among the three sectors, the productivity per establishment in this sector is the highest, with MYR1.2 million of value added and MYR3.9 million of output. Output and value added per worker in this sector are also found to be the highest in comparison to the other two sectors, totalling MYR60.2 thousand of value added per worker and MYR203.5 thousand of output per worker.

In terms of employment, SMEs around the world are found to be major employers in the labour market. As reported in the census, SMEs in Malaysia provide employment to 3.2 million workers, which translate into 64% of total employment in the country. These figures are found to be similar to other countries such as the Philippines (69.2%), China (69.7%), Thailand (69%) and Japan (70.2%). Within the figures of 64% of total employment, 71.9%, 23.8% and 4.4% are the individual figures for the percentage of

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employment in services, manufacturing and agriculture, respectively. In terms of size, SMEs are found to provide the highest employment in the country with a total of 93.7% in the manufacturing sector, 67.4% in the services sector and 76.4% in the agriculture sector. This indicates that, although micro enterprises form the bulk of establishments of SMEs, their overall contributions to productivity and employment are less when compared to SMEs. Nevertheless, the overall contributions of SMEs in Malaysia are found to be crucial, and of great importance to the Malaysian economy.

The importance of the contributions of SMEs around the world, and particularly in Malaysia, has motivated greater support for SMEs. Domestic and external challenges in an increasingly borderless world economy may indeed hinder their resilience and competitiveness. The growing competition in the world's business and trade landscape forces greater challenges for SMEs in Malaysia to seek opportunities in the global marketplace (UNDP, 2007). A study by the Central Bank of Malaysia in 2001 points out the following challenges faced by Malaysian SMEs:

1.   Low contribution of SMEs to Growth Domestic Product (GDP);

2.   Domestic-market orientation;

3.   Constraints faced in terms of capacity, level of technology, access to markets and resources to upgrade skills and production process; and

4.   Limited access to finance.

These challenges are addressed by strengthening the enabling infrastructure, building the capacity of SMEs, enhancing access to finance, increasing market access and enhancing growth and competitiveness. These measures are believed to help build resilient Malaysian SMEs in a competitive world. The comprehensive studies of the relevant literature on the challenges faced by Malaysian SMEs by Salleh and Ndubisi in 2006 list these challenges as follows:

1. Difficulties in obtaining funds from financial institutions and the government. Interest charged by financial institutions is deemed to be high.

2. Lack of human capital.

3. High level of international competition.

4. Lack of access to better technology and ICT.

5. High level of bureaucracy in Government agencies.

6. Low level of Research and Development (R&D).

7. Substantial orientation for the domestic markets.

Within all the findings reported by many studies relating to constraints and challenges faced by SMEs around the world and particularly in Malaysia, the lack of access to finance is one of those challenges widely cited. Wang (2003) has cited the lack of finance as one of many challenges facing SMEs, quoting the main issues regarding SME financing thus:

1. Financial institutions assess SMEs as being inherently high-risk borrowers, owing to their low capitalization and limited assets, vulnerability to market fluctuations and high mortality rates.

2. While large firms comply to a large extent with high standards of disclosure requirements, most SMEs do not.

3. The significant administrative and transactions costs associated with lending or investing small amounts do not make financing for SME as a profitable business for private commercial banks.

A further study by APEC in 2002 also highlights the difficulties in accessing loans and other forms of financial assistance as one of many challenges faced by SMEs in Malaysia. In addition, limited access to finance and capital, and the infancy of venture funds is also reported as one of many issues confronted by Malaysian SMEs which affecting their competitiveness, efficiency and resilience (SMIDEC, 2002). Market studies by United Parcel Services (UPS) in 2005 among decision makers in several Asian SMEs also revealed that access to funding and capital are among the biggest challenges for Asian SMEs.

Given the existence of the financing-related challenges faced among SMEs in general and in particular Malaysian SMEs, there is an avenue for further studies on financial practices among SMEs in Malaysia to enhance better understanding of their financial behaviour. It is hoped that this will add to existing knowledge of financial practices among SMEs in general, especially within the context of Malaysia.

1.3 Problem Statement

The role of finance has been viewed as a critical element for the development of SMEs (Cook, 2001). As is widely recognized, the lack of sufficient finance and access to credit are often cited as major handicaps to the development of SMEs in many parts of the world (UNDP, 2007). In the case of Malaysia, SMEs generally face difficulties in obtaining finance when they lack of collateral, have insufficient documents to support loan application and have a lack of a financial track record which are the constraints faced by Malaysian SMEs in accessing finance (Aris, 2007). A study by Ab. Wahab and Buyong (2008) on the financing practices and challenges among technology-based SMEs in Malaysia reveals that 84.3% of respondents had experienced difficulties in obtaining external finance. Within these figures, the duration of the loan offered being too short, insufficient amount of finance and difficulty in providing collateral are among the difficulties faced by Malaysian SMEs.

The availability of finance for Malaysian SMEs is not in itself problematic, since sources of finance seem abundant. However, difficulties persist with the accessibility and adequacy of those funds, which have been found to be limited, and fragmented (Abdullah and Ab. Manan, 2010). Accessibility to finance is a major hurdle to the growth and success of SMEs (Hall, 2003). Consequently, adequate access to finance is critical in enabling SMEs to contribute to the economic development of the nation, with initiatives being developed in addressing the financing gaps (BNM Annual Report, 2008). Given the importance of finance and the existence of constraints related to access

to finance among Malaysian SMEs, it is crucial to investigate financial practices among SMEs to understand of their financing behaviour better.

A further concern that has motivated the investigation of the topic of financial practices among SMEs, particularly in Malaysia, is the paucity of research into the topic of financing preferences and capital structure among SMEs. General studies on SME financing have been primarily conducted by related institutions, either domestic or international, and focus mainly on the issues of provision of funds for SMEs. Mac an Bhaird (2010) indicates that early studies investigating SME financing predominantly comprised government-sponsored surveys and reports, concentrating largely on potential deficiencies and obstacles to the sustainability and development of the sector.

Existing literature on Malaysian SMEs mainly captures the development of SMEs in general (including issues and challenges faced by SMEs), while those related to the financial practices of SMEs focus especially on financing issues, and the sources and uses of funds employed throughout the business (see Saleh and Ndubisi, 2006; Aris, 2007; Hassan, 2008; Hall, 2003; Rozali et al, 2006). The topic of financing preferences and capital structure among SMEs in Malaysia continue to be less well studied, and thus open up the opportunity to look further into this area to enhance our understanding of this topic. Cook (2001) points out that the theoretical insights into the fields of finance and SMEs have largely been confined to studies undertaken in the US and the UK. Although a considerable amount is known about the characteristics and behaviour of SMEs, this knowledge continues to be imperfect and a large number of questions remain unanswered in relation to finance and SME development in developing countries. He

adds that in developing countries, research on both the supply of, and demand for, finance among SMEs has been empirically based and pre-occupied with gathering information on the characteristics of SMEs and lending institutions rather than on testing theoretical proportions that would improve our understanding of the relationship between finance and SMEs.

Cook (2001) further indicates some weaknesses and gaps in knowledge concerning the relationship between finance and SME development, and suggests the following four elements of research into SME financing that will contribute to a better understanding of the financing needs of SMEs and ways to deliver financial services to them:

1.   The forms of finance used by SMEs and made available by lending institutions and investors;

2.   The relationship between different financial forms and firm-level performance;

3.   The behaviour of SMEs with different forms of finance;

4.   The supply side of finance.

The present study incorporates two suggestions by Cook (2001) in contributing to a better understanding of SME financing behaviour. The focus is on the behaviour of SMEs with different forms of finance, and the forms of finance used by SMEs. These two areas are studied by investigating the preferences of SMEs managers for different sources of financing, and also the capital structure of SMEs, which reflects the forms of finance used by them. These investigations also incorporate the general theory on SME financing and selective financial theory related to the firm's capital structure.

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Greater financial accessibility is believed to be achievable by enhancing an understanding of financial practices among SMEs. This may ensure that the correct measures are taken into account in strengthening the existing infrastructure, and enabling a more effective channelling of funds to SMEs. In addition to this, it is also hoped that financial advisory support may be provided, as well as an enhanced awareness of financial products and assistance programmes available to SMEs. Therefore, given the significant role of SMEs and the existence of financing gaps, as well as gaps in the literature, this research aims to investigate the financial practices of SMEs in Malaysia, particularly within the scope of financing preferences and capital structure. These are believed to further enhance understanding of financial behaviour and practices among SMEs in Malaysia, which in turn will provide better channelling of funds. The financing gaps may then be reduced, and may subsequently increase the accessibility and adequacy of financing to SMEs.

The following sections focus on the research aims and objectives, and the research questions.

1.4   Research aims and objectives

The background to the study and the problem statement discussed in the previous sections clearly indicate the need to conduct a study of financial practices and behaviour among Malaysian SMEs, so as to:

1. Increase the level of understanding of financial practices among SMEs in Malaysia. The existence of financing-related issues among SMEs in Malaysia, especially ones that involved SME access to funds reflects the lack of understanding of how SMEs are making their capital structure decisions. These decisions are closely related to manager's preference of financing, and their firm's capital structure. It is hoped that a better understanding of this issue will reduce the financing gaps that currently exist.

2. Add to the body of knowledge, particularly on the topic of financing preferences and firm's capital structure among small businesses in Malaysia. This is important as academic papers were found to have a lack of focus on these topics. The existence of knowledge gaps within the general topic of SME financing, particularly in regards to the manager's preferences and firm's capital structure will be reduced, and it is hoped that this will result in a better financing environment made accessible to Malaysian SMEs.

Apart from focusing on the financial practices among SMEs, this particular study also focused on successful SMEs in Malaysia. The financial practices of this particular group of SMEs are still very much unknown. For this reason, it is also an aim of this study to explore the financial practice of successful SMEs in Malaysia. It is hoped that the findings of this study will provide some significant explanation as to the financing practices of these successful SMEs. These significant details will ultimately help to establish a supportive financing environment for SMEs in Malaysia.

These aims were then translated into the following research objectives:

1.   To investigate the preferences for different sources of finance among managers' of successful Malaysian SMEs.

2.   To investigate the capital structure of successful Malaysian SMEs.

3.   To determine if there is any significant association between selected managers' characteristics and their preferences for different sources of finance, and between selected firm characteristics and the firm's capital structure among successful Malaysian SMEs.

4.   To determine if there is any association between managers' level of financing preferences and the proportion of their firm's capital structure

5.   To determine the factors affecting managers' level of preferences for different sources of financing, factors affecting the proportion of the firm's capital structure, and the factors that affect firm's capital structure among successful Malaysian SMEs.

1.5   Research questions

Given the aims of the research, as discussed in the previous section, five research questions were developed as follows:

1.   What are the preferences for different sources of finance among managers of successful Malaysian SMEs?

2.   What are the capital structures of successful Malaysian SMEs?

3. Is there any significant association between selected manager's characteristics and their level of preferences for different sources of finance, and between the selected firm's characteristics and the firm's capital structure among successful Malaysian SMEs?

4. Is there any association between manager's financing preferences and the proportion of their firm's capital structure?

5. What are the determinants of the manager's level of preferences for different sources of finance, determinants of the proportion of firm's capital structure, and determinants of firm's capital structure among successful Malaysian SMEs?

1.6 Importance of the study

This study will contribute both to theory and practice. In regards to the beneficial implication of theory, this study will expand the existing literature on SME financing in general, and Malaysia in particular. It will provide new empirical evidence of the topic of financial practices among Malaysian SMEs, especially on the area of owner/manager financing preferences and SME's capital structure. Additionally, the study contributes to the new context of study of Malaysian SMEs with regard to the study of the relationship between selected manager's characteristics with their level of financing preferences and the relationship between selected firm's characteristics with SME's capital structure. These studies will lead to investigations into the determinants of manager's financing preferences and SME's capital structure, which have not largely been captured by any previous studies. Evidence as to the paucity of the literature motivated further investigative studies concerning these two areas of SME financing in Malaysia. The use

of online surveys through the medium-sized of a questionnaire as the main instrument for data collection also provided a methodological contribution to the research on SME financing in Malaysia.

In regards to the practical benefits of this study, an increased understanding of financial practices among Malaysian SMEs will create a greater awareness of the factors influencing their financing decisions. Such awareness, particularly those integrating the preferences of owner/manager as the decision makers of SMEs would provide a better understanding on what sources of finance were preferred and what factors influence the decisions made. This awareness will eventually lead to an enhanced understanding of the capital structure of SMEs in Malaysia. A better understanding of financial practices of SMEs in Malaysia may assist policymakers in providing an improved financing environment for the SMEs, which may focus on accessible and adequate financing to meet the demand of SMEs with regard to the evidence for SMEs' financing preferences and capital structure.

1.7   Research methodology

The methodology applied in this study was mainly determined by the need to accomplish the research aims and objectives and to answer the research question listed in the previous sections. Academic studies of SME financing usually involve conducting multivariate regression analysis by employing panel data sets consisting of accounting and finance data (Mac an Bhaird, 2010). Within this particular study, this panel data set was found to be incomplete and unavailable, due to the lack of track records among

SMEs in Malaysia. The lack of track records proves to be one of the difficulties faced by Malaysian SMEs in accessing finance, as reported in the Census of Establishment and Enterprises, conducted by Department of Statistics in 2005. Mac an Bhaird (2010) points out that the lack of comprehensive databases containing complete data is a significant impediment to researching the topic of SME financing. Existing databases are either incomplete or are not representative of the total population. As there is a significant increase in academic research on SME financing over the past two decades, he suggested that this issue may be overcome by employing methodologies such as questionnaire and interview data collection.

As mentioned earlier, most studies of SME financing incorporated panel data analysis in generating their findings. In this study, due to the fact that the panel data was incomplete and unavailable, a questionnaire was developed based on previous academic and institutional studies, incorporating the use of a questionnaire to capture financial practices among SMEs and large companies in Malaysia (see Graham and Harvey, 2001; Bancel and Mittoo, 2004; Brounen et al, 2006; Pinegar and Wilbricht, 1989; Department of Statistics, various years; The Associated Chinese Chambers of Commerce and Industry of Malaysia (ACCCIM) SMEs Survey II, 2007; Zhang, 2008; Ab. Wahab, 1996; Buferna, 2005; S M Zain, 2003; SME Corporation Malaysia (SME Corp), 2010, Small and Medium-sized Industries Development Corporation (SMIDEC), 2009). Other than this, publications such as financial reports and textbooks were also used in developing this data collection instrument. Upon its completion, the questionnaire was then pre- and pilot-tested before being used as the survey instrument.

Online surveys were chosen as the best approach to conduct data collection, primarily after considering the costs involved in postal surveys and also the availability of access to the internet among SMEs in this study. The lists of winners of the Enterprise 50 award from 1998 to 2010 were chosen as the best available databases for SMEs which fit into the pre-determined criteria for this study. Although the findings are not representative of the Malaysian SMEs, this approach is chosen to provide informative findings in capturing and adding to the knowledge on the area of SME financing.

A detailed discussion of the research design presented in Chapter 4 leads to an application of survey methods, closely associated to the positivistic paradigm. This paradigm basically involved the collection of numerical data which were then quantitatively verified, and appropriately analysed using both parametric and non-parametric tests. Although parametric tests were believed to be superior to their counterparts, both tests were mainly conducted depending on the type of data and level of measurement involved. Justifications as to the assumptions of the use of parametric tests were included to validate the tests conducted. All the tests were believed to be appropriately performed to represent valid results, and were used to support the overall finding and conclusions made in terms of accomplishing the research objectives and answering the research questions.

1.8   Organization of Thesis

This thesis contains nine chapters, summarized and presented in the following figure:
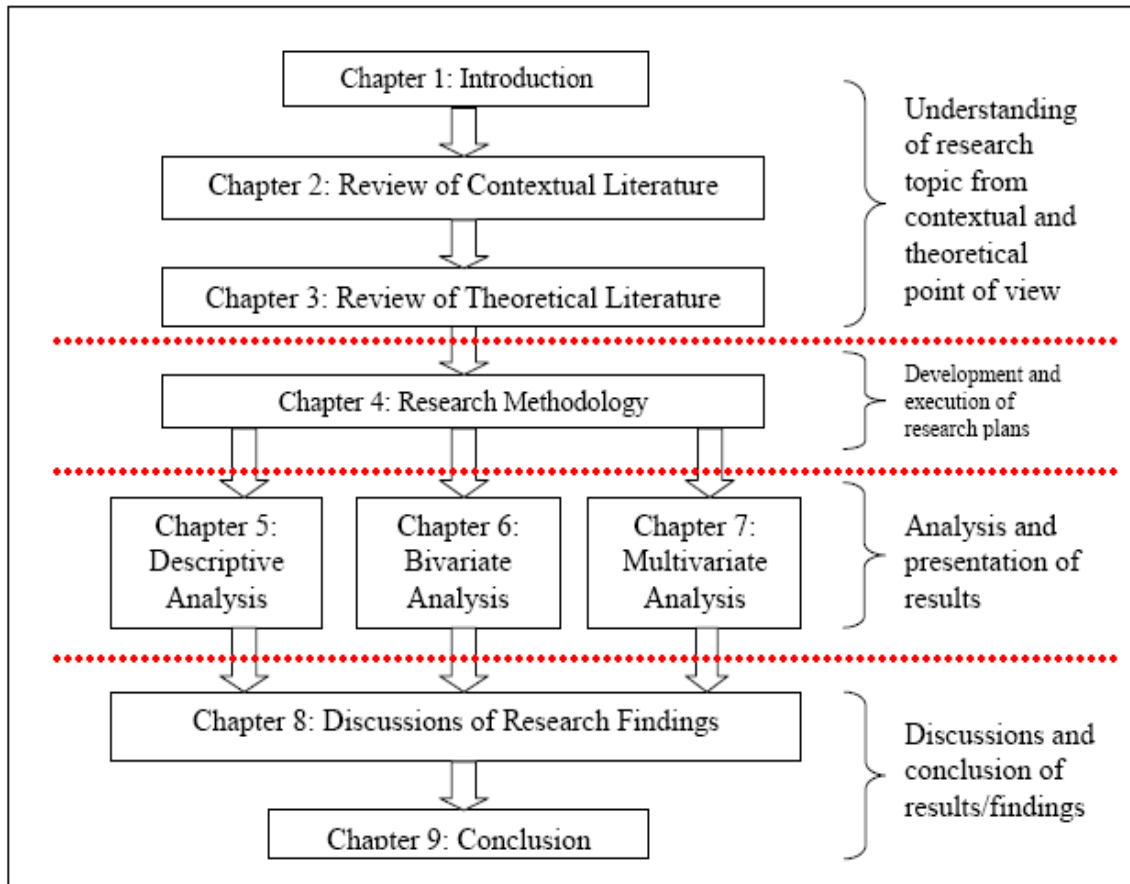
Figure 1.1: Organization of thesis

These chapters represent four different phases. The first phase consists of three chapters concerning the development of understanding of the topic under study within the reviews of related contextual and theoretical literature. Chapter 1 provides an overview of this research study, with the aim of giving background and justification for the significance of this study. A summary of the research aims, objectives and major findings is also provided. Chapter 2 focuses on providing an overview of Malaysian

SMEs, which covers the definitions used in defining SMEs in Malaysia and their development. In addition, sources of funds available for SMEs in Malaysia and issues related to financing Malaysian SMEs are included. Furthermore, general issues related to, and studies conducted within the scope of SMEs financing and capital structure among Malaysian SMEs are reviewed to provide motivations and justifications for this particular study of financing practices among successful Malaysian SMEs. Reviews of theoretical literature are presented in Chapter 3. This chapter contains discussions on the issues related to financing preferences and also the capital structure of SMEs and large firms. A general description of small business finance and capital structure is also included. Detailed reviews of the topic of financing preferences and capital structure are provided, so as to provide a clear indication of factors related to these topics. Financing preferences are studied within a group of selected managerial-characteristic factors, while firm-characteristic factors are selected in order to study the firm's capital structure.

The following phase concentrates on the development and execution plan of actions related to the methodology applied in this study. These are presented in Chapter 4 where general discussions on issues related to research design are provided. Detailed descriptions of the data collection method applied in this study are also discussed, to include the development and administration of the instrument.

The next phase focused on the analysis and presentation of results which were presented in three different chapters. These three chapters (Chapter 5, 6 and 7) aim to present the results of the descriptive, bivariate and multivariate analysis performed on the data

collected from surveys among the selected Malaysian SMEs. Chapter 5 contains general-descriptive results of the test, with the aim of providing answers to the first two research questions related to the investigations into the topic of the preferences among SMEs managers for various sources of finance, and the financing practice among SMEs in term of their capital structure. This chapter begins with a discussion of the response rate accomplished and issues related to the instrument's validity and reliability. The focus of chapter 6 is on the results of bivariate tests conducted to test the hypotheses regarding the relationship between selected manager-characteristic variables with their level of financing preferences, and firm-characteristic variables with firm's capital structure. Furthermore, this chapter includes a discussion of the results of the test conducted to investigate the possible relationship between these two using the proportion of firm's capital structure to represent the use of various sources of financing within the scope of short and long-term financing, and equity financing. Chapter 7, on the other hand, reveals the results testing for determinants of manager's level of financing preferences for different sources of finance, the determinants of the firm's capital structure and the determinants of the proportion of the firm's capital structure, using the manager's level of financing preferences as predictors.

The final phase comprises of Chapter 8, which focuses primarily on the discussion of the research findings, and Chapter 9 where discussion concerning the contribution of the research, scope and limitations of this study and recommendations for future research, are included.

Chapter 2

Review of Contextual Literature

2.1   Introduction

Small and medium-sized-sized enterprises (SMEs) potentially constitute the most dynamic firms in an emerging economy. In Malaysia, SMEs play a vital role in the economy, and are considered to be the backbone of industrial development in the country (Saleh and Ndubisi, 2006). As small businesses are the fastest growth segment of all business, the majority of businesses regard financial resources as their most pressing concern (Helms and Renfrow, 1994). The role of finance has been viewed as a critical element for the development of small and medium-sized-sized enterprises (Cook, 2001). The availability of external finance for SMEs is a topic of significant research interest to academics, and an issue of great importance to policy makers around the globe. The conceptual framework to which most of the current research literature adheres has proven to be helpful in advancing an understanding of the markets to provide funds to SMEs in both developed and developing nations. Despite the presence of multiple and often interrelated constraints, based on policies to support SMEs, the lack of finance constitutes the main obstacle to the growth of SMEs. The availability of credit for SMEs depends significantly on the nation's financial structure and its accompanying lending infrastructure and technologies (Wu et al., 2008). To facilitate better financing for SMEs, an understanding of their financing behaviour may generate greater awareness of their financing needs.

The structure of this report starts with a review of Malaysian SMEs in term of their definition, development and sources of funds for Malaysian SMEs. In addition, the topic of SME financing is also discussed, followed by discussions on issues faced by SMEs in Malaysia. Brief reviews of previous studies on SMEs' financing and capital structure in Malaysia are also included to support and finalize the justification and motivation for the study of financial practices among SMEs in Malaysia.

2.2   Small and Medium-sized-sized Enterprises in Malaysia

2.2.1   Introduction

The development of entrepreneurship as both a concept and activity has been increasing in importance in Malaysia. Indeed, the perceived importance of entrepreneurship to the growth of Malaysia's economy is evidenced by the sheer amount and variety of supporting mechanisms and policies that exist for entrepreneurs, including funding, physical infrastructure and business advisory services (Ariff and Abubakar, 2003). SMEs have been the backbone of economic growth of an economy in driving industrial development. Due to their sheer numbers, size and nature of operations, the role of SMEs in promoting endogenous sources of growth and strengthening the infrastructure for accelerated economic expansion and development in Malaysia has been recognised (Aris, 2007). Constituting more than 99% of total business establishments in Malaysia, it is clear that promoting a viable SME sector is essential in the nation's stride for broadening the sources of growth and sustaining the growth momentum. SMEs are crucial to the economic growth process, and play an important role in the country's

overall production network. SMEs have the potential to contribute substantially to the economy and can provide a strong foundation for the growth of new industries as well as strengthening existing ones, for Malaysia's future development.

2.2.2   Definition of SMEs

Before the formation of the National SME Development Council (NSDC) in June 2004, there was no standard definition of SMEs in use in Malaysia. Different agencies defined SMEs based on their own criteria, usually benchmarking against annual sales turnover, number of full-time employees and/or shareholders' funds. For example, the Small and Medium-sized Industries Development Corporation (SMIDEC) defined SMEs as enterprises with annual sales turnover not exceeding RM25 million and with full-time employees not exceeding 150. Bank Negara Malaysia (Central Bank), defined SMEs as enterprises with shareholders' funds of less than RM10 million (NSDC, 2005). APEC (2002) in their report on "Profile of SMEs and SME Issues 1990 - 2000" indicated that Malaysia does not usually define SMEs as such, but refers to SMIs (or industries which are predominantly SMEs in manufacturing with less than 150 employees and sales less than RM25 million). The definition provided by Malaysia for Manufacturing SMEs in 2002 is not more than 150 employees, and an annual sales turnover of not more than USD 6.6 million (APEC, 2002). The absence of a standard definition prevented the collection and compilation of uniform SME data for assessment of development needs and business performance across the economic sectors (UNDP, 2007).

On 9 June 2005, the NSDC approved the common definitions of SMEs across economic sectors, for adoption by all Government Ministries and Agencies involved in SME development, as well as financial institutions. For wider coverage, businesses are considered as SMEs as long as they meet either the threshold set for annual sales turnover, or in terms of the number of full-time employees. The establishment and adoption of a standard definition for SME will facilitate better identification of SMEs across sectors, thus enabling more effective formulation of SME policies and implementation of SME development programmes, and provision of technical and financial assistance. It will also allow for better monitoring of SME performance and their contribution to the economy (NSDC, 2005).

For wider coverage and applicability, definitions of SMEs will be based on two criteria, namely: Number of employees; or Annual sales turnover. Therefore, an enterprise will be classified as an SME if it meets either the specified number of employees or annual sales turnover definition. The table below shows the classification of SMEs in Malaysia (NSDC, 2005).

I. Number of Employees

Based on the number of full-time employees:

	Primary Agriculture	Manufacturing (including Agro-Based) and MRS*	Services Sector (including ICT**)
Micro	Less than 5 employees	Less than 5 employees	Less than 5 employees
Small	Between 5 and 19 employees	Between 5 and 50 employees	Between 5 and 19 employees
Medium-sized	Between 20 and 50 employees	Between 51 and 150 employees	Between 20 and 50 employees

*MRS: Manufacturing-Related Services
** ICT: Information and Communications Technology

II. Annual Sales Turnover

Based on annual sales turnover:

	Primary Agriculture	Manufacturing (including Agro-Based) and MRS*	Services Sector (including ICT**)
Micro	Less than RM200,000	Less than RM250,000	Less than RM200,000
Small	Between RM200,000 and less than RM1 million	Between RM250,000 and less than RM10 million	Between RM200,000 and less than RM1 million
Medium-sized	Between RM1 million and RM5 million	Between RM10 million and RM25 million	Between RM1 million and RM5 million

*MRS: Manufacturing-Related Services
** ICT: Information and Communications Technology
Source: http://www.smeinfo.com.my

2.2.3   Development of SMEs in Malaysia

Number of Establishments

SMEs in Malaysia account for 99.2 per cent or 518,996 of total establishments in the three (3) key economic sectors, namely manufacturing, services and agriculture (Aris, 2007). Based on the following table, the total number of establishments in Malaysia was 523,132, comprising manufacturing, services and agriculture sectors. In the manufacturing sector, 37,866 (96.6%) out of the 39,219 establishments were SMEs. The total number of SMEs establishments in the services sector was 449,004 (99.4%) out of 451,516 companies. For the agriculture sector, of the 32,397 companies, 32,126 (99.2%) were SMEs (Isa, 2008).

	Total	Large	SMEs	Medium -sized	Small	Micro
Manufacturing	39,219	1,353	37,866	1,959	14,955	20,952
Services	451,516	2,512	449,004	9,544	78,539	360,921
Agriculture	32,397	271	32,126	544	1,681	29,901
Total	523,132	4,136	518,996	12,047	95,175	411,774

Table 2.1: The Number of Establishments According to the Size, Classification and Sector.
Source: Census of Establishment and Enterprises, 2005 (preliminary data), Department of Statistics

Distribution of SMEs in Malaysia

In 2003, Census 2000 by the Department of Statistics (DOS) reported that most of the manufacturing companies are located in the central parts of the country and around the country's major industrial regions. The largest concentration of manufacturing companies are in Johor, with 17.5 per cent, followed by Selangor, 16.7 per cent, Perak, 9.4 per cent and Pulau Pinang, 8.7per cent. SMEs in Johor are predominantly in the textiles and apparel and the wood-based sectors, while those in Selangor are largely involved in the transport equipment and electrical and electronics sectors. The majority of the food manufacturers are in the states of Perak and Johor (SMIDEC, 2003). This is in line with the report by Aris (2007), namely that SMEs were mainly concentrated in the Central Region (Federal Territory Kuala Lumpur and Selangor), accounting for 37.1 per cent. Johor was next with 10.4 per cent, followed by Perak with 7.3 per cent while Perlis registered only 1.1 per cent of the total establishments. The rest of the states accounted for less than 44.1 per cent (Aris, 2007).

2.3   Sources of funds for Malaysian SMEs[1]

Successful SMEs require support on all fronts, not least financially. In this respect, the Government has made access to finance into a priority in regards to its overall strategy for SME development. Action taken by the National SME Development Councils (NSDC) on this front includes; Establishment of the Small and Medium-sized

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[1] http://www.smeinfo.com.my

Enterprises Bank (SME Bank); Introduction of securitization of SME loans and introduction of new trade financing products for SMEs. SMEs in Malaysia can look to either Government-sponsored funding schemes, or tap into existing private sector SME initiatives for their funding needs.

Government-sponsored funding schemes

To support the development of SMEs, the Government provides a comprehensive set of financial assistance through the various Ministries and Agencies such as Ministry of Entrepreneur and Cooperative Development (MECD) and Ministry of Science, Technology and Innovation (MOSTI). Amanah Ikhtiar Malaysia (AIM), Bank Kerjasama Rakyat Malaysia Berhad, Bank Negara Malaysia (Central Bank of Malaysia), Bank Pembangunan Malaysia Berhad (BPMB) and Agrobank Malaysia are among the agencies that provide financial assistance for SMEs in Malaysia. Financial assistance are categorized into i) Type of Financial Assistance which includes Soft loans, Grants, Equity Financing, Venture Capital, Guarantee Scheme and Tax Incentives, or ii) Purpose of Financial Assistance which refer to the use of funds for Strengthening Skills of the Workforce, Entrepreneur Development, Marketing and Promotion, Product Development and Quality Accreditation, Technology Development, Debt Restructuring or General purposes.

Private sector financing

There are various private sector financing products available for SMEs in Malaysia. SMEs can approach banking institutions, development financial institutions, leasing and factoring companies, or venture capital companies for funding, depending on their needs. Banking Institutions essentially consists of Commercial Banks and Islamic Banks. Conventional, as well as Islamic, financing products are available for a wide range of needs. These cover various items, such as term loans, leasing and industrial hire-purchase for asset acquisitions or business expansions; overdrafts, revolving credit facilities and factoring for working capital; letters of credit (LC), trust receipts, banker's acceptance (BA) and Export Credit Refinancing (ECR) for trade financing; and bank guarantee as well as shipping guarantee facilities. Currently, there are 39 institutions (listed under the category of commercial banks which includes Islamic banks) operating in Malaysia. Government-backed Development Financial Institutions (DFIs) also provide SME financing in Malaysia. Small and Medium-sized Enterprises Bank (SME Bank), Export-Import Bank of Malaysia Berhad, Bank Kerjasama Rakyat Malaysia Berhad, Agrobank Malaysia, Malaysian Industrial Development Finance Berhad (MIDF), Credit Guarantee Corporation Malaysia Berhad (CGC) are among DFIs in Malaysia.

SMEs in need of expensive machinery need not only rely on hire-purchase arrangements as a means to finance their business. They may also choose to lease equipment which would give them use of equipment owned by a leasing company, in return for regular lease payments over a specific period of time. This allows for SMEs' use of vital

equipment without ever having to buy it. Any moveable asset (office equipment, vehicles, industrial and manufacturing equipment, as well as construction and heavy equipment) can be leased. SMEs may also choose to pledge their future income in order to obtain working capital. Factoring companies specialize in buying debt owed to a business, or account receivables, at a discounted price. If this happens, the factoring company will take over collection of the debt, while the company selling the debt receives money for a debt earlier, and up front. SMEs in need of capital injections might also look to venture capital companies. Venture capitalists willing to take a stake in a business will provide capital, usually in exchange for a minority stake in the company concerned. Businesses with expansion potential and the potential for an eventual listing on the stock exchange are favoured targets of venture capitalists. The money is often provided for long-term expansion projects undertaken by the company concerned.

2.4   SME financing in Malaysia

In a survey in November 2001, the Bank Negara Malaysia (BNM) found that nearly half (i.e. 47%) of 7,700 SMEs in the survey reported that they borrowed from banking institutions to finance their operation. Further sources of financing used by SMEs include self-finance (32.4%), other sources such as family, friend and supplier credit (11%), and only 4.1% of the SMEs were financed by development financial institutions (SMIDEC, 2005). A further survey performed by SMIDEC and NPC in 2003 acknowledged that, generally, SMEs utilise their own funds to finance their operations and access to finance, rather than the availability of funds being a major problem confronting SMEs. The survey indicates that 72 per cent of SMEs utilise internal sources

of funds to satisfy up to 40 per cent of their financing requirements. Loans and overdraft facilities provide another 33 per cent, while the remaining 7 per cent are met by family and friends and other sources. The major source of financing operations in SMEs continues to be internal funds (SMIDEC, 2003)

The SME Annual Report in 2005 revealed that, of the total 523,132 establishments that responded, 54,011 establishments provided responses on the difficulties faced in obtaining finance from banking institutions. The constraints faced by SMEs are lack of collateral (55.2%), insufficient documents to support loan application (13.1%), no financial track record (10.7%), long loan processing time (9.8%), financial institutions deem business plan as not viable (5.3%) and others (5.9%). Based on a total response from 139,845 SMEs on types of credit facilities utilised, short term loans were the type of credit facilities mostly utilised by SMEs, at 54.7%, followed by long term loans (30.2%). Other than this, leasing, factoring and other types of credit facilities are also utilised by SMEs with a percentage of 10.8%, 1.1% and 3.2% respectively (SMIDEC, 2005).

The same report also revealed that most SMEs used their own internally generated funds and funds sourced from friends and family members to finance their operations. Only 16% of SMEs indicated a reliance on finance from financial institutions (banking and development financial institutions-DFIs). In contrast, 50% of large companies indicated that financial institutions were their main source of funding. The following table further details the findings from the Census of Establishment and Enterprise 2005, Department of Statistics Malaysia.

CENSUS 2005	Own	Others	Friends and Family	Banking Institutions	DFIs	Total
SMEs	34%	25.7%	23.6%	13.4%	2.7%	518,996
Large	37.2%	4.7%	5.6%	47.6%	2.6%	4,136
Total	177,863	133,456	122,644	71,287	14,166	523,132

Table 2.2: Comparison of sources of finance used between SMEs and large companies
Source: SME Annual Report 2005

2.5   Issues among Malaysian SMEs

The issue of improved access to finance for SMEs has been recognized as an area of importance in APEC. Anecdotal evidence is often cited to the effect that SMEs are disadvantaged when it comes to accessing finance because of factors such as the relatively higher burden of transaction costs, financing gaps and finance market inefficiencies (APEC, 2002). The issue of entrepreneurship in Malaysia is closely tied to the political economic considerations unique to the Malaysian context, and thus, has its own set of constraints to contend with even while it is being developed.

The availability of funds is no longer an issue. Rather SMEs encounter difficulties in accessing such funds. Part of the problem could be overcome on the part of the SMEs themselves to provide full disclosure as to their financial status, repayment record and management capabilities in order to enable financial institutions to make an objective assessment of loan applications. Therefore, there is a need for SMEs to strengthen their administrative and financial management to ensure a better chance of taking advantage of various financial facilities available (SME Performance Report, 2003). This is in line

with the findings by Rozali et.al (2006) that one of the pertinent issues faced by SMEs is lack of accessibility to capital and credit facilities for the purpose of start-up and expansion. SMEs typically faced problems in getting the finance they needed from commercial banks and government support agencies. They failed to obtain finance, mostly due to their failure to provide sufficient business information and financial guarantees, as well as being insufficiently informed or poorly advised about appropriate sources of finance.

A lack of sufficient finance and access to credit are often cited as major handicaps in the development of SMEs, particularly in their early growth stages. For instance, it is estimated that close to 95 per cent of all SMEs rely on the personal resources of their owners and/or loans from friends and relatives to finance such enterprises. Thus, one of the factors hampering SME growth is access to finance (UNDP, 2007). The reasons why SMEs choose to forego incentive measures established to assist them include: (a) the bureaucratic maze (b) the vast amount of information sought before assistance is given and (c) the slow processing period (UNDP, 2007). For the future, capacity efforts need to focus on raising awareness among SMEs of the range of government services that are available. Still too many SMEs are unaware of grants and programmes and therefore do not apply (UNDP, 2007).

It is also reported that, although micro enterprises formed about 80% of small and medium-sized enterprises in Malaysia, only 13% of micro enterprises received finance from financial institutions (NSDC, 2007). Lack of access to finance is among the challenges faced by SMEs in Malaysia (Ting, 2004; UPS, 2008; Isa, 2008; Saleh and

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Ndubisi, 2006). Given the high priority accorded to SME development in Malaysia, the Government will continue to put in place various initiatives to strengthen finance providers, widen the avenues of financing and address specific issues faced by SMEs in accessing adequate finance. The ultimate goal is to ensure that SMEs at various stages of their business life-cycle, namely, start-up, business expansion and rehabilitation, have access to the necessary types of finance (SMIDEC, 2007).

The issue of challenges faced by SMEs in Malaysia have been addressed by many studies (Ting, 2004; UPS, 2008; Isa, 2008; Saleh and Ndubisi, 2006; Saleh et al., 2008). Besides lack of finance, other challenges faced by SMEs are the changing international market environment with increased globalization and liberalization; competition from the emerging markets; advancements in technology resulting in the shortening of product life cycle; global business trends of large corporations are to outsource their non-core activities and create opportunities for SMEs; nurturing innovative and resilient SMEs through mergers, consolidations and strategic alliances; access to the market is not only dependent on the domestic market; human resource constraints; a lack of innovation; high levels of bureaucracy in government agencies; lack, and cost, of professional and skilled workers; and limited access to better technology and Information and Communications Technology (ICT).

In 2001-2002, the Central Bank of Malaysia conducted a survey to assess the current situation of the SMEs, their requirements and identified issues that impede their development. In term of the financing of SMEs' operations, more than half, or 62%, had no problems obtaining finance. About 47% of SMEs reported that they borrowed from

banking institutions to fund their business, 32.4% are self-financed followed by 11%

relying on other sources of finance such as family, friends and supplier credit whilst

4.1% from financial institutions, private sector grants accounted 1.1% and 0.9% venture

capital finance. In this study, the problems faced by SMEs according to rank were: (i)

competition from bigger players; (ii) not able to obtain loans; (iii) not able to source

skilled labour; (iv) competition from new entrants; and (v) lack of government support.

The desired forms of government assistance by SMEs are (i) tax incentives; (ii) greater

access to finance; (iii) greater technological support; (iv) central body that collates and

disseminates information on SMEs; and (v) central training body (Saleh et al., 2008).

A study conducted in 2001 by the Central Bank of Malaysia showed: (i) the low

contribution of SMEs to GDP; (ii) their domestic-market orientation; (iii) the constraints

they face in terms of capacity, level of technology, access to markets and resources to

upgrade skills and production process; and (iv) limited access to finance. As SMEs grow

in size, they tend to rely more on financial and commercial institutions as sources of

finance. SMEs generally face difficulties in obtaining finance. The most significant

problem faced by SMEs in the three sectors was lack of collateral. The other difficulties

included insufficient documents to support loan applications, lack of financial track

record and viability of businesses. These accounted for more than 80.0 per cent of listed

difficulties in all sectors. At the same time, 9.8 per cent of SMEs also reported that the

processing time for loan applications was an added constraint (Aris, 2007).

The National SME Development Council (NSDC) in its SME Annual Report for the

year 2005 and 2006 revealed the findings of a survey conducted by Bank Negara

Malaysia in November 2001. Among others, the surveys reported that accounting, finance and audit are the type of advisory services mostly required by SMEs in Malaysia. The results also highlight that the majority of SMEs did not have access to advisory services, with those who have access mainly relying on advisory services provided by the private sector. The following figure shows the problems in business operations and desired forms of Government assistance among Malaysian SMEs.
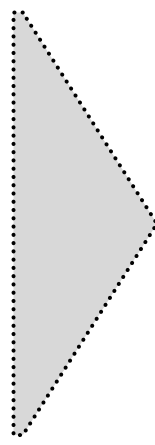
Rank	Problem		Rank	Desired Forms of Government Assistance
1	Competition from bigger players		1	Tax incentives
2	Not able to obtain loans		2	Greater access to finance
3	Not able to source skilled labour		3	Greater technological support
4	Competition from new entrants		4	Central body that collates and disseminates info on SMEs
5	Lack of Government support		5	Central training body

Figure 2.1: Problems in Business Operations and Desired Forms of Government Assistance.
Source: SME Annual Report, 2005

A recent survey by UPS Asia Business Monitor (ABM) in 2008 on SMEs in Asia found that lack of innovation, availability of a qualified workforce and inadequate government support continue to impede the competitiveness of SMEs in Malaysia. Fifty-eight per cent of the SMEs (including Malaysian SMEs) still experienced difficulties in financing their businesses. Of those that did face problems, the majority cited bureaucracy and red tape as the biggest setback and were found in markets where insufficient government support was also cited. Furthermore, the survey found that only 8% of SMEs polled

believe the initiatives to improve access to business finance have been highly effective while the majority (86%) is ambivalent about the effectiveness of the initiatives.

2.6   Studies on SME financing in Malaysia

Researchers	Topic studied	Response rate (No. of responses)	Target sample	Coverage	Methodology
Abdullah et al. (1999)	Outreach of SMEs' Support Programmes (to include Financial and Credit Assistance)	10.4% (323 SMEs)	3,069 SMEs	Bumiputera entrepreneurs in the state of Penang within all sectors of SMEs.	Survey interviews
Boocock and Shariff (2005)	Effectiveness of the New Principal Guarantee Scheme (NPGS) offered by the Credit Guarantee Corporation (CGC)	12.3% (92 SMEs)	750 SMEs	All sectors	Postal surveys, case studies.
Rozali et al. (2006)	Financing practices of small firms in Malaysia	17.5% (231 SMEs)	1317 SMEs	All sectors of SMEs in Malaysia	Postal surveys
Ab. Wahab and Buyong (2008)	Financing practices and problems of technology-based small and medium-sized enterprises (TBSMEs)	20% (94 SMEs)	462 SMEs	Technology-based SMEs throughout Malaysia	Postal surveys
Abdullah and Ab. Manan (2010)	Adequacy of Financial Facilities for SMEs	6.6% (201 SMEs)	3069 SMEs	SMEs in Klang Valley within all sectors.	Survey interviews.
Ab. Wahab (1996)	Financing of manufacturing SMEs	22% (112 SMEs)	520 SMEs	SMEs in manufacturing sector throughout Malaysia.	Postal surveys and case study (8 SMEs)
Osman and Hashim (2003)	Business Practices (including finance practices)	30.2% (151 SMEs)	500 SMEs	Manufacturing SMEs in Northern region of Malaysia	Survey interviews

Table 2.3: Summary of previous studies of SMEs financing in Malaysia

Previous studies of SME financing in Malaysia focus mainly on issues related to the sources and type of funds used by SMEs. In addition, some studies also focus on financial practices among SMEs when it comes to the use of funds. Apart from this, the literature on the financing of small firms also tends to focus on the difficulties inherent in the supply of finance (Rozali et al, 2006). As presented on table 2.3, previous studies of SME financing in Malaysia are either focused on one specific sector of SMEs or one state/region (see Abdullah et al., 1999; Ab. Wahab and Buyong, 2008; Abdullah and Ab. Manan, 2010; Ab. Wahab, 1996 and Osman and Hashim, 2003). Of the seven studies, only two of them incorporate all sectors of SMEs throughout Malaysia. Of these two, one of them (Boocock and Shariff, 2005) only focused on one area of SME financing, which is the effectiveness of New Principal Guarantee Scheme (NPGS) offered by Credit Guarantee Corporation (CGC).

In terms of the methodology applied, almost all of the previous studies applied surveys as the method of gathering data for their studies. All of them used questionnaires as the main instrument of data collection with the use of postal surveys and survey interviews. Two of seven studies use a case study, in addition to the postal surveys or survey interviews. Boocock and Shariff (2005), for example, conducted semi-structured interviews with borrowers and their lenders, and discussions with key informants of the SMEs. Response rate of these studies are from 6.6% to 30.2%. Postal surveys have the lowest response rates compared to survey interviews with the highest rate of response. This is something that has been anticipated when it comes to surveys among SMEs. Boocock and Shariff (2005) mentioned that "The problems associated with conducting research in a mixed-race, multilingual society should not be underestimated. It is

relatively rare for SMEs in Malaysia to receive academic questionnaires, and there was a degree of suspicion concerning this document. A number of follow-up telephone calls revealed that potential respondents were reluctant to reveal any information on the financial aspects of the business, fearing that 'the authorities' would subsequently contact them".

In brief, previous studies of SME financing in Malaysia mainly focus on either one specific area of SME financing (e.g. sources and type of funds used, problems related to financing, general financing issues etceteras), specific state or region of Malaysia, or specific sector of SMEs. Most studies also tend to incorporate the use of traditional ways of data collection, which are postal surveys or structured survey interviews.

2.7   Capital structure studies in Malaysia

Previous studies on capital structure among Malaysian firms are mainly focused on large-public-listed firms in Malaysia (see Booth et al., 2001; Deesomsak et al., 2004; Zain, 2003; Pandey, 2004; Wan Mahmood and Mat Kila, 2008; Gurcharan, 2010: Ahmed and Hisham, 2009). Booth et al. (2001) used financial data from 96 listed firms in Malaysia to study the capital structure choices among firms in developing countries. Their findings suggest that much remains to be done to understand the impact of different institutional features on capital structure choices. In the same way, Deesomsak et al. (2004) study the determinants of capital structure among firms in the Asia Pacific region, by incorporating 669 listed Malaysian firms. Similarly, they suggest that the capital structure decision of firms is influenced by the environment in which they

operate, as well as firm-specific factors identified in the extant literature. In addition, studies of Malaysian firm's capital structure by Zain (2003) also employ 572 listed firms' data. Her study was based on the financial data of the samples and also the manager's response to a questionnaire survey in understanding capital structure among Malaysian firms.

Likewise, Wan Mahmood and Mat Kila (2008) in their study of the firm's characteristics and capital structure of Malaysian firms also used listed firms as their sample of study. Their study found that the size, liquidity and interest coverage ratio is significantly negatively related to total debt. However, the study finds insignificant negative relations between capital structure and the growth of the firm. A recent study of the Malaysian capital market by Ahmed and Hisham (2009) focused primarily on testing the pecking order hypotheses and static trade off model. 102 listed firms were involved, and the study confirm that Malaysian firms do not too much care about the tax-shield benefit derived from employing both debt and non-debt tax shields. Furthermore, Pandey (2004) study the issue of relationships between capital structure with market power and profitability in Malaysia involving 208 listed firms in Kuala Lumpur Stock Exchange (KLSE). Gurcharan (2010) again studied the determinants of optimal capital structure among 155 listed firms covering four different ASEAN countries namely, Malaysia, Indonesia, the Philippines and Thailand.

Studies on capital structure among Malaysian SMEs are scarce. Previous studies have mainly focused on financing patterns among small businesses, and revolved around the issue of financing sources used by SMEs throughout their business life cycle, their

access to finance, and difficulties in getting funds needed for their business. A study on the financing patterns of small firms by Beck et al. (2008) integrates a firm-level survey database covering 48 different countries. 21 Malaysian firms were involved, which comprises small (10), medium-sized-sized (6) and large (5) firms. In terms of financing patterns, it was found that 40.62% of financing among Malaysian samples came from external sources that consist of bank (13.81%), equity (4.76%), and leasing (3.48%). Supplier credit, development bank and informal finance make up the rest with 13.81%, 4.05% and 0.71% respectively. In addition, Ab. Wahab and Buyong (2008) focused their study on financing practices and problems among 462 technology-based SMEs in Malaysia. Their study is focused primarily on the issue of needs, patterns, use of and difficulties in obtaining external finance. They also incorporate two key independent variables, namely the firm characteristics (age, size, and stage of business development) and entrepreneurs' characteristics (age, gender, marital status, education level, training and work experience). A recent study by Abdullah and Ab. Manan (2010) looks into the issue of adequacy of financial facilities among 201 SMEs in Malaysia located the area of Klang Valley. Their study attempts to evaluate the availability, accessibility and adequacy of the support facilities for SMEs in Malaysia.

A similar study by Ismail and Razak (2003) studied the choice between equity and debt among small-medium-sized firms in Malaysia to test the agency theory using financial institutions (FIs) record. They found that small-medium-sized firms prefer to choose debt financing rather that equity financing to set up and expand their businesses. Their study incorporates variables such as firm size, firm age, organizational form and intended use of funds among 167 small-medium-sized firms involved. A more thorough

study of the topic of financing SMEs by Ab. Wahab (1996) comparing the financing activities among small manufacturing firms in developed (UK) and developing (Malaysia) countries. 520 SMEs in Malaysia were involved, and their financing activities or patterns (types of finance, source of equity finance and source of debt finance) were studied.

The following table summarizes type of firms sampled in the previous studies on the issue of the firm capital structure in Malaysia (or involving a sample of Malaysian firms as part of the study).

Authors	Topic studied	Type of firms sampled
Booth et al. (2001)	Capital structure choices in developing countries	96 listed firms in Malaysia
Deesomsak et al. 2004)	Determinants of capital structure of firms operating in the Asia Pacific region.	669 listed Malaysian firms
Pandey (2004)	Relationship between market power, profitability and capital structure	208 listed firms in Malaysia
Gurcharan (2010)	Determinant of optimal capital structure	155 main listed companies from four selected ASEAN stock exchange (Malaysia, Indonesia, Philippines and Thailand)
Zain (2003)	Malaysian firm's capital structure	572 listed firms' data
Wan Mahmood and Mat Kila (2008)	Capital Structure and Firm Characteristic	17 listed firms
Yau et al. (2008)	Testing whether Malaysian firms practice a Pecking Order Theory in their capital structure.	Range of 53 to 73 listed firms from the year 1999 to 2005.
Ahmed and Hisham (2009)	Testing the Pecking Order Hypothesis (POH) and Static Trade-Off Theory of Capital Structure	102 listed firms
Beck at. al (2008)	Financing pattern around the world	21 Malaysian firms consists of small (10), medium-sized (6) and large (5) firms.

Ab. Wahab and Buyong (2008)	Financing practices and problems of technology-based small and medium-sized-sized enterprises (TBSMEs) in Malaysia	462 technology-based SMEs in Malaysia
Abdullah and Ab. Manan (2010)	Adequacy of Financial Facilities for Small-Medium-sized Businesses	201 SMEs in Malaysia
Ismail and Razak (2003)	Debt-equity choice among SMEs	167 small-medium-sized firms
Rozali et al. (2006)	Financing demand of SMEs	1317 SMEs
Ab. Wahab (1996)	Financing of SMEs in manufacturing sector. Comparative study between Malaysia and UK.	520 SMEs in Malaysia

Table 2.4: Summary of previous capital structure studies in Malaysia

2.8   Motivation and justification for study

The literature on capital structure practices among Malaysian firms is primarily based on studies of large-listed firms. While some studies have been undertaken with regard to SMEs, the understanding and knowledge of how SMEs behave in terms of their financing activities remains inadequate. The lack of available literature on this particular topic also proves that there is a need for additional studies among Malaysian SMEs.

A better understanding of the financing behaviour of small firms and how they change with institutional development has important policy and resource implications. Many policymakers in governmental and international aid organizations believe that in developing countries small firms have inadequate access to external finance as a result of market imperfections. In response, significant resources are channelled into the promotion and financing of small and medium-sized-sized enterprises (SMEs) in developing countries.

An understanding of how financing patterns of small firms differ across institutional environments is an important first step in assessing these costly policies (Jooeveer, 2005). The availability and accessibility of funds for SMEs are one of the main issues that have been addressed in previous studies. Indeed, academic and social studies have been conducted among SMEs to assess their financing need and behaviour. These include type and use of funds, difficulties in raising funds for business activities, and in general, the financing practices of SMEs throughout their business life.

A limited number of studies have been conducted on SMEs in Malaysia, however, and this deficiency is particularly evident in investigations into the factors that influence their funding decisions. This particular study will place emphasis on studying financing preferences among SMEs within Malaysia. In addition, the topic of the determinants of capital structure among them will also be studied. This subject matter remains one of the most contentious issues, if not a puzzle, in finance. A number of theories have attempted to explain the variation in debt ratios across firms. The theories suggest that firms select capital structure depending on attributes that determine the various costs and benefits associated with debt and equity financing. The issue of whether these findings are valid for other firms, especially SMEs, has received limited attention (Abor and Biekpe, 2007). These will add to the existing knowledge of financing patterns among SMEs, and also what factors affect the capital structure decisions from the managerial point of view.

The emphasis of this particular study on successful SMEs is based on the understanding that this particular group of SMEs plays significant roles in the economic contribution to the country. In Malaysia, SMEs are classified into micro, small and medium-sized-sized

enterprises. Within the respondents of this study, large proportions of successful SMEs are found to be from the group of small and medium-sized-sized enterprises. The economic contributions of this particular group of SMEs were evidenced. For instance, although micro enterprises form the bulk of establishments of SMEs in Malaysia, their overall contributions to productivity and employment are less when compared to small and medium-sized-sized enterprises. The same case goes to the value added of SMEs in Malaysia which is proven to be contributed mainly by small and medium-sized-sized enterprises. These evidence suggest significant contributions of the successful SMEs to the Malaysian economy.

2.9   Conclusion

Small and Medium-sized-sized Enterprises (SMEs) play a very important role in a nation's economy. SMEs have become one aspect of the national agenda where the government has made a concerted effort to improve SMEs' stages of business development. Developing a group of diverse and competitive SMEs remains a central theme in achieving sustainable economic growth. SMEs are crucial to the economic growth process, and play an important role in the country's overall production network as they play a critical role in the country's industrialization program, through the strengthening of both forward and backward industrial linkages.

SMEs will assume these roles by complementing the activities of large-scale industries through integration into the mainstream of industrial development and the provision of critical parts and components as well as expanding their market internationally. SMEs

contribute substantially to the economy, and can provide a strong foundation for the growth of new industries, as well as strengthening existing ones, for Malaysia's future development. The existence of financing-related issues among Malaysian SMEs shows that there is a need for a further study of financing behaviour among SMEs to capture the essence of their financing needs.

Chapter 3

Reviews of Theoretical Literature

3.1 Introduction

Investigations into the financial practices of SMEs are still limited, as the focus of both academic research and practical financial analysis has been on those large corporations with publicly traded debt and equity securities that dominate economic life throughout the developed world (Chen, 2004). The topic of financing preferences and capital structure decisions, for example, are an area of financial practices that can be studied to enhance general understanding of the financing decisions of SMEs.

Apart from using financial data, the financing behavior of SMEs should include managerial beliefs and their relationship to firm's financial practices. Managerial role involve decision making related to firm's financing needed to be included as the essential elements in increasing the understanding of managerial preferences for various sources of financing. Understanding the managerial motivation behind the financial decision will lead to a better understanding of the financial practices of SMEs. Apart from financing preferences, firms' capital structure decisions can be considered a difficult problem for academics, as well as for managers (Esparanca and Gama, 2003).

Previous research on the topic has been conducted on relatively large companies (Joeveer, 2005) and has mostly been derived from data from developed economies that have many institutional similarities (Booth et al., 2001). Myers (2001) indicates that

most research on capital structure has focused on public, non-financial corporations with access to U.S or international capital markets. Corporate debt policy has been studied in the context of both large and small firms in developed countries, but comparatively fewer developed countries have received attention in the literature. Yet the topic is crucial, at both corporate and social levels, given the contribution of small firms to employment and economic growth in both developed and less developed countries (Esparanca and Gama, 2003). There are no stylized facts about the capital structure of small firms, and this appears very important in exploring the capital structure of small firms, as well as large firms. Small firms are big when taken as a whole (Joeveer, 2005).

The following section begins with a brief discussion of small business finance, followed by reviews of previous studies on the topic of financing preferences, with the aim of finalizing and explaining the variables for determinant of manager's financing preferences for different sources of financing. Discussions regarding capital structure are also included, so as to focus on their definition and capital structure theories. In addition, previous studies of determinants of capital structure are reviewed (to include studies on both large firms and SMEs) with the objective of finalizing and explaining the variables for determinants of firm's capital structure. The direction of relationships between the explanatory and outcome variables chosen for each study is then explained. This is followed by discussions of selections of indicators for each variable involved. Finally, the conceptual model developed based on the reviews of previous literature on manager's financing preferences and firm's capital structure is presented.

3.2 Small business finance

The rationale for studying small businesses as well as large businesses in terms of their financial management practices was once questioned. There is no rationale for studying the financial practices of small businesses apart from their larger counterparts, if there are no fundamental differences between those two. This particular question was later solved, as it has been proven that there are unquestionable differences in the financial management of small and large businesses (Keown et al., 1985).

The following table summarizes the financial data for small and large companies on the basis of a study conducted by Walker and Petty (1978).

	AVERAGE VALUES	
	Small Firms	**Large Firms**
Liquidity indicators		
Current ratio	2.00X	2.77X
Account receivable turnover	7.04X	6.40X
Inventory turnover	8.47X	5.31X
Current liabilities/total debt	83.70%	62.99%
Profitability indicators		
Operating profit margin	10.91%	9.20%
Account receivable turnover	7.04X	6.40X
Inventory turnover	8.47X	5.31X
Fixed assets turnover	9.40X	3.50X
Financing indicators		
Debt/total assets	49.00%	38.05%
Current liabilities/total debt	83.70%	62.99%
Fixed charges coverage	33.16X	22.47X
Business risk indicator		
Variability of operating income	21.94%	7.71%
Dividend policy indicator		
Dividend/earnings	2.91%	40.52%

Table 3.1: Summary of financial indicators for small and large firms
Source: Earnest W. Walker and J. William Petty II, "Financial Differences between Large and Small Firms," Financial Management, winter 1978, pp. 61-68.

Some differences between small and large firms were identified from these particular studies, namely dividend policies, liquidity, business and financial risk. In terms of capital structure, small firm's capital structure seems to be more debt oriented. Keown et al. (1985) also quote: "The financial management of the small firm is a topic that has attracted increasing interest. The nature and magnitude of financial policies and practices depend upon the size of the firm. Small firms (1) tend to rely more heavily on the retention of earnings as a way to build equity, (2) have less liquidity, (3) use greater amounts of debt, and (4) experience more business risk".The traditional view of the financing of small, growing firms states that the small firm starts by relying upon the owner's resources in terms of the personal wealth which he is able to put into the business. If the business is successful and profitable this will be augmented by retained profit. As the business becomes established, other sources of finance become available from suppliers, in the form of trade credit, and from commercial banks in the form of loans and overdrafts. If the firm is growing or wishes to grow, it is likely that it will consider other available sources such as hire purchase finance, leasing arrangements and perhaps factoring or debts (Hutchinson and Ray, 1983).

In differentiating small firms from large firms regarding their financing activities, Hutchinson and Ray (1983) refer to a study by Bates (1967) that notes the following: (a) Small firms tended to have to rely heavily on their savings than did large companies, but most rapidly growing firms in both groups tended to be self-financed to a lesser extent than average, (b) The very largest and very smallest companies tended to finance a large part of their capital expenditure from their own savings, (c) Large concerns, particularly quoted public companies, had higher liquidity than small firms, (d) Capital issues were

rare and not very important in small private companies but more important for quoted companies, (e) Quoted companies were more highly geared than unquoted companies or private companies, (f) All groups relied considerably on bank loans, with perhaps slightly more emphasis being placed on this source of funds in private companies, (g) Trade credit was much more significant as a source of funds in private companies (particularly among small, rapidly growing companies) than in public companies, (h) Director's loans were common in small firms, although the sums raised were small, but were insignificant in large concerns, and (i) Hire purchase was widely used in private companies, much less so in public companies. Leasing, on the other hand, was more widespread in public companies.

Osteryoung et al., (1997) added that the difference between large and small businesses become more apparent in the area of obtaining funds. Funding for the profitable large business is often readily available through either public equity or debt markets, whereas for small businesses, these markets do not exist. This is supported by Bates and Hally (1982), who argue that while all firms have problems of some sort with finance, big firms, however, have access to sources denied to the smaller and medium-sized-sized concerns, and they frequently have specialized finance departments which give them further advantages. McLaney (2009) suggested that there are few areas of business finance where the broad principles that apply to large businesses do not equally well apply to small ones, but there are certainly some areas where emphasis is different and where small businesses tend to have their own particular problems.

The capital structure decision must be regarded as residual, in that the owner of a small business does not have the choices available to larger firms with access to the public capital market. The small business acquires finance where it can, and always attempting to minimize the cost of capital, but it is constrained by its limited access (Osteryoung et al., 1997). The limited access is often cited, as small businesses find it difficult and more expensive to raise external finance than do larger ones and for that reason they are forced to rely on internally generated funds to a great extent (McLaney, 2009). The existing financial differences between small and large firms make it worth investigating. The understanding of financial practices among small businesses has not been well studied, and this particular study will look into this matter by placing emphasis on the area of financing preferences and the determinants of capital structure among SMEs in Malaysia.

The following section will focus on the topic of financing preferences with regard to factors in explaining firm's financing preferences and also theories related to the capital structure. A discussion on the firm's financing preferences will strongly emphasize on the manager's financing preferences, which are believed to be reflecting the overall firm's preference for financing.

3.3   Financing preferences

Investigation into SMEs' financing choices often seeks explanation as to the issue in terms of a firm's characteristics (firm size, age, asset structure, and profitability; to name a few) without considering one important aspect of small business and entrepreneurship,

which is the role of the SME owner (Mac an Bhaird, 2010). Norton (1991) is often cited by those researching the financing behavior of SMEs (Coleman, 2007; Mac an Bhaird, 2010; Romano et al, 2000; Paul et al, 2007) to include the importance of understanding managerial beliefs and its relationship to firm's capital structure. Norton (1991) cited by Mac an Bhaird (2010) stated that *'In small businesses and entrepreneurial firms, managerial beliefs and desires will play an especially important role in determining capital structure....models must include the role of management preferences, beliefs, and expectations if we are to better understand capital structure policy'*.

The important managerial role, primarily the one that relates to the issue of financing decisions, is a fundamental element in this study concerning managerial preferences for various sources of financing. Although managerial preferences might not precisely resemble the observed capital structures, the information provided will offer evidence of motivations behind the financing decision (Mac an Bhaird, 2010). He also point out that there is evidence of a relative paucity of published papers employing the influence of firm owners' business goal, objectives and preferences on issues related to SME financing. Incorporating managerial elements in improving understanding of financial practices among SMEs is thus very much needed.

Mac an Bhaird (2010) outlined two approaches used in relation to owner characteristics examined in previous studies into owners' personal characteristics (age, gender, race, education, experience) and owners' preferences, business goals and motivations. Likewise, Low and Mazzarol (2006) found that the personal characteristics of the owner-managers play a significant role in determining their financing preference. These

characteristics may provide some additional predictive power in explaining the firm's capital structure (Cassar, 2004). Irwin and Scott (2010) for instance, developed a conceptual model to explain the barriers to raising bank finance among SMEs in the UK in relation to owner-managers' education, gender and ethnicity. They have suggested that the personal characteristics of the owner-managers of the SMEs did make some difference to the capability of entrepreneurs in raising business finance.

In this study, selecting managerial characteristics was executed through reviews of past studies, particularly on the personal characteristics of SMEs' managers. The following two sections will discuss reviews of earlier studies on financial practices among SMEs (with regards to the managerial characteristics of those SMEs), and also selected manager's characteristics which were chosen for this particular study of manager's characteristics and their preferences for different sources of financing.

3.3.1   Previous studies of financial practices and managerial characteristics.

The following table summarizes previous studies concerning the financial aspects and practices of firms which integrate managerial characteristics as one of the indictors:

Author	Managerial characteristics used
Vos et al., (2007)	Age, education
Wu et al (2008)	Age, education, experience
Buferna (2005)	Age, knowledge and experience
Low and Mazzarol (2006)	Education, age, experience
Cassar (2004)	Experience, education, gender
Irwin and Scott (2010)	Gender, ethnic groups, education

Carter and Rosa (1998)	Gender, age, number of children, business experience.
Boden and Nucci (2000)	Gender, experience, marital status, age, hours worked per week in business
Romano et al (2000)	Age, business ownership
Watson (2006)	Gender, education, experience
Roper and Scott (2009)	Gender, ethnicity, household income, work experience
Coleman (2000)	Gender
Storey (1994)	Experience, gender, education, age, birthplace, employment status
Hussain et al., (2010)	Gender, networking (*guanxi*)
Verheul and Thurik (2001)	Gender, Experience, Education
Zhang (2008)	Age, political connections, education, native status, experience, credit rating status
Osei-Assibey et al. (2011)	Age, education, gender, business ownership
Gebru (2009)	Ownership status, education, age
Sena et al., (2012)	Risk preferences, previous entrepreneurial experience, academic qualification, property ownership, socioeconomic background , marital status, father's occupation , government support
Coleman and Cohn (2000)	Gender, education, age, experience
Scott and Irwin (2009)	Gender, ethnic groups, education
Borgia and Newman (2012)	Managerial characteristics (managerial network ties, education and experience) and attitudes (managerial aversion to external control, risk-taking propensity and growth intentions)
Bates (1990)	Education, management experience, age

Table 3.2: Financial practices and managerial characteristics: studies among SMEs

Studies integrating managerial characteristics were found to use similar indicators of managerial characteristics. Gender, age, education, experience and business ownership are among indicators that are often used in relation to understanding firms' financial practices.

3.3.2 Determinants of manager's financing preferences

Based on the previous discussion of reviews of earlier studies of managerial characteristics and firm's financial practices, the following section discusses selected

manager's characteristics (gender, age, level of education, working experience and business ownership) which were used in this study to investigate the managers' level of financing preferences for various sources of financing.

Gender

Cassar (2004) found evidence to support the argument that there is no significant relationship between decision makers' gender and their financing preferences. Likewise, Verhaul and Thurik (2001) also found evidence to support that gender has no influence on the likelihood of getting type of loan and proportion of bank loans. Coleman (2000) found differences between female and male-owned businesses with regard to the use of various credit products. However, the owner's gender is found to be not significant within models predicting the use of various credit products, indicating an absence of lender discrimination in providing access to capital. Hussain et al., (2010) conducted an exploratory study on gender differences and access to financing in China, and they suggested that female entrepreneurs are proven to be equally advantageous with male entrepreneurs when it comes to obtaining business financing as both male and female entrepreneurs are found to have used connections and networks (guanxi) in obtaining financing, equally. Overall, they conclude that there is no significant gender-based difference in the use of guanxi and access to external finance among Chinese SMEs. Irwin and Scott (2010) in their study found that women entrepreneurs have better access to banks. However, this finding is proven to be not significant and it have been concluded that gender has no influence on SMEs' access to bank finance.

In contrast, Watson (2006) found an association between firm's debt to asset ratio and firm's growth with owner's gender. Female owners are found to be less likely to use debt capital compared to male owners. In addition, Coleman and Cohn (2000) point out that manager's gender may have an influence on capital structure and financing in relation to differences in credit discrimination, risk aversion or the association between levels of capital and a particular gender. This is supported by findings from studies by Carter and Rosa (1998) that identified clear and quantifiable gender differences and similarities in some areas of business financing with male managers found to have used larger amounts of capital at business start-up and at on-going business financial arrangement, than female managers. Scott and Irwin (2009) in their study concluded that owner-managers' characteristics (including gender) have an influence on the use of external advice and, in turn, would reduce the difficulties in raising finance among UK SMEs.

Finally, Osei-Assibey et al. (2011) found a mixed relationship between gender and financing at different stages of business life. At start-up, female owners are likely to access formal banking credit rather than the male owners. However, there are no significant differences to be found between these two in term of their financing preferences for on-going finance.

Age

Managers' age appears to be a significant factor in explaining firm's financing pattern where younger managers tended to have significantly lower start-up capital than older

managers (Carter and Rosa, 1998). Likewise, Wu et al., (2008) found a relationship between manager's age and business financing, concluding that middle age managers have better knowledge of the financial market and are more likely to take advantages of bank financing. Another study by Vos et al., (2007) found similar yet contrasting results where older SME owners are less likely to seek or use external financing while younger managers are found to use external financing actively. In contrast, Buferna (2005) and Cassar (2004) found that managers' ages are not statistically significant with the level of debt used. Romano et al. (2000) also found that the age of the firm's Chief Executive Officer (CEO) is not a significant predictor of a firm's debt use.

Level of education

Zhang (2008) point out that an entrepreneur with a better formal education is more likely to employ formal financing. Likewise, managers with attainments in higher education are also found to be more likely to take advantage of bank financing (Wu et al., (2008). Another study by Vos et al., (2007) found that less educated SME owners are found to use external financing actively, while more educated SME owners are found to be less likely to seek or use external financing. Similarly, Coleman and Cohn (2000) found some evidence of manager's education to be positively related to external loans. This is supported by Cassar (2004), who point out that education level reflects better human capital and correlates more positively with a firm's access to debt capital. Education is also found to be associated with the refusal of finance in the sample consisting male and female managers (Carter and Rosa, 1998). Watson (2006) includes the owner's level of education as a means of indicating the owner's human capital, and found that an owner's

education is significant in explaining a firm's debt to asset ratio. He points out that, compared to owners with tertiary educations, firms whose owners have a school qualification are significantly more likely to have a higher debt to asset ratio. In addition, Storey (1994) found that the only significant personal characteristics variable in predicting the use of bank financing is educational qualifications which indicate that the banks are more likely to lend to owner-managers with formal qualifications. Likewise, Osei-Assibey et al. (2011) in their study found that owner's education attainment is significantly related to firm's financing preferences. They believe that education attainment substitutes for collateral during business start-up to reflect loan repayment ability. However, it was found that formal finance is less preferred by highly educated owners for on-going finance. Finally, Gebru (2009) found the owners' level of education to be major determinants of their financing preferences. Less educated SME owners rely more on their internal sources even if there are possibilities for external finance, while more educated owners are found to make use of external finance scheme even if internal sources are not exhausted.

In contrast, Buferna (2005) studied the effect of manager's level of education on the firm's leverage ratio, finding that although not statistically significant managers with a lower level of education use more debt than those with a higher level of education. Additionally, Cassar (2004) also found evidence to support the argument that there is no significant relationship between decision maker's levels of education and their financing preferences. Owner-managers' education level was found to have no significant influences on sources of finance used by SMEs in the UK. Nevertheless, owner-managers with a higher level of education having less difficulty in obtaining finance for

their business compared to those with a lower education level who were found to be more frequently employed finance from friends and family and home remortgaging (Irwin and Scott, 2010). Likewise, a study by Sena et al., (2012) found that, although not statistically significant, educational qualifications have a positive relationship with the use of external financing. SMEowner-managers with any type of qualification are more likely to approach external funders than respondents without qualifications. This is similar to the findings of Scott and Irwin (2009) where it was proven that owner-managers' education have an influence on the use of external advice among UK SMEs and, in turn, would reduce the difficulties in raising finance among them. Borgia and Newman (2012) also found evidence to prove that owner-manager's educational level was not found to influence the amount of debt supplied to Chinese SMEs significantly.

Working Experience

Managers' experience can also be considered as a measure of reputation and private entrepreneurs who run businesses with a long history are more likely to choose formal financing (Zhang, 2008). The experience signals better human capital and increases firm's access to debt capital (Cassar, 2004) where managers with a greater level of business experience are found to take advantage of bank financing (Wu et al., 2008). Borgia and Newman (2012), for instance, found that owner-managers' experiences are significantly and positively related to the level of firm leverage among Chinese SMEs. Work experience is also associated with a lower level of perception of financial barriers to start-up. However, it is proven that there is only a weak and insignificant gender influence of work experience on perceived financial barriers among entrepreneurs in UK

(Roper and Scott, 2009). In contrast, managers' experience is found to have no significant effect on the use of debt but does show evidence of a positive correlation between these two i.e. debt ratios increase gradually with manager's level of experience (Buferna, 2005). Likewise, previous entrepreneurial experience is found to have a positive (though not significant) impact on an individual's willingness to seek external funding (Sena et al., 2012). Another study by Watson (2006) incorporating managers' experience in predicting a firm's debt to asset ratio and firm's growth found that this particular variable is not associated with both outcome variables.

Business Ownership Status

Ownership structure is an important determinant of capital structure in SMEs. It is negatively related to external equity and positively related to internal equity (Mac an Bhaird and Lucey, 2006). Level of ownership of partners to the Joint Venture (JV) influences the capital structure of the firm where foreign partners use more debts compared with the host partners and this may be explained by the perceived risk of doing business in Ghana and the unfavorable tax laws governing the repatriation of dividends (Boateng, 1998). Osei-Assibey et al. (2011) also found that ownership structure is statistically significant in the future financing model indicating a relationship between this particular variable and firm's financing preferences. As level of interference increases due to the ownership changes, firm's preferences for formal financing also increase. In this case, firms are found to try to minimise intrusion into their business by opting for formal financing rather than equity-type of financing. However, Cassar (2004) indicates that the organization type provided no explanatory

power with regard to the proportion of leverage in the firm but, external financing appeared to increase as a result of the firm being incorporated.

In summary, manager's personal characteristics are believed to be a good indicator of a firm's overall capital structure decision. Incorporating these aspects in investigating the preference of financing among SMEs are important not only in providing clear and better understanding of SMEs capital structure but in improving knowledge about how these aspects influence SMEs in their capital structure decision.

3.4   Capital Structure

3.4.1   Definition of capital structure

Keown et al. (1985) define capital structure as a mix of long-term sources of funds used by the firm which is also called a firm's capitalization with emphasise on the relative total (percentage) of each type of fund. They also define the mix of all funds sources that appear on the right-hand side of the balance sheet as financial structure. On the other hand, Pike and Neale (2009) define capital structure as the mixture of debt and equity resulting from decisions on financing operations. This definition is also used by Osteryoung et al. (1997) in explaining capital structure. Firm's capital structure mainly consists of two different sources of funds, namely debt and equity. The debt capital in a company's capital structure refers to borrowed money that is at work in the business. Debt financing then were divided into two types depend on the repayment term either less or more than 1 year. Some may find it divided into three which include medium-

sized term repayment between these two. Most common financial reporting distinguish term of repayment of debt financing into short-term liabilities (liabilities to be paid within 1 year), and long-term liabilities for those financial obligations that need to be paid off within more than 1 year period.

Other source of funds for a business comes in the form of equity. This source of funds refers to the funds put up and owned by the shareholders (owners) and typically consist of contributed capital, which is the money that was originally invested in the business in exchange for shares of stock or ownership and retained earnings which represents profits (net income) that have been kept by the company to be reinvested and used to strengthen the balance sheet or fund growth, acquisitions, or expansion.

In summary, capital structure refers to the proportions of funds raised from different sources, and is generally classified as either debt or equity. The term itself is often used to indicate the mix of debt and equity in a firm's financing.

3.4.2 Capital structure theories

Over the past 40 years, much capital structure research has advanced theoretical models to explain the capital structure pattern and also to provide empirical evidence concerning whether the theoretical models have explanatory power when applied to the real business world (Chen, 2004). The present theories of capital structure are conditional. They are relevant in different settings. This is well documented in empirical studies of capital structure, which have found support for all theories. Firm behavior seems to be a

hybrid of the proposed theoretical foundations (Joeveer, 2005). The capital structure of a project in general (or a firm) more specifically, reflects the structure of financial sources used in the project (or in a firm). Funds used to keep the project going may be generated internally or externally. When raising funds externally, entrepreneurs should choose between issuing debt or equity (Esparanca and Gama, 2003). The studies of capital structure try to explain a firm's capital structure which reflects the combination of securities and financing sources used by the firm. Most of the research on capital structure has focused on the proportions of debt versus equity observed on the right-hand sides of corporations' balance sheets (Myers, 2001). He also points out that *"There is no universal theory of the debt-equity choice, and no reason to expect one. There are several useful conditional theories, however"*.

Finance theory offers two broad competing models which are trade-off theory and pecking order theory (Tong and Green, 2005), and these two theories appear to have the most support (Seifert and Gonenc, 2008). Booth et al., (2001) in their study considers three principal theoretical models of capital structure: the Static Trade-off Model, the Pecking-Order Hypothesis, and the Agency Theoretic Framework where in each model, the choice between debt and equity depends on both firm-specific and institutional factors. Theories of optimal capital structure differ in their relatives emphases on certain factors. The trade-off theory emphasizes taxes, the pecking order theory emphasizes differences in information, and the free cash flow theory emphasizes agency costs (Myers, 2001).

Empirically, distinguishing between these hypotheses has proved to be difficult (Booth et al., 2001; Tong and Green, 2005). In cross-sectional tests, variables that describe one theory can be classified as others and vice versa (Booth et al. 2001). Trade-off did better in one case (large equity issues of low-leverage firms) and pecking order in the other (the negative impact of profitability on leverage) (Tong and Green, 2005).

3.4.2.1 Trade-off Theory (TOT)

The theory of capital structure has been dominated by the search for optimal capital structure. The simple form of the target adjustment model states that changes in the debt ratio are explained by deviations of the current ratio from the target. Unfortunately, the target is unobservable (Shyam-Sunder and Myers, 1999). Firms seek debt levels that balance the tax advantages of additional debt against the costs of possible financial distress (Myers, 2001). Seifert and Gonenc (2008) state that the trade-off theory arrives at an optimal capital structure by balancing the benefits of debt (tax and reduction of free cash flow problems) with the costs of debt (bankruptcy and agency costs between stockholders and bondholders).

A firm is viewed as setting a target debt-to-equity ratio and gradually moving for it. This implies that some form of optimal capital structure exists that can maximize the firm value while simultaneously minimizing external claims to the cash flow stream. Such claims include taxes, bankruptcy costs, and agency costs (Kjellman and Hansen, 1995). A value-maximizing firm will pursue an optimal capital structure by considering the marginal costs and benefits of each additional unit of financing, and then choosing the

form of financing that equates these marginal costs and benefits. The benefits of debt include its tax advantage and the reduced agency costs of free cash flow; costs include the increased risk of financial distress and increased monitoring and contracting costs associated with higher debt levels (Tong and Green, 2005). Applicability of the trade-off theory to the SME has been the focus of a number of studies as the debt tax shield is as relevant for SMEs as it is for publicly quoted firms (Mac an Bhaird, 2010).

3.4.2.2 Pecking Order Hypothesis (POH)

The pecking order theory of capital structure is among the most influential theories of corporate leverage (Frank and Goyal, 2003), and contrasts with the static trade-off theory. Firms are said to prefer internal to external financing and debt to equity if it issues securities. In the pure pecking order theory, the firm has no well-defined target debt-to-value ratio (Myers, 1984).The pecking order hypothesis describes a hierarchy of financial choices firms make. According to the pecking order hypothesis, internally generated finance is preferred first, followed by debt (safe and then risky) and lastly outside equity (Seifert and Gonenc, 2008). The firm will borrow rather than issue equity, where internal cash flow is not sufficient to fund capital expenditure. Thus, the amount of debt will reflect the firm's cumulative need for external funds (Myers, 2001).

The model emphasizes that firms prefer internal to external financing and debt to equity if it issues securities. In the pecking order theory, a firm has no well-defined target capital structure (Kjellman and Hansen, 1995). A strict interpretation of this model suggests that firms do not aim at any target debt ratio; instead, the debt ratio is just the

cumulative result of hierarchical financing over time (Shyam-Sunder and Myers,1999). Firms that face a financial deficit will first resort to debt, and will be observed later at higher debt ratios. This reasoning could readily explain the negative relationship between past profitability and debt ratios. In its simplest form, the pecking order model of corporate financing says that when a firm's internal cash flows are inadequate for its real investment and dividend commitments, the firm issues debt. Equity is never issued except where the firm can only issue junk debt and the costs of financial distress are high (Shyam-Sunder and Myers, 1999).

In brief, the theory states that firms prefer internal finance. Firms adapt their target dividend payout ratios to their investment opportunities, although dividends are sticky and target payout ratios are only gradually adjusted to shifts in the extent of valuable investment opportunities. Other than this, firms have sticky dividend policies, as well as unpredictable fluctuations in profitability and investment opportunities; meaning that internally-generated cash flow may be more or less than investment outlays. If it is less, the firm first draws down its cash balance or marketable securities portfolio. When external finance is required, firms issue the safest security first. That is, they start with debt, then possibly hybrid securities such as convertible bonds, then perhaps equity as a last resort. In this story, there is no well-defined target debt-equity mix, because there are two kinds of equity, internal and external, one at the top of the pecking order and one at the bottom. Each firm's observed debt ratio reflects its cumulative requirements for external finance (Myers, 1984).

There are two different ways of explaining the pecking order theory. The traditional view argues that the pecking order can be observed under high transaction costs, taxes, and agency costs. The other explanation proposed by Myers (1984) assumes that firm insiders have more information than outsiders (Kjellman and Hansen, 1995). According to Myers (1984), due to adverse selection, firms prefer internal to external finance. When outside funds are necessary, firms prefer debt to equity because of the lower information costs associated with debt issues. Equity is rarely issued. The pecking order is offered as a highly parsimonious empirical model of corporate leverage that is descriptively reasonable. Even if a theory is not strictly correct, when compared to other theories, it might still do a better job of organizing the available evidence. The pecking order is a competitor to other mainstream empirical models of corporate leverage (Frank and Goyal, 2003).

The pecking order hypothesis is based on the argument that asymmetric information creates a hierarchy of costs in the use of external financing which is broadly common to all firms. New investments are financed first by retentions, then by low-risk debt followed by hybrids like convertibles, and equities only as a last resort. At each point in time, there is an optimal financing decision which depends critically on net cash flows as the factor which determines available funds. However, in contrast to trade-off theory, there is no unique optimal capital structure to which a firm gravitates in the long-run (Tong and Green, 2005). Because of asymmetric information and signaling problems associated with external funding, firms' financing policies follow a hierarchy, with a preference for internal over external finance and for debt over equity (Shyam-Sunder and Myers, 1999).

The basic pecking order model, which predicts external debt financing driven by the internal financial deficit, has much greater time series explanatory power than a static trade-off model, which predicts that each firm adjusts gradually for an optimal debt ratio (Shyam-Sunder and Myers, 1999). The theory should perform best among firms that face particularly severe adverse selection problems. Small high-growth firms are often thought of as firms with large information asymmetries. Contrary to this hypothesis, small high-growth firms do not behave according to the pecking order theory. Indeed, the pecking order works best in samples of large firms that continuously existed during the 1970s and the 1980s. Large firms with long uninterrupted trading records are not usually considered to be firms that suffer the most acute adverse selection problems (Frank and Goyal, 2003). Shyam-Sunder and Myers (1999) found that their tests have power with respect to the pecking order, where the overall results suggest greater confidence in the pecking order than in the target adjustment model. A later study (Tong and Green, 2005) also found the results that provide tentative support for the pecking order hypothesis and demonstrate that a conventional model of corporate capital structure can explain the financing behavior of Chinese companies.

When it comes to SMEs, there are two contrasting views in the literature on the source of information asymmetries. One school of thought contends that external suppliers of finance have superior information on the value of a firm's investment projects and prospects for survival, while the other view is that insiders have greater knowledge about a firm's investment projects. These two contrasting views differentiate preference of financing among SMEs where the former view SME's great reliance on external sources of funds and the latter view SMEs taking advantage of having superior

information funded primarily by inside equity (Mac an Bhaird, 2010). In the case of small business, the pecking order theory needs some adjustment to reflect the difficulties associated with financing its activities. Initially, there will be preference for start-up equity and retained earnings. Once the business proves creditworthiness, debt financing becomes an option. It is the area of third preference, that for equity, that the small business differs from large business. In the case of large businesses, equity is publicly available, at least in theory, but it is rarely available to the same extent for the small business. However, the order of preference remains the same for both large and small firms (Osteryoung et al., 1997)

3.4.3   Previous studies of determinants of capital structure

A fundamental issue in corporate finance involves understanding how firms choose their capital structure. What determines the optimal capital structure is still an ongoing and complex matter (Esparanca and Gama, 2003). Researchers are still puzzled by how firms choose the debt, equity or hybrid securities they issue (Kjellman and Hansen, 1995). Theories of capital structure suggest how some of the factors might be correlated with leverage. There have been many empirical studies attempting to test the explanatory power of capital structure models on corporate behavior in developed countries, particular in a U.S. setting. Most of the work has been to identify the determinants of capital structure. The main determinants of capital structure tested include profitability, size, growth opportunity, asset structure, costs of financial distress, and tax shield effects (Chen, 2004).

In the case of capital structure, however, the set of features one must include in such a general model is so large and complicated that the resulting structure would not yield clear insights. A related approach is to ask what issues might be resolved by theories of capital structure. This "wish list" would include questions such as what the effect is on capital structure of changes in the volatility of cash flows, firm size, elasticity of demand for the product, the extent of insider private information etcetera (Harris and Raviv, 1991). Based on theoretical capital structure studies, firm's capital structure emerges from three sources: firm specific, country institutional and macroeconomic factors. There is empirical evidence for the importance of all three—firm, institutional, and macroeconomic—factors in determining firm capital structure. However, there is still a lack of studies spanning a large number of countries and different firm types simultaneously (Joeveer, 2005).

In the Static Trade-off model, capital structure moves for a target that reflects tax rates, asset type, business risk, profitability, and the bankruptcy code. In the Pecking-Order Hypothesis, financial market imperfections are central. Transaction costs and asymmetric information link the firm's ability to undertake new investments to its internally generated funds. If the firm must rely on external funds, then it prefers debt to equity due to the lesser impact of information asymmetries (Booth et al., 2001). One of the driving forces behind the pecking order hypothesis is that managers have more information about the value of the company than do outside investors. This asymmetric information problem makes managers wary of issuing equity because investors will interpret this action as bad news (investors will assume that managers are issuing stock when the price of stock is overvalued) (Myers, 1984). Seifert and Gonenc (2008) state

that pecking order behavior can be caused by a number of factors such as agency costs, taxes, transaction costs etcetera, in addition to information asymmetries.

Joeveer (2005) used a large European firm data set to study the sources of leverage variation and provided the first available evidence on capital structure determinants for small firms. The importance of firm versus country factors in driving firm capital structure varies across firm types. Country-specific factors are most important for small and unlisted firms, suggesting that these firms, which are likely to operate under borrowing constraints, face non-firm-specific determinants of leverage. Many of the variables held to determine leverage under trade-off or pecking order theories are common to both theories. This makes it difficult for a 'horse-race' between two regressions to distinguish adequately between the two theories, notwithstanding that they have very different implications for corporate behavior (Fama and French, 2002).

The following section reviews previous literature on the topic of financing preferences and determinants of capital structure. Reviews are on the type of firms sampled and methodology applied in those studies, and the explanatory variables used within studies on large-public limited firms and particularly on SMEs.

3.4.4   Type of firms sampled and methodology applied in the previous studies

Mira (2002) studied the determinants of capital structure among Spanish SMEs using a database from SABE (Sistema de Análisis de Balances Españoles) that contains economic and financial information with up to eight years of history over more than

90

190,000 Spanish firms. This database later on was renamed SABI (Sistema de Análisis de Balances Ibéricos) as it has extended its firm coverage in 2002 to include about 18,000 Portuguese firms. The same database was then used by Riportela and Martinez (2003) and López-Garcia and Sánchez-Andújar (2007) for their sample of SMEs. Zhang (2008) study the choice of financing among small businesses in the province of Chengdu in China. Interestingly, the study consists of two different types of small businesses, micro entrepreneurs (Getihu) and private entrepreneurs (Siying Qiyeja).

Abor and Biekpe in two different studies executed in the year 2007 and 2009 studied the financing activities among SMEs in Ghana by incorporating a database of SMEs from the Association of Ghanaian Industries and the National Board for Small-Scale Industries. Hutchinson (2003), using a database from Lotus One/Private Plus to extract a sample of SMEs from three different categories namely Micro, Small and Medium-sized in the UK to studied the relationship between firm's capital structure and their growth. Daskalakis and Psillaki (2008) incorporated the Amadeus database of SMEs in France and Greece in studying the best explanatory factor for these firms capital structure. This study emphasizes whether a country or a firm factor best explains the firm's capital structure.

In another study, they added another two countries (Italy and Portugal) from the same database to further look into similarity and differences among SMEs in those countries in term of their capital structure decisions. Brighi and Terlucio (2007) studied firm's decisions regarding their capital structure among Italian SMEs using a database from the Survey of Italian Firms conducted by the SME Observatory run by the Capitalia

Research Division. The accounting data source was then integrated with the AIDA-van Dijk Bureau database, which completes the financial statement data for Italian firms, considered in the Survey and provides greater historic depth in the accounting data used. Decisions as to the capital structure among Portuguese SMEs were also studied by Ramalho and da Silva (2009) using a different database (Banco de Portugal Central Balance Sheet Data Office). Most studies in European countries adopted the definition of SMEs of the European Commission.

Mac an Bhaird and Lucey (2006) studied the issue of SME financing and capital structure of Irish SMEs. They considered the sources of finance used by the SMEs by classifying those sources into internal and external sources, and viewed their financing practices through a life cycle model. Focusing on the financial practices among new ventures, Ortqvist (2006) studied new venture financing in Sweden using data sampled from Affärsdata to provide the annual reports for all Swedish ventures. Nguyen and Ramachandran (2006) studied the financial practices among Vietnamese SMEs to identify the determinants that influence the capital structure among those SMEs. Romano et al., (2000) studied the capital structure decision making among family businesses in Australian SMEs, since it is particularly evident that investigations into factors that influence funding decisions of family business owners are very scarce. Their findings suggest that the interplay between multiple social, family, and financial factors is complex. López-Garcia and Sánchez-Andújar (2007) also study the financial structure among family businesses. Their findings provide empirical evidence as to the determinants of the financial behaviour of small family businesses and how they are different from non-family small businesses.

In terms of the methodology applied in the previous studies, most of them are based on panel data analysis. This is very likely due to the availability of data that permits those studies to test the capital structure theories namely trade-off, pecking order and agency theory. Most studies make use of the availability of data to better explain the financial practices among SMEs in their country. Some studies, such as those of Nguyen and Ramachandran (2006), combine both methods of interviewing and panel data analysis in their study. Few studies apply another approach of investigation such as survey and/or interviews to gauge into the issue of financial practices among SMEs. Mac an Bhaird and Lucey (2006) and Romano et al. (2000) for example, used a survey as their main approach of data collection while Zhang (2008) employed the combined methods of survey and interviews as their main method of data collection.

The following table summarizes a selected number of studies related to the topic of capital structure among large and small-medium-sized firms around the world.

Authors	Type of firms sampled	Methodology
Riportella and Martinez (2003)	SMEs in Spain. The database comes from the SABI (*Sistema de Análisis de Balances Ibéricos*).	Panel data analysis
Zhang (2008)	Small business in China (specifically in Chengdu) that were defined as *Getihu* (micro-entrepreneurs, or individual business owners) and *Siying Qiyejia* (private entrepreneurs who owned businesses employing more than eight people).	Survey and interviews
Abor and Biekpe (2007)	SMEs in Ghana where data were drawn from databases of firms from the Association of Ghanaian Industries and the National Board for Small-Scale Industries.	Panel data analysis
Mira (2002)	SMEs in Spain based on European Commission SME definition: companies with less than 250 employees, sales below 40 millions €, total assets under 27 millions € and independent privately held. The sample has been extracted from SABE (Sistema de Análisis de Balances Españoles).	Panel data analysis

Hutchinson (2003)	SMEs in UK. Data were obtained from financial statements available from the Lotus One/Private Plus databases for UK SMEs. SMEs are classified into three different sizes i.e. Micro: 1- 10 employees (including owner-manager/s), Small: 11 – 100 and Medium-sized-sized: 101 – 200 employees.	Panel data analysis
Abor and Biekpe (2009)	SMEs in Ghana. The sample was drawn from the Association of Ghana Industries 'database of firms and that of the National Board for Small Scale Industries.	Panel data analysis
Brighi and Terluccio (2007)	SMEs in Italy. The database used for this study is the Survey of Italian Firms conducted by the SME Observatory run by the Capitalia Research Division. The accounting data source was then integrated with the AIDA - van Dijk Bureau database, which completes the financial statement data for Italian firms, considered in the Survey and provides greater historic depth in the accounting data used.	Panel data analysis
Daskalakis and Psillaki (2008)	SMEs in Greece and France. Panel of data of SMEs in Greece and France over the period 1997 to 2002 were used. Both Greek and French data were extracted from the Amadeus database.	Panel data analysis
Mac an Bhaird and Lucey (2006)	SMEs in Ireland. Data for this study was sourced from independently held non-financial SMEs on the Business World "Next 1,500" database, which contains firms with at least 20 employees.	Survey
Ortqvist et al. (2006)	New Ventures in Sweden. The sample used in this study was collected from new ventures registered in Sweden during the year 2000. The ventures and the data used were sampled from Affärsdata.	Panel data analysis
Nguyen and Ramachandran (2006)	SMEs in Vietnam. This study covers only those SMEs registered under the Law of Enterprises in Vietnam.	Interviews and Panel data analysis
Romano et al. (2000)	A random sample of 5000 businesses based on state of location, industry, and sales turnover was obtained from Dun and Bradstreet (1996).).	Survey
Psillaki and Daskalakis (2007)	SMEs in France, Greece, Italy and Portugal. All data were extracted from the Amadeus database. All firms included in the sample fulfill the criteria of an SME as described by European Commission SME definition of 1996.	Panel data analysis
Ramalho and da Silva (2009)	SMEs in Portugal. The data used in this study were provided by the Banco dePortugal Central Balance Sheet Data Office (CBSDO).	Panel data analysis
López-Garcia and Sánchez-Andújar (2007)	SMEs in Spain. Companies containing complete financial information for the years 1997 to 2004 with between 50 and 250 employees were chosen from the SABI (Sistema de Análisis de Balances Ibéricos) database.	Panel data analysis

Table 3.3: Type of firms sampled and methodology applied in the previous studies of capital structure among SMEs

3.4.5 Determinants of capital structure: Studies of large-listed firms

Having discussed the type of firms sampled and the methodology applied in previous studies, the discussion now shifts to the explanatory variables used in explaining the capital structure of large firms in a few selected studies. There have been many empirical studies attempting to test the explanatory power of capital structure models. Most of the work has been to identify the determinants of capital structure. Among these selected past studies, a paper by Harris and Raviv (1991) has a comprehensive summary of previous studies related to the topic of interest in this particular study, namely the determinants of capital structure. In this paper, Harris and Raviv discussed the issue of the theory of capital structure based on their reviews on past studies of capital structure.

The determinants of leverage were identified based on nine (9) previous studies. Among others, the determinants of leverage were Volatility, Bankruptcy Probability, Fixed Assets, Non-Debt Tax Shields, Advertising, R&D Expenditures, Profitability, Growth, Size, Free Cash Flow and Firm's Uniqueness. Later, some further studies have incorporated various factors in influencing the capital structure decisions involving large-listed firms as their samples. Based on these studies, the trend of which factors seem to be the most likely to be included in the study of capital structure emerged. This trend shows the importance of the chosen factors in determining and explaining financial practices among their sample of study.

Of these factors or determinants, profitability, firm size and growth are used in all studies. The next determinant of capital structure to be used in testing a firm's capital

structure decision is that of asset tangibility. Some studies proxy this determinant as the collateral value of assets, fixed assets and nature of firm's assets. In addition, non-debt tax shield is used in the previous six studies, while liquidity is used in two studies in determining the capital structure decision of those firms sampled. Interestingly, none of the studies incorporate firm age as an explanatory variable in understanding financing practices among large firms. Other factors focused mainly on the macroeconomic conditions (including stock and debt market conditions), industry classification, and risk involved in the business: for example, volatility, bankruptcy probability, cumulative deficit and cost of financial distress.

The following table summarizes the explanatory variables used in the selected previous studies of determinants of capital structure among large firms.

Author	Explanatory variables used
Titman and Wessel (1998)	Collateral Value of Assets, Non-Debt Tax Shields, Growth, Uniqueness, Industry classification, Size, Volatility and Profitability.
Harris and Raviv (1991)*	Volatility, Bankruptcy Probability, Fixed Assets, Non-Debt Tax Shields, Advertising, R and D Expenditures, Profitability, Growth, Size, Free Cash Flow, Uniqueness
Frank and Goyal (2003)	Profitability, Firm Size, Growth, Industry, Nature of Assets, Taxes, Risk, Supply-side Factors, Stock Market Conditions, Debt Market Conditions, Macroeconomics Conditions.
Booth et al (2001)	Tax Rate, Asset Tangibility, Return on Assets, Business Risk, Size, Market to Book Ratio.
Seifert and Gonenc (2008)	Tangibility, Market-to-Book Ratio, Profitability, Firm Size, Cumulative Deficit.
Tong and Green (2005)	Return on Assets (ROA), Growth Rate, Dividend, Size, Investment Growth.
Viviani (2008)	Size, Asset Structure (Tangibility, Liquidity, Asset Turnover), Profitability, Growth, Non-debt Tax Shield, Risk.
Chen (2004)	Profitability, Size, Growth Opportunities, Asset Structure (Tangibility), Cost of Financial Distress, Tax Shield Effects

Table 3.4: Explanatory variables used in the previous studies of determinants of capital structure among large firms
*Based on 9 other previous studies on capital structure determinants.

3.4.6   Determinants of capital structure: Studies of SMEs

Based on the previous studies of determinants of capital structure among large firms, the discussion now moves on to the previous studies concerning the determinants of capital structure among SMEs. As previous studies among large firms show some factors that seem to have an impact on capital structure decisions among firms, this particular study focuses on studying seven factors, namely profitability, firm size, asset tangibility, firm growth, firm age, non-debt tax shields and liquidity. Reviews of these studies are used to support the decision to select those factors to be tested in this particular study.

The following table summarizes some studies on the determinants of capital structure among SMEs. Based on the table, it is clear that the factors selected in this particular study were among the factors that were mostly included in the previous studies of the capital structure among SMEs. Interestingly, firm size was included in all selected studies. This might be an important factor in differentiating financial practices among SMEs as most definitions of SMEs divided SMEs into different groups such as micro, small and medium-sized-sized enterprises. The next factor that is usually included when studying the determinants of capital structure among SMEs is firm growth. Profitability and asset tangibility or structure were included in thirteen studies, while firm age, non-debt tax shields and liquidity was included in nine, five and two studies respectively.

Authors	Explanatory variables used*							Other variables used
	P	S	AT	G	A	NDTS	L	
Riportella and Martinez (2003)	x	x	x	x	x	-	-	*Business Sector* *Forjur* 1= **"Corporation"** and 0, otherwise. *Findes* Financial distress. 1=interest coverage ratio is higher or equal to 2, and 0 otherwise *ROA* Return on assets as a proxy of economic performance. *TSIT* It is the temporal structure of interest rates. *Volat* Volatility of the interest rate.
Zhang (2008)	-	x	-	-	-	-	-	Political or bureaucratic connections Whether or not a native of Chengdu The level to which an entrepreneur was educated Credit rating status Business experience Age categories of the respondents
Abor and Biekpe (2007)	x	x	x	x	x	-	-	Macroeconomic variables—Inflation and Interest rates—as determinants of bank finance.
Mira (2002)	x	x	x	x	-	x	-	Effective Tax Rate (ETR):Taxes/ (EAIBT + Depreciation)
Hutchinson (2003)	x	x	x	x	x	-	-	-
Abor and Biekpe (2009)	x	x	x	x	x	-	-	Risk= The standard deviation of the difference between the firm's profitability in time t and the mean profitability.
Brighi and Terluccio (2007)	x	x	x	x	x	-	x	-
Daskalakis and Psillaki (2008)	x	x	x	x	-	-	-	-
Mac an Bhaird and Lucey (2006)	-	x	x	x	x	-	-	Ownership (OWN) = Closely held ownership of firm (shares traded within the family, No=0, Yes=1 Internal Collateral (INTCOLL) = Percentage of debt secured by the fixed assets of the firm. Owner's Collateral (OWNCOLL) = Percentage of debt secured by personal assets of firm owner
Ortqvist et al. (2006)	x	x	x	x	-	-	-	-

	P	S	AT	G	A	NDTS	L	
Nguyen and Ramachandran (2006)	x	x	x	x	-	-	-	Business risk = Standard deviation of profit before tax Relationships with banks Networking.
Romano et al. (2000)	-	x	-	-	x	-	-	Business planning Owner's attitude for family control Objectives of family business Industry type
Psillaki and Daskalakis (2007)	x	x	x	x	-	-	-	Risk = The squared deviation of each year's earnings before taxes from the period average.
Ramalho and da Silva (2009)	x	x	x	x	x	x	x	
López-Garcia and Sánchez-Andújar (2007)	x	x	-	x	x	x	-	Effective Tax Rate (TAX) = Tax Paid/Earnings after interest and before tax Financial distress costs (FDIC)= SD(operating profit) – Mean (operating profit)/Total assets Operating cash flow (CFLOW)= (Operating profit + Depreciation)/Total assets Borrowing requirement (BOREQ)
Esparanca and Gama (2003)	x	x	x	x	x	x	-	Economic Risk=Sales variation coefficient (Pearson)
Total	**13**	**16**	**13**	**14**	**9**	**4**	**2**	

* Profitability (P), Firm Size (S), Asset Tangibility (AT), Growth Opportunities (G), Firm Age (A), Non-Debt Tax Shields (NDTS) and Liquidity (L).

Table 3.5: Explanatory variables used in the previous studies of determinants of capital structure among SMEs

3.4.7 Determinants of firm's capital structure explained

Having selected the determinants of capital structure to be used in this particular study of financing preferences and the determinants of capital structure among successful Malaysian SMEs, the following part explains each selected determinant of capital structure in detail, based on reviews of the previous literature.

Profitability

Predictions of profitability are ambiguous. Trade-off theory predicts that profitable firms should be more highly levered to offset corporate taxes (Frank and Goyal, 2003) and profitability is positively related to leverage (Harris and Raviv, 1991). Trade-off theory argues that since less profitable firms provide low shareholder returns, greater leverage in these firms merely increases bankruptcy risk and the cost of borrowing, and will therefore lower shareholder returns still further. Low shareholder returns will also limit equity issues. Therefore, unprofitable firms facing a positive Net Present Value (NPV) investment opportunity will avoid external finance in general, and leverage in particular. There will also be a demand side effect, as the market will be reluctant to provide capital to such firms. Thus, the theory predicts a positive relationship between leverage and profitability (Tong and Green, 2005).

It is also shown that more profitable companies prefer other types of fund, as distinct from bank debt and this thus indicates that the more profitable companies prefer self-financing. However, if they ask for bank funds, they are of greater duration than those companies which are less profitable (Riportella and Martínez, 2003). Moreover, financial performance indicators (growth, return on assets, profit margin) are not found to be determinants of SME financing activities (Vos et al., 2007). In contrast, the present empirical evidence on capital structure is that profitability is negatively related to leverage, as indicated by Rajan and Zingales (1995); Joeveer (2005); Chen (2004); Tong and Green (2005). More profitable firms have larger internal slack, and therefore a smaller need for external finance (Joeveer, 2005). This is in line with Esparanca and

Gama (2003) who found that profitability has a significant negative relationship with debt to equity ratios, which confirms the hypothesis that less profitable firms are more prone to needing external finance.

Highly profitable firms with limited investment opportunities would try to reduce their debt ratios (Shyam-Sunder and Myers, 1999) and might be able to finance their growth by using retained earnings and by maintaining a constant debt ratio. In contrast, less profitable firms will be forced to resort to debt financing. In general, highly profitable slow-growing firms should generate the most cash, but less profitable fast-growing firms will need significant external financing (Booth et al., 2001). If profitability is correlated with the investment opportunities small firms have, then an increase in profitability may lead to greater equity issuances, reducing the correlation between profitability and leverage (Rajan and Zingales, 1995). The negative relationship between profits and leverage is consistent with the pecking order theory as it provides an intuitively pleasing explanation for the fact that more profitable firms tend to have lower leverage (Frank and Goyal, 2003). However, the pecking order is not the only possible interpretation of the relationship (Fama and French, 2002).

The most successful of the independent variables is profitability, as it is consistently negative and highly significant. Overall, the strongest result is that profitable firms use less total debt. The importance of profitability is related to significant agency and informational asymmetry problems. It is also possible that profitability is correlated with growth opportunities, so that the negative correlation between profitability and leverage is a proxy for the difficulty in borrowing against intangible growth opportunities. A

consistent result in both the country and pooled data results is that the more profitable the firm, the lower the debt ratio, regardless of how the debt ratio is defined (Booth et al., 2001). The pecking order theory predicts that firms will use retained earnings first, then debt and equity issues as a last resort. Less profitable firms facing a positive NPV investment opportunity will be more willing to use external funds if cash flow is weak. Therefore, there will be a negative relationship between leverage and profitability (Tong and Green, 2005). Abor and Biekpe's (2009) results clearly supported the pecking order theory that more profitable SMEs demand less debt. This is because profitable SMEs would have a preference for inside financing over outside debt financing, as the cost of outside financing is greater for the firm. Profitable SMEs will initially rely on retained earnings, and if they are unable to do so, they will seek debt financing.

Firm Size

Size is an important determinant of capital structure in SMEs, and also plays an important role in understanding firms' financing patterns including the financing of new businesses (Mac an Bhaird and Lucey, 2006; Beck et al., 2008; Cassar, 2004). Abor and Biekpe (2009) indicated that the size of the firms influence SMEs' access to debt finance. Joeveer (2005) found a positive relationship between firm size and leverage. Booth et al. (2001) also found that the size variable is generally positive and highly significant for many of the countries. These are in line with the Trade-off theory that suggests a positive relation between leverage and firm size. The converse argument is that firm size is a proxy for information asymmetries between the firm and the market: the larger the firm, the more complex its organization, the higher the costs of

information asymmetries and the more difficult it is for the firm to raise external finance (Rajan and Zingales, 1995).

Rajan and Zingales (1995) also concluded that they do not really understand why size is correlated with leverage, but found that size is positively correlated with leverage as it may be a proxy for the (inverse) probability of default. It should not be strongly positively related with leverage in countries where costs of financial distress are low. Their findings are supported by Frank and Goyal (2003) where large firms are predicted to have more debt in their capital structures because they are usually more diversified, have better reputations in debt markets and face lower information costs when borrowing. It is also found that companies with greater size have more access to bank funds (Riportella and Martínez, 2003), and smaller firms are often discriminated against when applying for external debt finance (Abor and Biekpe, 2009).

In terms of types of financing, Esparanca and Gama (2003) found that small firms may seek short-term financing more often than larger firms due to their specific risk premium, enhanced by the lower diversification and lower liquidity of their securities. It is found that the larger the start-up, the greater the proportion of debt, long-term debt, outside financing, and bank financing (Cassar, 2004). The use of long term debt financing is positively related to the size of the firm (Mac an Bhaird and Lucey, 2006). In contrast, Chen (2004) found that a negative relationship exists between a firm's size and its long-term debt.

Small firms use less external finance, especially bank finance. Similarly, leasing and supplier finance do not fill the financing gap of small firms. There is no significant difference in the use of equity, trade, leasing or development finance across firms of different sizes. Small firms cannot substitute other financing sources such as leasing, trade, or development finance for the lower access to bank finance. The significantly higher use of informal finance compared with large firms is not sufficiently large to offset the lower use of bank finance. The results also indicate that firms reporting greater financing obstacles use more external finance. This suggests a pecking order of financial sources, in which constrained firms are not able to issue equity to meet their financing needs (Beck, et al., 2008). Studies among SMEs in China undertaken by Wu et al., (2008) confirm that the financial needs and options of Chinese SMEs change with the size and stage of the business cycle. At start-up, SMEs mainly raise funds from the owner's personal savings and the savings of immediate families and friends. In the growth stage, SMEs have strong financial needs and gain access to intermediated finance such as bank loans. It was also found that the proportion of small businesses using bank loans is higher than suggested by the findings of previous studies. Older firms fear loan denial less than younger firms, and also show less signs of increasing financial contentment with firms' age (Vos et al., 2007).

Assets Tangibility

There is a strong relationship between asset composition and long-term debt (Esparanca and Gama, 2003). It is natural to think that firms with more assets and more collateral available face fewer obstacles in receiving debt, and hence have higher leverage. It is

found that there is a positive relationship between tangibility and leverage (Joeveer, 2005; Chen, 2004; Rajan and Zingales, 1995; Abor and Biekpe, 2009). As the risk associated with the investment in small firms is higher than the market mean, these firms are required to provide more valuable collateral. As these assets' substitution effect is stronger within small firms, the owner has greater discretion, leading to higher monitoring costs by banks and other suppliers of external financing. This leads these institutions to require more valuable collateral, rather than concentrating on accounting information, including income statements (Esparanca and Gama, 2003).

There is also support for the role of asset tangibility in financing decisions. Clearly, asset tangibility affects total and long-term debt decisions differently. Generally, the more tangible the asset mix, the higher the long-term debt ratio, but the smaller the total-debt ratio. This indicates that as the tangibility of a firm's assets increases by, say, one per cent, although the long-term debt ratio increases, the total-debt ratio falls; that is, the substitution of long-term for short-term debt is less than one (Booth et al., 2001). From the perspective of testing the pecking order, the most important of the conventional variables is tangibility. Under the pecking order theory, one might expect that firms with few tangible assets would have greater asymmetric information problems. Thus, firms with few tangible assets will tend to accumulate more debt over time and become more highly levered (Harris and Raviv, 1991). The role of asset structure upon the start-up firms' finances demonstrates the importance of tangibility of assets and its impact upon financing opportunities. Firms with a relative lack of tangible assets appear to be financed through less formal means, where non bank financing, such as loans from individuals unrelated to business, plays a more important role in the capital structure of

start-ups (Cassar, 2004). The level of intangible activity is an important determinant of capital structure in SMEs. SMEs with a high level of fixed assets overcome problems of asymmetric information by pledging collateral to secure debt finance (Mac an Bhaird and Lucey, 2006). Asset tangibility or collateral plays an important role in SMEs' access to long-term debt finance (Abor and Biekpe, 2009). In contrast, negative association is found between asset structure and short-term debt ratio (Abor and Biekpe, 2009). Riportella and Martinez (2003) also found that companies with a greater proportion of tangible assets prefer to self-finance their investment, although they have more access to bank funds.

Firm Growth

Growth and growth options also determine the capital structure of a firm. Growth has a positive relationship with the ratios and it was confirmed through the empirical test. Small firms, generally lacking sufficient internally-generated funds, must apply for external sources of financing. On the other hand, growth options prove to be positive, but statistically speaking non-significant (Esparanca and Gama, 2003). Chen (2004) found that a positive relationship exists between growth opportunity and debt. Firms whose investment opportunities outrun internally generated funds borrow more and more (Shyam-Sunder and Myers, 1999). It is also found that companies with greater growth opportunities have more access to bank funds and gain more external funds (Riportella and Martínez, 2003). Start-ups with the intent to grow appear to be more likely to use bank financing (Cassar, 2004). Abor and Biekpe (2009) in their study on capital structure decision among Ghanaian SMEs found that SMEs in Ghana also require

long-term debt in financing their growth. This is evidence of the positive relationship between long-term debt and the growth variable. High-growth SMEs use more sources of capital than do low-growth SMEs. High-growth SMEs also apply for loans more often than low-growth SMEs. Those SMEs that operate in the growth mode appear to apply for and use more external sources (Vos et al., 2007). The decision to seek equity funding is significantly and positively related to the firm's growth intentions (Fitzsimmons and Douglas, 2006)

Growth opportunities are also one of the main factors that differentiate the financial behaviour of family firms from their non-family counterparts (Lopez-Garcia and Sabchez-Andujar, 2007). Firms with a higher expenditure on Research and Develepoment (R&D) use higher levels of external equity and lower levels of internal equity. This result suggests that high growth firms typically do not have sufficient internal finance to meet their investment needs (Mac an Bhaird and Lucey, 2006). The market-to-book ratio is usually thought of as a proxy for growth and investment opportunities (Joeveer, 2005; Rajan and Zingales, 1995). Firms with high market-to-book ratios are often thought to have more future growth opportunities (Frank and Goyal, 2003) and the sign of the market-to-book ratio is generally positive (Booth et al., 2001). Market-to-book ratios are negatively related to leverage due to the agency costs between the owners and bondholders (Joeveer, 2005). This is in line with findings by Rajan and Zingales (1995) where the market-to-book ratios with a negative coefficient in all countries are included in their studies. Firms with high market-to-book ratios are predicted to have higher costs of financial distress, which is why a negative correlation

is expected. Indeed, the negative correlation appears to be driven by firms with high market-to-book ratios rather than by firms with low market-to-book ratios.

Firm Age

Age is an important determinant of the capital structure of SMEs. The use of long term debt financing is negatively related to firm age (Mac an Bhaird and Lucey, 2006). A positive relationship between age and debt to equity ratio is expected as an older firm has a higher creditworthiness which in turn gives a better firm reputation to the creditor. However, Esparanca and Gama (2003) found a negative, but a statistically-significant relationship between firm age and firm's level of leverage in their study. This result can be interpreted within the context of pecking order theory where older and more experienced firms require less external financing as they can rely more on internally generated funds. In addition, younger firms are the most dependent on debt, because they cannot count on a cushion of accumulated revenues generated by past investment. Moreover, Vos et al. (2007) found that in the UK SME sample, the use of multiple sources of funds is negatively related to years in business. A recent study by Abor and Biekpe (2009) found that age of the firms is very important in influencing SMEs' access to debt finance. They found that there is a positive relationship between the debt ratios (long-term and short-term) and age of firms. Newer firms are often discriminated against when applying for external debt finance. Older firms, however, are believed to have good track records and as such are able to access debt more easily than newer firms which have no track record or credit history.

Non-Debt Tax Shields

Non-debt tax shields are found to be negatively related to debt. A major motivation for using debt instead of equity is to save corporate tax. However, firms can use non-debt tax shields such as depreciation to reduce corporate tax. Thus, a higher non-debt tax shield reduces the potential tax benefit of debt and hence it should be inversely related to leverage (Deesomsak et al., 2004). Tax deductions for depreciation and investment tax credits are also substitutes for the tax benefits of debt financing. Firms with large non-debt tax shields relative to their expected cash flow include less debt in their capital structures. The tax advantage of leverage decreases when other tax deduction increases (Viviani, 2008). This implies that a firm with a large non-debt tax shield is likely to be less leveraged.

A model of optimal capital structure constructed by DeAngelo and Masulis incorporates the impact of corporate taxes, personal taxes, and non-debt-related corporate tax shields. The model demonstrates the effect of non-debt tax shields on optimal debt level. They argue that the existence of non-debt tax shields (e.g., depreciation expenses, depletion allowances, and investment tax credits) lowers a firm's capacity of debt tax benefit. Therefore, non-debt tax shields negatively affect a firm's optimal debt level. The firms with large non-debt tax shields tend to have relatively less debt in their capital structure. Indicators of non-debt tax shields include the ratios of investment tax credits over total assets (ITC/TA), depreciation over total assets (DITA), and a direct estimate of non-debt tax shields over total assets (NDT/TA).

Liquidity

Liquidity ratios may have a mixed impact on the capital structure decision. Companies with higher liquidity ratios might support a relatively higher debt ratio due to greater ability to meet short-term obligations. On the other hand, firms with greater liquidities may use them to finance their investments. Therefore, company's liquidities should exert a negative impact on its leverage ratio. Ramalho and da Silva (2009) studied the financial leverage decisions of micro, small, medium-sized and large firms in Portugal and found that liquidity and profitability are the only variables that significantly influence firm's financial leverage decisions in all groups of firms. Liquidity is expected to negatively relate to leverage. Firms that prefer internal sources of finance tend to reduce their need for external funds by creating liquid reserves from retained earnings. As predicted by the pecking order theory, firms with high liquidity will borrow less. Managers can manipulate liquid assets in favour of shareholders against the interest of debt holders, increasing the agency costs of debt. Thus a negative relationship between liquidity and leverage is expected.

Anderson (2002), in his study of capital structure, firm liquidity and growth concluded that our understanding of the way capital structure impacts corporate holding of liquid assets is still incomplete, but exists. He has identified a channel between financial structure and corporate growth which operates through the firm's choice of liquid asset holding. The results revealed positive associations between leverage and liquid asset holding, thus running counter to previous studies based on US data which documented a negative relationship between total leverage and corporate liquidity. He found that

liquidity grants a survival option to the shareholders of the levered firm. Consequently, these shareholders will choose a higher level of asset liquidity that would maximize the value of the firm. In so doing, they reduce the rate of return on assets and the growth of the firm. This effect pronounced greater level of leverage used by the firm. Therefore, as the financial structure become more rigid, access to external financial markets will also become more costly.

In this study, seven firm's characteristics were chosen to investigate the financial practices among successful SMEs in Malaysia. These characteristics were discussed and reviewed based on the previous theoretical literatures, which explains the relationship and influence of these characteristics to the financial decisions of an enterprise. The following sections will discuss the directions of relationship between selected explanatory variables with the outcome variables used in this study.

3.5   Directions of relationship between explanatory and outcome variables

This part discusses the theoretical direction of relationship between explanatory variables and outcome variables in this study of; 1) manager's financing preferences for different sources of financing, and 2) the capital structure of SMEs, accordingly.

3.5.1   Manager's financing preferences

As discussed in section 3.3.2, five managers' characteristics were chosen as explanatory variables in studying their preferences for different sources of financing. There are no

established theories in regards to the directions of the relationship between these explanatory variables and managers' financing preferences to indicate that each variable might have a positive or negative relationship with outcome variables. The following table indicates the empirical findings in regards to the significance and directions of influence of these variables on manager's financing preferences.

Determinants		Significance and directions of relationship
Gender	Significant	Watson (2006) (-ve);Coleman and Cohn (2000); Sara and Peter (1998) (+ve); Osei-Assibey et al. (2011)
	Not Significant	Cassar (2004); Verhaul and Thurik (2001; Coleman (2000); Hussain et al., (2010); Irwin and Scott (2010); Scott and Irwin (2009)
Age	Significant	Carter and Rosa (1998) (+ve); Wu et al., (2008) (+ve); Vos et al., (2007) (-ve)
	Not Significant	Buferna (2005); Cassar (2004); Romano et al. (2000)
Education	Significant	Zhang (2008) (+ve); Wu et al., (2008) (+ve); Vos et al., (2007) (-ve); Cassar (2004) (+ve); Coleman and Cohn (2000(+ve); Carter and Rosa (1998) (+ve); Watson (2006)(+ve); Storey (1994)(+ve); Osei-Assibey et al. (2011)(+ve); Gebru (2009)(+ve)
	Not Significant	Buferna (2005) (-ve); Cassar (2004); Irwin and Scott (2010 (+ve); Sena et al., (2012) (+ve); Scott and Irwin (2009); Borgia and Newman (2012)
Experience	Significant	Zhang (2008) (+ve); Cassar (2004 (+ve); Wu et al., (2008) (+ve); Borgia and Newman (2012)
	Not Significant	Buferna (2005) (+ve); Watson (2006); Roper and Scott (2009); Sena et al., (2012) (+ve)
Business ownership	Significant	Mac an Bhaird and Lucey (2006) (+ve/-ve); Boateng (1998) (+ve); Osei-Assibey et al. (2011) (+ve)
	Not Significant	Cassar (2004) (+ve)

* Some studies did not include the directions of relationship between variables, only the findings on the significance of the explanatory variables in influencing the outcome variables.
Table 3.6: Relationship between explanatory variables and manager's financing preferences for different sources of financing*.

Table 3.6 shows the significance and directions of the relationship between the explanatory variables (manager's characteristics) and their level of financing preferences. Earlier studies found a mixed direction of relationships between these variables. Gender, for instance, is found to have a significant positive or negative relationship with managers' or owners' preferences for the use of debt. The same case applies to age, education and business ownership. However, managers' experience is found to have a significant positive relationship with their firm's financing. All explanatory variables are also found be significant or not significant in influencing firms' financing.

3.5.2 Firm's capital structure

Most explanatory variables seem to have mixed relationship with a firm's capital structure. Profitability and firms' size for instance, is theoretically expected to have a negative relationship with firm's leverage based on POH. The theory assumes that managers will prefer to finance projects internally because of the informational asymmetry between managers and outside investors. Furthermore, profitable firms prefer not to raise external equity in order to avoid potential dilution of ownership. This will lead to an inverse relationship between profitability and leverage. In contrast, TOT theoretically assumes a positive relationship between a firm's capital structures and its size and profitability. The TOT suggests that larger firms will have easier access to the credit market, and will require more debt to fully utilize the benefits of using debt. Empirical findings also come with mixed relations, as summarized in Table 3.7.

Asset tangibility, on the other hand, is assumed to have positive relations with the firm's capital structure under both theories. However, empirical studies proved that in reality, few studies found a contrasting relation between those two (see Abor and Biekpe, 2009; Riportela and Martinez, 2003). Both non-debt tax shields and liquidity are theoretically postulated to have a negative relationship with a firm's capital structure. While empirical findings seems to agree with TOT in terms of the relationship between non-debt tax shields and firm's leverage, there are contrasting findings in regards to the relationship between a firm's capital structure and its liquidity. Meanwhile, although there are no theoretical assumptions as to the relationship between firm's age and firm's capital structure, empirical findings seem to come in mixed results. Most previous studies found a positive relationship between firms' age and their level of leverage.

A firm's growth is viewed as having a negative relationship with a firm's capital structure, as suggested by TOT. However, POH assumes a mixed relationship between those two. In contrast with TOT (and POH as well), empirical findings proved that there is a positive relationship between a firm's growth and the leverage level. The following table summarizes the relationships postulated by the theory between each explanatory variable and leverage, and their empirical verification from previous studies.

The following table presents a summary of reviews of the direction of the relationship between explanatory variables and the firm's capital structure.

Determinants	Expected theoretical relation*	Direction of relationship (+/-) (as reported in the previous studies)	
Profitability (PROF)	-ve (POH) +ve (TOT)	-ve	Rajan and Zingales (1995); Joeveer (2005); Chen (2004); Tong and Green (2005); Shyam-Sunder and Myers (1999); Booth et al., (2001); Abor and Biekpe (2009)
		+ve	Frank and Goyal (2003); Harris and Raviv (1991); Tong and Green (2005); Riportella and Martínez (2003)
Firm's Size (SIZE)	-ve(POH) +ve (TOT)	+ve	Joeveer (2005); Booth, Aivizian et al. (2001); Rajan and Zingales (1995); Frank and Goyal (2003); Riportella and Martínez (2003; Cassar (2004); Mac an Bhaird and Lucey (2006)
		-ve	Chen (2004)
Asset Tangibility (TANG)	+ve (POH) +ve (TOT)	+ve	Joeveer (2005; Chen (2004); Rajan and Zingales (1995); Abor and Biekpe (2009); Esparanca and Gama (2003); Booth et al., (2001); Harris and Raviv (1991)
		-ve	Abor and Biekpe (2009); Riportella and Martinez (2003)
Growth (GRO)	-ve (TOT) +ve/-ve (POH)	+ve	Esparanca and Gama (2003); Chen (2004); Shyam-Sunder and Myers (1999); Riportella and Martínez (2003); Cassar (2004); Abor and Biekpe (2009); Vos et al., (2007); Fitzsimmons and Douglas (2006); Mac an Bhaird and Lucey (2006); Frank and Goyal (2003); Booth et al., (2001)
Firm's Age (AGE)	NA	-ve	Bhaird and Lucey (2006); Esparanca and Gama (2003); Vos et al., (2007)
		+ve	Abor and Biekpe (2009)
Non-Debt Tax Shield (NDTS)	-ve (TOT)	-ve	Deesomsak et al., (2004); Viviani (2008).
Liquidity (LIQ)	-ve (POH)	-ve	Ramalho and da Silva (2009)
		+ve	Anderson (2002)

* Pecking Order Hypothesis (POH), Trade-off Theory (TOT)

Table 3.7: Direction of relationship between explanatory variables and firm's capital structure

3.6   Selecting indicator(s)

In the previous part, the variables to be included in exploring the determinants of financing preferences and capital structure among Malaysian SMEs were selected and finalized.   The following part discusses the issue of selecting indicator(s) for the explanatory variables in this study.

3.6.1 Managers' characteristics and their financing preferences

The following section will discuss the indicators used to represent each explanatory variable selected in this study. Manager's gender and age are represented by male or female, and group of ages, respectively. Manager's experiences are indicated by various indicators in order to capture either the number of years of their working experience (as a continuous variable), or categorized into different group of numbers of years of experience. Managers' level of education is indicated either in a groups of education levels or on nominal scale, depending on whether they have an educational qualification or not.

Explanatory Variables (manager's characteristics)

Author	Explanatory Variables/Indicator(s)
Vos et al., (2007)*	Age; the main SME owner's age: index variable on a 1–6 scale (Under 21, 22-34, 35-44,45-54,55-64, Over 65) Education ; index variable on a 1–7 scale, which indicates the main SME owner's level of educational attainment Ownership ; represent the main SME owner's equity share of the business Experience; the number of years of work experience in the business
Wu et al., (2008)	Age; Age of owners (<30, 30-39,40-50,>50) Education; Qualification (Up to high school, Diploma, First degree, Master's or over) Experience; Years in business (0-3, 4-6, 7-10,>11 years)
Buferna (2005)	Age; Less than 35, 35-45, 46-55, Over than 65 Knowledge: Highest qualification (School level, Undergraduate, Master, PhD, Others) Experience; Less than 5 years, 5-10, Over than 10
Low and Mazzarol (2006)	Education; Highest level of education of the owner/managers Age; Different group of age Experience; Number of years in business experience
Cassar (2004)	Experience; Years of experience Education; Level of tertiary education Gender; Male or Female

Carter and Rosa (1998)	Gender; Gender of respondents Age; Age of respondents Business experience; Number of business currently owned by respondents
Boden and Nucci (2000)	Gender; Male or Female Experience; Years of prior, paid employment experience (Less than 10 years, 10 or more years) Age; In years (,35,35-54, 55+) Education; Less than 4 years college, 4 or more years college
Romano et al (2000)	Gender: Male owner or Female owner Age; <51, 51-60, >60 Business ownership; One family, More than one family, Single family has majority management, Single family exerts significant control.
Watson (2006)	Gender; The sex of the owner, female-controlled firms were coded '1' and male-controlled firms were coded '2'. Education; The highest level of education achieved by the principal decision-maker according to the following four categories: school, trade, tertiary (non business), and tertiary (business) Experience; owner's years of experience was provided as a continuous variable.
Coleman (2000)	Gender; Male or Female
Storey (1994)	Experience; Whether founder's prior job was a managerial position (Yes/No), Founder currently employed full time in this business (Yes/No) Gender; Male or Female Education; Whether or not the founder has any educational qualification (Yes/No) and whether or not the founder has a degree (Yes/No) Age; Age of the founder when firm first started, and square of founder age when firm first started.
Verheul and Thurik (2001)	Gender; Male or Female Experience; Whether the entrepreneur works in the service sector or in non-services (Services=1, elsewhere=0), Education; The extent to which an entrepreneur had previous experience with financial management (1: No experience to 4:Much experience)
Zhang (2008)	Age; Age categories of the respondents (Under 20, 20-29, 30-39,40-49,Over 50) Education; The level to which an entrepreneur was educated (Primary school and blow, Junior middle school, High school, Vocational training, College, Graduate school and above) Experience; Number of years in business
Osei-Assibey et al. (2011)	Age; Mean age of the owner Education; Mean number of years spent in school Gender; = 1, if female; 0 male Business ownership; Percentage of profits retained/shared by the owner (100% ¼ sole proprietor)
Gebru (2009)	Ownership status; Female (one owner), Male (one owner), Male more than one female, more than one male, mixed) Education; No formal education, Up to 12th grade, Technical and vocational, College diploma, University degree, Others. Age; In years
Coleman and Cohn (2000)	Gender; Male or Female Education; dichotomous variable coded as 1 if the owner had at least a 4-year college education Age; age of the owner Experience; the owner's years of experience in this business or some other business

	Education; Completing four years of high school, Completing at least one but less than four years of college, Completing four years of college, Completing five or more years of college
Bates (1990)	Management experience; Owners who had worked in a managerial capacity prior to owning the business they owned in 1982 (Management = 1; otherwise Management = 0)
	Age; 35 and 44, 45 and 54, 55 or older

*Different variables used in UK and US

Table 3.8: Indicator for explanatory variables used in previous studies

A summary of the indicators used to represent the selected explanatory variables in this study is presented as follows:

Explanatory Variable	Indicator
Gender (GENDER)	Gender i.e. Male or Female
Age (AGE)	Age. Classified into groups of ages.
Education (EDU)	Level of education. Classified into groups of education levels.
Experience (EXP)	Experience. Classified into groups of experiences with regards to years of experience.
Business ownership (OWN)	Relating to ownership of business i.e. Own/ did not own the business

Table3.9: Indicator for explanatory variables

Outcome Variables (preferences for different sources of financing)

Indicators for the outcome variables (sources of financing) are selected to represent variable sources of financing available to the SMEs in Malaysia. 14 different sources of financing were included in this study to capture manager's preferences for these sources of financing. Initially, these sources of financing were grouped into two different sources: internal and external sources of financing. These groups were later classified into three groups of sources of financing, namely; internal equity financing, debt financing and external equity financing. These three groups are consists of three, seven

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and four different sources of financing, respectively. The following table indicates three indicators used in this study to represent three different sources of financing.

Sources of financing	Indicator
Shareholder's Own Funds/Contributions Retained Earnings (Net Income Retained for Reinvestment) Funds from Parent/Subsidiaries/Associate Companies	Internal equity financing (IEF)
Banking Institutions Development Financial Institutions Government Funds/Scheme Cooperatives Financing Trade/Supplier Credit Leasing Companies Factoring Companies	Debt financing (DF)
Equity Investment: Venture Capital Companies Equity Investment: Business Angels Private Equity Investment from Friends and Family Private Equity Investment from Unrelated Companies	External equity financing (EEF)

Table 3.10: Indicators for sources of financing

3.6.2   Firm's characteristics and firm's capital structure

Explanatory Variables (firm's characteristics)

The explanatory variables selected for this part of the study consist of firm age and size, profitability, growth, non-debt tax shields, liquidity, and assets tangibility. The following table summarizes the indicators used in previous studies regarding firms' characteristics and their capital structure.

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Authors	Explanatory Variables/Indicator(s)
Riprotella and Martinez (2003)	Profitability (P)= ROA as a proxy of economic performance. It is the ratio of EBIT on total assets Firm's Size (S)= Micro: number of employees < 10, Small: 10<= number of employees <50, sales bellow 7 million € and total assect under 5 million €, Medium-sized: 50<= number of employees <250, sales between 7 and 40 million €, total assets between 5 and 27 million €. For the econometric analysis we only consider the number of employees. Asset Tangibility (AT)= Ratio of tangible assets respect to total assets. Growth Opportunities (G)= it is the ratio of intangible assets to total assets. Firm's Age (A)= Mature: its age is higher than 10 years, Young: its age is lower than 10 years
Zhang (2008)	Firm's Size (S) i.e. Size of Firm (SOF) A binary variable set to 1 if the private firm is a siying qiye, which employs more than 8 people.
Abor and Biekpe (2007)	Profitability (P) earnings before interest and taxes, divided by total assets. Firm's Size (S) the logarithm of total assets, Asset Tangibility (AT)= the tangible fixed assets of the firm divided by the firm's total assets. Growth Opportunities (G) measured through a dummy variable, taking the value 1 if the firm exports and 0 otherwise. Firm's Age (A) proxy reputation.
Mira (2002)	Profitability (P):EBIT=ROA/Total Assets Size (S): Natural logarithm of total assets Asset Structure (AS): Tangible Assets/Total Assets Growth Opportunities (GO):Intangible Assets/Total Assets Non – Debt Tax Shields (NDTS):Depreciation/Total Assets
Hutchinson (2003)	Profitability (P) the ratio of pre-tax profits to sales Size (S) interval level variable as total assets in pounds sterling and nominal level variable (Micro 1- 10 (including owner-manager/s), Small 11 – 100 and medium-sized-sized as 101 – 200 employees) Asset Structure (AS) (as a proxy for collateral) Growth Opportunities (GO) i.e. the percentage increase in sales over the previous three years Age (A) 1995 (the year of the original study) less the year of incorporation
Abor and Biekpe (2009)	Profitability (P) PROF = the ratio of profit before tax to total assets Size (S) SIZE = log of total assets Asset Structure (AS) AST =the ratio of fixed assets to total assets Growth Opportunities (GO) GROW = growth in sales Age (A) AGE =number of years in business
Brighi and Terluccio (2006)	Firm Size: Ln of total assets Profitability: Return on Sales (ROS) and Return on Investment (ROI) Liquidity: Current Ratio=Current assets / Current liabilities Asset Structure: Tangible assets / Total assets AGE =Ln of the years in operation of the firm Growth: Rate of RandD Investment=Expenses in RandD/ Total assets
Daskalakis and Psillaki (2008)	Asset structure (ASi,t) as the ratio of the tangible assets divided by the total assets of the firm. The size of the firm (SIZEi,t). as the natural logarithm of sales revenue. Profitability (PROFITi,t) of firms as the ratio of earnings before taxes divided by total assets. The effect of growth (GROWTHi,t) as the annual percentage change on earnings.

Mac an Bhaird and Lucey (2006)	Age i.e. age of the firm in years at the time of survey (categorical variable) Size i.e. Gross sales turnover of the firm (categorical variable) RandD expenses as proxy for growth i.e. Percentage of turnover spent on RandD (categorical variable)
Ortqvist et al. (2006)	Profitability as a ratio of pre-tax income to sales turnover. Asset structure was measured as the ratio of fixed assets to total assets Size as the total assets in thousand Swedish kronor. Growth as the percentage increase of sales turnover between the last year and the current year. Age as the number of years of the venture from registration.
Nguyen and Ramachandran (2006)	Growth = Percentage change in total assets Tangibility = Ratio of fixed assets to total assets Profitability = Natural logarithm of ratio of profit (before tax) to revenues Size = Natural logarithm of the number of employees
Romano et al. (2000)	Size of business using a composite measure based on five continuous variables: number of employees, gross sales, estimated value of business, and number of national and total business locations. Firm age as the number of years a firm has been in business (i.e., legally registered)
Psillaki and Daskalakis (2007)	Asset structure of the firm i.e. $AS_{i,t}$ as the ratio of tangible assets divided by the total assets of the firm Size of the firm ($SIZE_{i,t}$) as the logarithm of sales Firm's profitability ($PROFIT_{i,t}$) as pre-interest and pre-tax operating surplus divided by total assets Growth ($GROWTH_{i,t}$), calculated as the annual change on earnings.
Ramalho and da Silva (2009)	Non-debt tax shields (NDTS) Ratio between depreciation and earnings before interest, taxes and depreciation Tangibility (TANGIB) Sum of tangible assets and inventories, divided by total assets Size (SIZE) Natural logarithm of sales Profitability (PROFITAB) Ratio between earnings before interest and taxes and total assets Expected growth (GROWTH) Percentage change in total assets Age (AGE) Years since foundation Liquidity (LIQUIDITY) Sum of cash and marketable securities, divided by current assets
López-Garcia and Sánchez-Andújar (2007)	Profitability (*ROA*) Operating profit/Total assets Non-debt tax shield(*SHIELD*) Depreciation/Total assets Company size (*SIZE*) Logarithm of net turnover Growth opportunities (*GRO)P* Annual net sales — 1997 net sales/Net sales 1997 Age (*AGE*) Log of number of years since the company was founded

Table 3.11: Summary of indicators used in previous studies

Most previous studies used Return on Assets (ROA) as their proxy for profitability.

Other proxies used for profitability are Earnings before Interest and Tax (EBIT), Return

on Sales (ROS), Return on Investment (ROI) and also ratio of Earning before Tax (EBT) to Sales or Total Assets. Proxy for size, on the other hand, mainly refers to either number of employees (certain countries define size of SMEs based on number of full-time employees) or total assets. Some of the studies use information on a firm's sales revenue, sales turnover and net turnover to differentiate their samples based on firms' size. Firms' age is mostly indicated by the number of years in business, and study by Riportella and Martinez (2003) even categorized firm's age as mature (more than 10 years in business) and young (less than 10 years in business) respectively.

Asset tangibility or structure is usually used as a proxy for collateral, and is indicated by the ratio between a firm's tangible fixed assets (some studies include inventories as well) ando total assets own by the firm. In comparison, proxy for firm's growth and growth opportunities are usually indicated by the ratio of intangible assets to total assets, annual percentage change in earnings, R&D expenses over turnover, and percentage increase in sales turnover. Non-debt tax shields are usually indicated by the ratio between depreciation to total assets, as used by López-Garcia, and Sánchez-Andújar (2007) and Mira (2002). Ramalho and da Silva (2009) used a different approach in indicating non-debt tax shields by comparing depreciation to earnings before interest, taxes and depreciation instead of total assets. Titman and Wessel (1998) used three different proxies for non-debt tax shields by counting up the ratio between investment tax credits, depreciation and non-debt tax shields to total assets. The latter approach is deemed to be difficult to measure. The final explanatory variable selected, namely liquidity, is measured using the current ratio, and to some extent, by the ratio between cash and marketable securities to current asset.

For this particular study, indicator(s) used for each explanatory variable are as follows:

No.	Variable	Indicator
1.	Profitability (PROF)	Return on Assets: EBIT/Total Assets
		Gross Profit Margin: Gross Profit/Net Sales
		Net Profit Margin: Net Income/Sales
2.	Firm Size (SIZE)	Based on number of Full-time employees or annual sales turnover which divided into 3 different groups which is Micro, Small and Medium-sized.
3.	Asset Tangibility (TANG)	Fixed Assets/Total Assets
4.	Growth/Growth Opportunities (GRO)	Growth of Total Assets (%)
		Growth of Total Sales (%)
5.	Firm Age (AGE)	Divided into 5 groups (Less than 5 years, 5 to 9 years, 10 to 14 years, 15 to 19 years, more than 20 years)
6.	Non-Debt Tax Shield (NDTS)	Depreciation/Total Assets
7.	Liquidity (LIQ)	Quick Ratio: (Current Assets – Inventories)/Total Assets
		Current Ratio: Current Asset/Current Liabilities

Table 3.12: Summary of indicators used for each explanatory variable

Outcome Variables (firm's capital structure)

The following table summarizes the indicators used for capital structure variables in previous studies.

Author	Capital Structure Variables
Titman and Wessel (1998)	Long-term, Short-term and Convertible Debt to Market value of equity, (LT/MVE, ST/MVE, C/MVE) and Long-term, Short-term and Convertible Debt to Book value of equity, LT/BVE, ST/MBVE, C/BVE)
Harris and Raviv (1991)*	* Summary of determinants of leverage from 9 surveyed papers. Capital structure variables were not specified
Frank and Goyal (2003)	Total Debt/Market Value of Assets (TDM), Total Debt/Total Assets (TDA), Long-term Debt/Market Value of Assets (LDM), Long-term Debt/Total Assets (LDA)
Booth et al (2001)	Total Debt Ratio, Long-term Book Debt Ratio, Long-term Market Debt Ratio.
Seifert and Gonenc (2008)	Total Liabilities/Total Assets
Tong and Green (2005)	LEV1= [Non-Current Liabilities + (Current Liabilities-Taxation-Provisions)]/Total Assets, LEV2=[Non-Current Liabilities + (Current Liabilities-Taxation-Provisions)]/(Total Assets – Account Receivables)
Viviani (2008)	Long-term Debt/Total Assets, Short-term Debt/Total Assets, Long-term Debt/(Long-term Debt +Equity)
Chen (2004)	Overall Leverage=Book value of Total Debt/Total Assets, Long-term Leverage=Book value of Long-term Debt/Total Assets.
Riprotella and Martinez (2003)	*Leverage ratio* Amount of total liabilities respect to total level of assets. *STDR* Short-term debt ratio: Costly short debt over total costly debt. *BD_CD* Bank loans to costly debt ratio. It is the ratio of overall amount of bank credits to total costly debt. *STBD_BD* Short-term bank debt ratio: Short-term bank debt over total bank debt. *BD_TA* Total amount of bank credits respect to total amount of assets. *STD_TA* Short-term debt respect to total amount of assets. *LTD_TA* Long-term debt respect to total amount of assets.
Zhang (2008)	The simplest way is to represent the dependent variable as a dummy variable FIN (choice of financing mechanism), coded either 1(if the entrepreneur chooses formal finance) or 0 (if the entrepreneur chooses informal finance).
Abor and Biekpe (2007)	The dependent variable used to measure bank financing is the bank-debt ratio, or the proportion of the total debt obtained from banks, and is defined as the ratio of bank debt to total debt. This measures the role of bank financing in the SME sector.
Mira (2002)	Total Debt Ratio (TDR): Total Debt/Total Assets Long term debt ratio (LDR): Long Term Debt/Total Assets Short term debt ratio (SDR): Short Term Debt/Total Assets
Hutchinson (2003)	Long-term debt (LTD): long-term debt/total assets Short-term debt (STD): short-term debt/total assets.
Abor and Biekpe (2009)	LDR long-term debt ratio = Long-term debt/(total equity/total debt) SDR short-term debt ratio = Short-term debt/(total equity/total debt)

Brighi and Terluccio (2006)	Specifically, the dependent variables are: *Selffin_A* which assumes the value 1 if self-financing is greater than zero and is otherwise 0 *Selffin_B* which assumes the value of 1 if self-financing is greater than 50% and is otherwise 0 *Selffin_C* which assumes the value of 1 only if self-financing is equal to 100% and is otherwise 0. The questionnaire also allows exact definition of the percentage of self-financing used to finance the investments, *Selffin_%.* Multiplying this value by the total investments for 2001-2003 produces the variable *Selffin_lev* which expresses the value in Euros of the investments self-financing during the period surveyed. Finally, we calculated the variable *Selffin_Rate* i.e. the ratio of Selffin_lev to total assets.
Daskalakis and Psillaki (2008)	Debt to Assets Ratio (DRi,t) i.e. ratio of total liabilities divided by the total assets of the firm
Mac an Bhaird and Lucey (2006)	(PERF) Personal Savings and 'f' connection = Personal savings of founder(s), funds from friends and Family (as a percentage of total financing) (RETII) Retained Profits = Retained Profits (as a percentage of total financing) (EXTEQ) External Equity = Venture Capital + Business Angels and Private Investors + Government Grants and Equity (as a percentage of total financing) (LTD) Long-term Debt = Long-term debt (as a percentage of total financing) (STD) Short-term Debt = Short-term bank loans and overdraft (as a percentage of total financing) (TD) Total Debt = (STD) Short-term Debt + (LTD) Long-term Debt
Ortqvist et al. (2006)	Short-term debt ratio = short- term debt to total assets. Long-term debt ratio = long-term debt to total assets.
Nguyen and Ramachandran (2006)	Debt ratio = Total debt to total assets Short-term liabilities ratio = Short-term liabilities to total assets Other short-term liabilities ratio = Other short-term liabilities to total assets (mostly financing from networks)
Romano et al. (2000)	Sources of family finance = Equity, Debt, Family Loans, Capital and Retained Profits
Psillaki and Daskalakis (2007)	Debt ratio ($DR_{i,t}$) = The ratio of total liabilities divided by the total assets of the firm.
Ramalho and da Silva (2009)	LTD (Long-term debt) to Long-term capital assets (LTD + equity)
López-Garcia and Sánchez-Andújar (2007)	Lagged Debt Ratio (D_{t-1})= Total debt (year t - 1) /Total assets (year $t-1$)
Esparance and Gama(2003)	Debt-to-Equity Ratio=Debt/Equity ratio, Long-term Debt Ratio=Long-term Debt/Total Assets, Short-term Debt Ratio=Short-term Debt/Total Assets

Table 3.13: Summary of indicator used for capital structure in previous studies

Indicators for capital structure variables mainly revolved around ratios within the company's capital structure. To some extent, the values of these variables are differentiated, either by taking the book value or the market value of leverage or equity. The indicators used for capital structure variables in this study are as follows:

No.	Indicator
1.	Debt Ratio (DR)=Total Liabilities/Total Assets
2.	Short-term Debt Ratio (STDR)=Current Liabilities/Total Assets
3.	Long-term Debt Ratio (LTDR)=Long-term Debt/Total Assets
4.	Debt-to-Equity Ratio (DER)=Total Debt/Total Equity

Table 3.14: Capital structure variables used in this study

Apart from the capital structure ratios mentioned above that was used as the indicators for firms' capital structure, this study also used another set of indicators to represent the proportion of firms' capital structure. This set of indicators was used to show the firm's use of short-term financing, long-term financing and equity financing. 14 types of financing were included, and these types of financing were later grouped into three different indicators to represent the proportions of firm's capital structure in term of short-term financing, long-term financing and equity financing. Each group of the proportion of the firm's capital structure consists of five, four and five types of financing respectively. The following table present the types of financing for each indicator (proportions of firm's capital structure) used in this study.

Types of financing	Indicator
Accounts Payable Bank Overdraft Trade Credit Accrued Expenses Notes Payable	Short-term financing (STF)
Long-term Debt Leasing Factoring Hire Purchase	Long-term financing (LTF)
Retained Earnings (Net Income Retained for Reinvestment) Shareholder's Own Funds /Contribution Share Capital Capital Reserved Funds from Parent/Subsidiaries/Associate Companies	Equity financing (EF)

Table 3.15: Indicators for the proportions of firm's capital structure

3.7   Conceptual Model

A conceptual model is a diagram that connects variables/constructs based on theory and logic (Hair et al., 2007). Researchers imagine and construe theoretical representations in their own way, and this means that different researchers will come up with different theoretical representations, even though the general topic of the research may be the same (Easterby-Smith et al, 2008). A conceptual model or theoretical framework views a meaningful integration of all factors contributing to a study (Sekaran, 2003). A variable refers to an attribute of an entity that can change and take different values which are capable of being observed and/or measured (Hussey and Hussey, 1997).

Variables are the observable and measurable characteristics in a conceptual model. Researchers assign values to variables that enable us to measure them. An independent variable is a measurable characteristic that influences, or explains, the dependent

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variables. A dependent variable is the variable you are trying to understand, explain and/or predict (Hair et al., 2007). Previous studies examining the determinants of manager's financing preferences and determinants of firm's capital structure involve different explanatory and outcome variables that are summarized in the following figure 3.1. This figure represents the general conceptual model for study of financing preferences and capital structure, which is later applied in this study of financing preferences and capital structure of successful SMEs in Malaysia.

Conceptual Model of Financing Preferences and Capital Structure

Manager's characteristics	**Manager's Financing Preferences**
1. GENDER 2. AGE 3. EDU 4. EXP 5. OWN	1. Internal Equity Financing (IEF) 2. Debt Financing (DF) 3. External Equity Financing (EEF)

Firm's Capital Structure

Proportions of Firm's Capital Structure	**Firm's Capital Structure Ratios**	**Firms Characteristics**
1. Short-term Financing (STF) 2. Long-term Financing (LTF) 3. Equity Financing (EF)	1. Debt Ratio (DR) 2. Short-term Debt Ratio (STDR) 3. Long-term Debt Ratio (LTDR) 4. Debt-to-Equity Ratio (DER)	1. AGE 2. SIZE 3. PROF 4. TANG 5. LIQ 6. NDTS* 7. GRO

*Non-Debt Tax Shields

Figure 3.1: Conceptual Model of Financing Preferences and Capital Structure

3.8 Conclusion

Despite theoretical developments in recent years, a complete understanding of corporate capital structure is yet to be reached. Literature on financing preferences among managers of SMEs is also limited. Reviews of the previous literature indicate that managerial characteristics have proved to have a significant influence on, and relationship with, the financing practices of SMEs. The reviews also lead to the selection of five manager's characteristics (gender, age, education, experience and ownership) to be used in determining those factors influencing manager's financing preferences for different sources of financing (internal equity financing, debt financing, external equity financing) available to Malaysian SMEs. This analysis was then extended to investigate the relationship between manager's financing preferences for different sources of financing and the proportions of firm's capital structure (short-term financing, long-term financing and equity financing).

Within the study of the determinants of firm's capital structure, both theoretical and empirical capital structure studies have generated many results that attempt to explain the determinants of capital structure among large companies and SMEs. Prior empirical research reflects the diversity found in practice as firms are heterogeneous in their capital structure policies. The importance of SMEs to national economies has resulted in scholarly literature on the subject of SME financing where hypotheses derived from capital structure theory developed in corporate finance were tested to study the capital structure of SMEs. There is no universal theory as to debt-equity choice, and no reason to expect one. There are several useful conditional theories, however (Myers 2001).

Finance theory offers two broad competing models: trade-off theory and pecking order theory (Tong and Green, 2005). Empirically, distinguishing between these hypotheses has proven difficult (Booth et al., 2001; Tong and Green, 2005). Although it is not the aim of this study to test the capital structure theories indicated above, the selection and discussion of the firm characteristics to be used in understanding capital structure decisions among SMEs in this study were mainly based on the earlier studies of firms' characteristics and their capital structure decisions. Few determinants were recognized as being significantly related to financing decisions among SMEs. These determinants include firm age, size, profitability, asset tangibility, non-debt tax shields and growth.

Within the case of Malaysia, concerns about the financing gaps have been addressed in the annual report of Central Bank of Malaysia in 2008. It was highlighted that adequate access to finance is critical in enabling SMEs to contribute to the economic development of Malaysia. Furthermore, weaknesses and gaps in knowledge concerning the relationship between finance and SME development were also addressed by Cook (2001). Therefore, given the significant role of SMEs and the existence of financing gaps, as well as gaps in the literature, it is crucial to investigate financial practices among SMEs. This is vital to amplify better understanding of their financing behaviour in order to develop overall awareness of the financing needs of SMEs and improving the ways financial services are delivered to them.

Understanding of the financial practices among successful SMEs in Malaysia is still low. This study hoped to provide some helpful information on this matter which will enhance the overall understanding of financial practices among SMEs in Malaysia, particularly

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among successful SMEs. This, in turn, will reduce the knowledge gaps on the aspect of financial decision among SMEs and also the financing gaps as awareness on the financing needs among SMEs is increased. This particular understanding will also help in developing possible recommendations from good financial practices among successful SMEs in Malaysia.

Chapter 4

Research Methodology

4.1 Introduction

The research strategies, methodology and design used in this study are described in this chapter. Discussions begin with the research aims, objectives and questions, and this is followed by the research purpose. Research methodology and design were then deliberated, with emphasis placed on research philosophies, approach, strategies and choices. In addition, research time horizons, techniques and procedures are also described. The data collection approach is discussed in detail, to include response frame, and the instrument involved. Furthermore, the questionnaire construction process, and the content of final version of the questionnaire are also described. The chapter concludes with a discussion of the questionnaire administration involved in this study.

4.2 Aims of study

This research seeks to analyse and explain the financial practices of successful SMEs in Malaysia, drawn from the list of Enterprise 50 award winners from 1998 to 2010. Their financial practices are viewed in term of their financing preferences and capital structure. One of the central aims of this study is to highlight the preferences of managers of these SMEs for various sources of financing. In addition, their capital structures are also investigated. Moreover, this study also tries to seek out the influence of selected manager's characteristics on their level of financing preferences and also the

influence of selected firm's characteristics on the firm's capital structure, based on the two conditional theories of capital structure, Trade-off Theory (TOT) and Pecking Order Hypothesis (POH) as explained in the previous chapter. It is also an aim of this study that the research findings will further improve the financial assistance for Malaysian SMEs based on an enhanced understanding of their financial practices in the current environment.

4.3 Research objectives and questions

The importance of understanding the interrelated relationship between research objectives and question is inevitable (Hair et al., 2007). This understanding will guide the choice of research strategy, in addition to the existing knowledge, the amount of time, availability of other resources and the researcher's own philosophical underpinnings (Saunders et al., 2009). The desired outcome needs to be reflected upon when stating research objectives, as this is viewed as the starting point of rigorous research, in that they demonstrate the potential legitimacy of the research project in far stronger terms than a statement of the research idea (Hair et al., 2007). Research objectives and questions thus complement each other, and are very significant in reflecting and guiding the overall approaches behind a research project.

In this study, the main objective is to add to knowledge and improve understanding of the topic of small business financing, particularly among successful SMEs in Malaysia with the aim of 1) investigating the preferences for different sources of finance among managers' of successful Malaysian SMEs, 2) investigating the capital structure of

successful Malaysian SMEs, 3) determining if there is any significant association between selected managers' characteristics and their preferences for different sources of finance, and between selected firm characteristics and the firm's capital structure among successful Malaysian SMEs, 4) determining if there is any association between managers' level of financing preferences with the proportion of their firm's capital structure, and 5) determining the factors affecting managers' level of preferences for different sources of financing, factors affecting the proportion of the firm's capital structure, and the factors that affect firm's capital structure among successful Malaysian SMEs. These specific objectives will be accomplished by gathering specific data among SMEs within the list of Enterprise 50 award winners to gauge the issue of financing preferences and the choice of capital structure, as well as the factors that influence their preferences and capital structure.

These objectives are also translated into five research question to indicate the researcher's interests (Hair et al., 2007) which also identify the nature of the issue that will be focused on (Hussey and Hussey, 1997). The research questions concerning the issue of financing preferences and the firm's capital structure among Enterprise 50 award winners are established and presented as follows:

1. What are the preferences for different sources of finance among managers of successful Malaysian SMEs?

2. What are the capital structures of successful Malaysian SMEs?

3. Is there any significant association between selected manager's characteristics and their level of preferences for different sources of finance, and between the

selected firm's characteristics and the firm's capital structure among successful

Malaysian SMEs?

4. Is there any association between manager's financing preferences and the proportion of their firm's capital structure?

5. What are the determinants of the manager's level of preferences for different sources of finance, determinants of the proportion of firm's capital structure, and determinants of firm's capital structure among successful Malaysian SMEs?

4.4 Research purpose

The classification of research purposes most often used in the research method literature involves three different purposes: exploratory, descriptive and explanatory (Saunders et al., 2009). In addition to the first two research purposes, Hussey and Hussey (1997) suggest that the research purpose can also be analytical and predictive. A more general classification of research purpose is suggested by Sekaran (2003) who point out that studies may be either exploratory in nature or descriptive, or may be conducted to test a hypothesis. Furthermore, a research project may have more than one purpose, though whatever the research purposes, empirical evidence is required (Saunders et al, 2009; Hussey and Hussey, 1997).

An exploratory study is undertaken when little is known about the situation at hand, or no information is available on how similar problems or research issues have been solved in the past. However, it is also necessary to undertake an exploratory study when some facts are known, but more information is needed for developing a viable theoretical

framework. This type of study is important in obtaining a good grasp of the phenomena of interest and advancing knowledge through subsequent theory building and hypothesis testing (Saunders et al., 2009). A descriptive study, on the other hand, is executed with the objective of learning who, what, when, where and how of the topic (Cooper and Emory, 1995). Saunders et al. (2009) point out that this particular purpose of study as an extension of, or a forerunner to, a piece of exploratory research or, more often, a piece of explanatory research. They added that descriptive study has a very clear place in management and business research, and should be thought of as a means to an end rather than an end in itself. Finally, an explanatory study is a study that establishes causal associations between variables (Saunders et al., 2009) with an emphasis on testing whether or not one event causes another. This type of study is sometimes identified as causal study (Hair et al., 2007). The objective of a causal study is to find out why, and it is used when it is essential to establish a conclusive 'cause-effect' relationship.

In this study, part of the objectives is to investigate the level of financing preferences for various sources of financing among SME managers and the choice of capital structure among SMEs. Thus, part of this research can be classified as descriptive. On the other hand, some objectives of the research include defining the associations between selected managers and firm's characteristics on manager's level of financing preferences and firm's capital structure, respectively. In addition, the association between the manager's level of financing preferences and the proportions of their firm's capital structure are also investigated. It is also the aim of this study to establish the determinants of each manager's level of financing preferences, the proportions of the firm's capital structure and the firm's capital structure. Therefore, elements of this research can also be

considered to be an explanatory study. In general, this study is descriptive and explanatory in nature, as the aims of this study are to describe and explain financial practices among successful Malaysian SMEs with regard to their financing preferences and the determinants of their choice of capital structure.

4.5   Research methodology and design

"Research is something that people undertake in order to find out things in a systematic way, thereby increasing their knowledge" (Saunders et al., 2009). In a similar way, Hussey and Hussey (1997) define research as a systematic and methodical process of enquiry and investigation which increases knowledge. They also describe methodology as the approach to the entire process of research study and method, and as the various means by which data can be collected and/or analyzed. Likewise, Saunders et al. (2009) define methods as techniques and procedures used to obtain and analyze data, including questionnaires, observation and interviews, as well as both quantitative (statistical) and qualitative (non-statistical) analysis techniques. Generally, research methods refer to the tools used for data collection and analysis (Denscombe, 2007). In summary, methodology refers to the theory of how research should be undertaken, including the theoretical and philosophical assumptions upon which research is based and the implications of these for the method or methods adopted. This in turn will determine the whole approach of the research process, involving theoretical formulation, data collection and analysis.

The research design has been chosen to best answer the research questions proposed in the study. Hair et al., (2007) suggests that selecting the right research design depends upon the research questions and objectives. The importance of choosing the correct research design is vital, as it provides a framework for the collection and analysis of data, and will reflect decisions about the priority being given to a range of dimensions of the research process (Bryman and Bell, 2007), and it is also the science and art of planning procedures for conducting studies (Hussey and Hussey, 1997). Likewise, Cooper and Emory (1995) summarize three essential conditions for research design: 1) the design refers to a plan for choosing the sources and types of information used to answer the research questions, 2) it is a framework for identifying the relationship between variables used in the study, and 3) it is a blueprint that outlines each procedure, from hypothesis to data analysis.

Figure 4.1 shows research onions as proposed by Saunders et al. (2009). The research onions consist of six layers of onion in designing a research study. These layers are interrelated and complement each other, as each of the layers will determine the researcher's direction of studies. As the research aims, objective, questions and purpose are already discussed in the former section, the following section focuses primarily on layers of 'onion', which start with the research philosophies, followed by approaches, strategies, choices, time horizons, and finally, techniques and procedure.
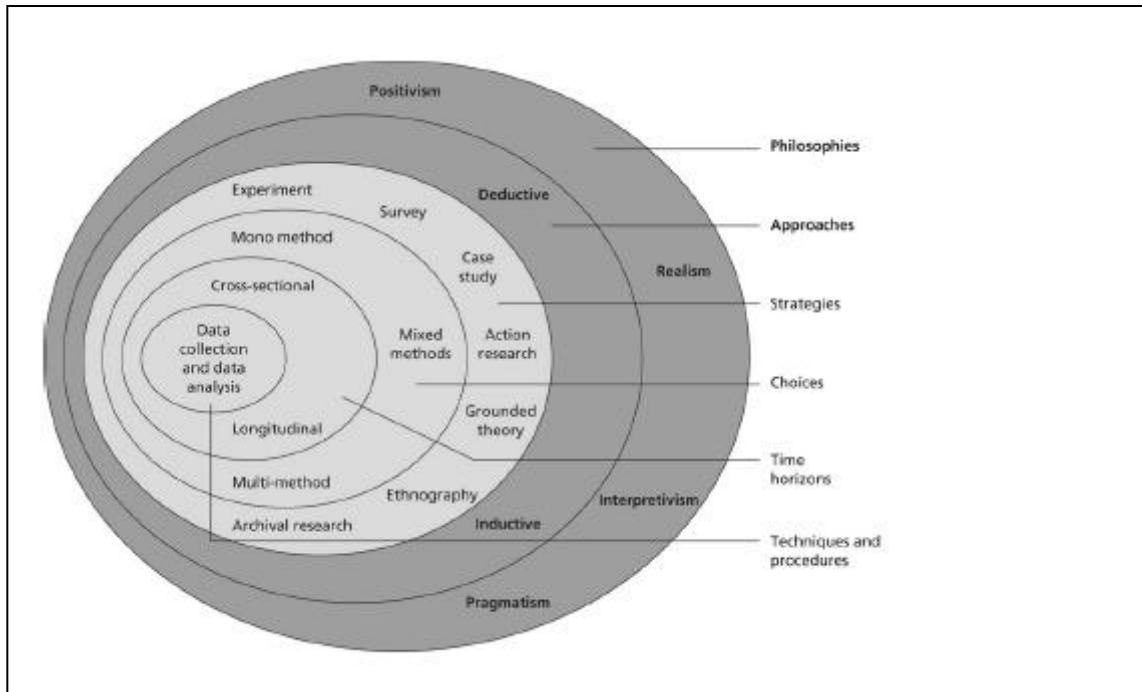
Source: Saunders et al. (2009)

Figure 4.1: Research Onions

4.5.1 Research philosophies

Saunders et al. (2009) have suggested that there are three major ways of thinking about research philosophy: epistemology, ontology and axiology. Each contains important differences which will influence the way in which researchers think about the research process. Epistemology concerns what constitutes acceptable knowledge in a field of study. Ontology on the other hand is a branch of philosophy which is concerned with the nature of social phenomena as entities. Contrasting those two, Hussey and Hussey (1997) refer to epistemology as the study of knowledge and what we accept as valid knowledge, while ontological assumption is the study about the nature of reality based on people's assumptions. On the contrary, axiology studies judgments about value.

Research philosophies are also known as a paradigm (Hussey and Hussey, 1997). They later explicate the term in regards to the progress of scientific practice based on people's philosophies and assumptions about the world and the nature of knowledge, in this context, about how research should be conducted. Similarly, Saunders et al. (2009) explore research philosophy through the concept of research paradigm, and believe that a paradigm is a way of examining social phenomena from which particular understandings of these phenomena can be gained, and explanations attempted. Although frequently used in the social sciences, this term (i.e. paradigm) can lead to confusion because it tends to have multiple meanings.

Hussey and Hussey (1997) insist that the research paradigm offers a framework that comprises an accepted set of theories, methods and ways of defining data. They also believe that there are two main research paradigms or philosophies which are labelled as positivist and phenomenological. Each paradigm is alternatively termed quantitative, objectivist, scientific, experimentalist and traditionalist (positivist) and qualitative subjectivist, humanistic and interpretivist (phenomenological). Saunders et al. (2009) later describe research paradigms from four different views, these being positivism, realism, interpretivism and pragmatism. Hussey and Hussey (1997) define positivism as a paradigm based on the natural sciences which assumes that social reality is independent of us and exists regardless of whether or not we are aware of it. Therefore, the act of investigating reality has no effect on that reality and little regard is paid to the subjective state of the individual. It is usual to associate a positivistic paradigm with measurement or quantitative paradigm (Hussey and Hussey, 1997). According to Easterby-Smith et al., (2008) and Hussey and Hussey (1997), the positivistic approach

aims to capture the facts or causes of social phenomena. A logical perspective is applied to achieve accuracy and objectivity when investigating and explaining research results which involve establishing relationships between variables of the research and linking them to a specific theory. Likewise, Saunders et al. (2009) point out that under this type of paradigm, researchers are likely to use existing theory to develop hypotheses that will then be tested and confirmed by collecting credible data from an observable phenomenon.

Realism, on the other hand, is a philosophical position which relates to scientific enquiry. The essence of realism is that what the senses show us is the truth: that objects have an existence independent of the human mind. The philosophy of realism is that there is a reality quite independent of the mind. In this sense, realism is opposed to idealism, the theory that only the mind and its contents exist. Realism is a branch of epistemology which is similar to positivism, in that it assumes a scientific approach to the development of knowledge (Saunders et al., 2009). In contrast, an interpretivistic paradigm advocates that it is necessary for the researcher to understand differences between humans in our role as social actors. This emphasis the differences between conducting research among people rather than objects. The heritage of this strand of interpretivism comes from two intellectual traditions: phenomenology and symbolic interactionism (Saunders et al., 2009). The phenomenological paradigm is a paradigm which assumes that social reality is in our minds; it is a reaction to the positivistic paradigm. Therefore, the act of investigating reality has an effect on that reality, and considerable regard is paid to the subjective state of the individual. This philosophy is also referred to as a qualitative paradigm (Hussey and Hussey, 1997). Finally,

pragmatism is a research philosophy that argues that the most important determinant of epistemology, ontology and axiology is the research question – one may be more appropriate than the other for answering particular questions (Saunders et al., 2009).

From the discussion above, it may be seen that this research has adopted a positivistic paradigm in order to answer the established research questions and achieve the research objectives. Relevant small business finance and capital structure theories are used to define and establish testable hypotheses concerning managers' financing preferences and firms' capital structure. Adopting this particular paradigm will require a research methodology that is concerned with hypothesis testing by collecting and analyzing quantitative data which are often based on statistical analysis. Collecting quantitative data through a quantitative instrument will enable statistical analyses and results to be harnessed in order to describe and explain the apparent phenomena which are independent of the data, and maintain an objective stand.

4.5.2 Research approach

Research approaches may be classified in a variety of ways, for instance, regarding the ways data are collected or depending upon the nature of the question being asked. It is then useful to attach research approaches to the different research philosophies; deduction owes more to positivism and induction to interpretivism, although such labeling is potentially misleading and of no real practical value (Saunders et al., 2009). Most social research involves both inductive and deductive approaches at some time in

the project. These two approaches involve different methods in regards to how the research operated.

An inductive approach is more open and explorative in nature, beginning with specific observations and then moving for developing a broader generalization and theories as a result of data analysis (Hussey and Hussey, 1997; Saunders et al., 2009). A deductive approach on the other hand, works the other way around. It starts with a general views or theories, and researchers play their role in testing the developed hypothesis. In this approach, the researcher's role is to confirm these general theories. It is defined as a study in which a conceptual and theoretical structure is developed, which is then tested by empirical observation; thus particular instances are deduced from general inferences (Hussey and Hussey, 1997). In this approach, the researcher develops a theory and hypothesis (or hypotheses) and designs a research strategy to test the hypothesis (Saunders et al., 2009). The following table shows major differences between the deductive and inductive approaches to research.

Deduction emphasis	Induction emphasis
• Scientific principles • Moving from theory to data • The need to explain causal relationships between variables • The collection of quantitative data • The application of controls to ensure validity of data • The operationalization of concepts to ensure clarity of definition • A highly structured approach • Researcher independence of what is being researched • The necessity to select samples of sufficient size in order to generalise conclusions	• Gaining an understanding of the meanings humans attach to events • A close understanding of the research context • The collection of qualitative data • A more flexible structure to permit changes of research emphasis as the research progresses • A realisation that the researcher is part of the research process • Less concern with the need to generalise

Source: Saunders et al. (2009)
Table 4.1: Comparison between Deduction and Induction Emphasis.

In this study, a deductive approach is adopted as the research questions and objectives have been developed from an understanding of the relevant theories of small business financing and a firm's capital structure. Under this approach, theoretical propositions will be statistically tested using collected quantitative data on the topic of firm's financing preferences and firm's capital structure to describe and explain the possible causal relationships between the variables under study.

4.5.3   Research strategies

No research strategy is inherently superior or inferior to any other. The decision as to which one to adopt relates closely to the questions the research can address, and determines the type of finding that can result from the research. What is most important is not the label that is attached to a particular strategy, but whether it will enable the researchers to answer particular research question(s) and meet their research objectives. In addition, research strategies should not be thought of as being mutually exclusive, as they may be used in combination in the same research project. A research strategy may thus influence decisions made about the research design and the choice of specific methods of data collection and analysis. The main research strategies are experiment, survey, case study, action research, grounded theory, ethnography and archival research (Saunders et al., 2009).

An experiment is a form of research that owes much to the natural sciences, although it features strongly in much social science research, particularly psychology. The simplest experiments are concerned with whether there is a link between two variables. More

complex experiments also consider the size of the change and the relative importance of two or more independent variables. This strategy tends to be used in exploratory and explanatory research (Saunders et al., 2009). They added that inevitably, an experimental strategy will not be feasible for many business and management research questions. In comparison, the survey strategy usually associated with the deductive approach and a popular and common strategy used in business and management research. It is a methodology whereby a sample of subjects is drawn from a population and studied to make inferences about the population (Hussey and Hussey, 1997). Above all, surveys are popular as they allow the collection of a large amount of data from a sizeable population, often obtained by using questionnaire administered to the sample. These data are standardised, allowing for easy comparison. This strategy allows researchers to collect quantitative data which can be analysed quantitatively using descriptive and inferential statistics. Furthermore, data can also be used to suggest the possible reasons for particular relationships between variables and to produce models of these relationships. Using a survey strategy should give the researcher more control over the research process, and when sampling is used, it is possible to generate findings that are representative, designing and piloting a data collection instrument and trying to ensure a good response rate. The questionnaire, however, is not the only data collection technique that belongs to the survey strategy. Structured observation and structured interviews also often fall into this strategy (Saunders et al., 2009).

A case study strategy, on the other hand, is most often used in exploratory and explanatory research. Hussey and Hussey (1997) define the case study as a methodology which focuses on understanding the dynamics present within single

setting; often used in exploratory stages of research. In this strategy, research is undertaken within a highly controlled context and the ability to explore and understand the context of research is limited by the number of variables for which data can be collected (Saunders et al., 2009). In addition to the selection of research strategies is action research, which refers to a methodology which is used in applied research to find an effective way of bringing about conscious change in a partly controlled environment (Hussey and Hussey, 1997). On the contrary, action research has an explicit focus on action, in particular promoting change within an organization. The person undertaking the research is involved in this action for change and subsequently the application of the knowledge gained elsewhere (Saunders et al., 2009). Furthermore, the strengths of this strategy are a focus on change, the recognition that time needs to be devoted to diagnosing, planning and taking action and evaluating, and the involvement of employees (practitioners) throughout the process.

Grounded theory is another type of strategy that refers to a methodology in which a systematic set of procedures are used to develop an inductively derived theory about a phenomenon (Hussey and Hussey, 1997). It can be used to explore a wide range of business and management issues, where data collection starts without the formulation of an initial theoretical framework. Theory is developed from the data generated by a series of observations. These data then lead to the generation of predictions which are then tested in further observations that may confirm, or otherwise, the predictions. It is better to think of this strategy as 'theory building' through a combination of induction and deduction (Saunders et al., 2009). Conversely, ethnography is another research strategy that refers to a methodology derived from anthropology (the study of people, especially

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of societies and customs) whereby the researcher uses socially acquired and shared knowledge to understand the observed patterns of human activity (Hussey and Hussey, 1997). Ethnography is rooted firmly in the inductive approach, and is intended to describe and explain the social world that research subjects inhabit in a way in which they would describe and explain it (Saunders et al., 2009). Finally, archival research is a strategy that makes use of administrative records and documents as the principal source of data. An archival research strategy allows research questions which focuses upon the past and changes over time, to be answered through the exploratory, descriptive or explanatory approach (Saunders et al., 2009).

From the discussions above, it may be concluded that the survey is the most suitable strategy for this study. This study relates to the deduction approach and positivistic paradigm, which are believed to involve collecting and analyzing quantitative data. Developed research questions and objectives are expected to be answered and achieved through the surveys made among the selected SMEs, to enhance the understanding of the topic of interest.

4.5.4 Research choices

The choice between quantitative and qualitative research methods should be determined by the research questions, not the preference of the researcher (Marshall and Rossman, 1995). The terms quantitative and qualitative are used widely in business and management research to differentiate both data collection techniques and data analysis procedures. One way of distinguishing between the two is to focus on numeric

(numbers) or non-numeric (words) data. Quantitative is predominantly used as a synonym for any data collection technique (such as a questionnaire) or data analysis procedure (such as graphs or statistics) that generates or uses numerical data. In contrast, qualitative is used predominantly as a synonym for any data collection technique (such as an interview) or data analysis procedure (such as categorizing data) that generates or uses non-numerical data.

The method of data collection and analysis procedures come in various approaches, depending on researchers' own choice and desire. A mono method is used when a single data collection technique and corresponding analysis procedure is applied in one's study. In contrast, multiple methods refer to application of more than one data collection technique and analysis procedures to accomplish a research question (Saunders et al., 2009). Under multiple methods of data collection techniques and procedures, there are four different types of choice within two main choices, namely multi-method and mixed methods. A multi-method approach refers to those combinations where more than one data collection technique is used with associated analysis techniques, but this is restricted within either quantitative (using more than one quantitative data collection technique and analyzing the data using statistical procedures) or qualitative (using more than one qualitative data collection technique and analyzing the data using non-numerical procedures). Within this choice, quantitative and qualitative techniques and procedures are not mixed. A mixed-methods approach, on the other hand, refers to a research design that uses both quantitative and qualitative data collection techniques and analysis procedures. This approach is subdivided into two types, namely mixed-method research and mixed-model research. In mixed-method research, quantitative and

qualitative data collection and analysis procedures are used at the same time (parallel) or one after the other (sequential) but are not combined. Alternatively, in mixed-model research, both quantitative and qualitative data collection techniques and analysis procedures are combined.

In summing up all the discussions and relating them to this study, a quantitative mono method has been selected. Meanwhile, a single quantitative data collection technique will be developed, with the aim of collecting and generating adequate numerical data to be statistically analyzed.

4.5.5 Research time horizons

Research projects can be cross-sectional or longitudinal. A longitudinal study refers to the study of particular phenomenon (variable or group of subjects) to describe events over an extended period of time. Cross-sectional study, on the other hand refers to a methodology designed to obtain information on variables in different contexts, but at the same time or a 'snapshot' of a phenomenon at a particular single point of time (Saunders et al., 2009; Hussey and Hussey 1997; Hair et al., 2007). This study is cross-sectional in nature, as it only involves an observation of samples at a single point in time.

4.5.6 Research techniques and procedures

The following Table 4.2 summarizes the research philosophies and data collection techniques that are most often associated with them.

Philosophies	Positivism	Realism	Interpretivism	Pragmatism
Data collection techniques most often used	Highly structured, large samples, measurement, quantitative, but can use qualitative	Methods chosen must fit the subject matter, quantitative or qualitative	Small samples, in-depth investigations, qualitative	Mixed or multiple method designs, quantitative and qualitative

Source: Saunders et al. (2009)

Table 4.2: Research philosophies and data collection

This study is very much descriptive and explanatory in nature, and suitably represents positivism as the research paradigm. Accordingly, quantitative research design and procedures are employed to accomplish the specific research questions developed based on research aims and objectives. The following table 4.3 summarizes the differences between quantitative and qualitative approaches of research techniques and procedures.

Description	Purpose	Properties
Quantitative Approach	Collect quantitative data	- More useful for testing. - Provides summary information on many characteristics. - Useful in tracking trends. - More structured data collection techniques and objective ratings. - Higher concern for representativeness. - Emphasis on achieving reliability and validity of measured used. - Relatively short interviews (1 to 20 minutes) - Interviewer questions directly, but does not probe deeply. - Large samples (over 50) - Results relatively objective.
Qualitative Approach	Collect qualitative data	- More useful for discovering. - Provides in-depth (deeper understanding) information on a few characteristic. - Discovers 'hidden' motivations and values - More unstructured data collection techniques requiring subjective interpretation. - Less concern for representativeness. - Emphasis on trustworthiness of respondents. - Relatively long interviews (1/2 to many hours) - Interviewer actively probes and must be highly skilled. - Small samples (1 – 50) - Results relatively subjective.

Source: Hair et al., (2007)

Table 4.3: Comparison of Qualitative and Quantitative Approaches

As a positivistic paradigm is used in this study, quantitative research design via the use of questionnaire will be used to collect numerical data involving a large sample of successful SMEs in Malaysia, using a quantitative data collection technique and procedure. Details of the data collection approach will be discussed in details in the later part of this chapter.

4.5.7   Summary of research strategies, methodology and design

The following table summarizes the previous discussions on the topic of the research methodology and design specific to this particular study.

Purpose	Explanatory and descriptive
Philosophies	Positivism
Approach	Deductive
Strategies	Survey
Choices	Quantitative
Time Horizons	Cross sectional
Techniques and procedures	Self-administered online questionnaire

Table 4.4: Summary of research design

Based on the research aims and objectives, which are then translated into specific research questions, the purpose of this study is to explain the financial practices and financing behavior among successful Malaysian SMEs with regards to their financing preferences and capital structure. Specific research questions are developed, and serve as the main objectives to be accomplished. A survey research strategy will be applied in this cross-sectional study, via the use of a questionnaire. The following sections will

explain the procedure of data collection within the context of method, chosen database and the approach used and instruments involved in this study.

4.6   Data collection methods

Accomplishing the research objectives was dependent on a reliable analysis of responses received from a large number of respondents. Therefore, survey research was considered to be the suitable and appropriate data collection method for achieving the objectives of this study. Availability of the internet in recent years overcomes some drawbacks of traditional ways of postal surveys, especially the one relating to cost of postal questionnaires. For this reason, an electronic survey was chosen as the most appropriate and reliable instrument to support the data collection process, not only for increasing response rates but also to increase the reliability of the analysis and the findings of the research objectives. This method involves the dissemination of self-administered electronic surveys through e-mail, the World Wide Web, Interactive Voice Response and touch-tone data entry (Dillman, 2000). In this study, a self-administrated questionnaire was chosen as the best method of electronic survey to be applied and will involve the use of e-mail and the World Wide Web. The following sections discuss the electronic survey adopted in this study and the advantages and disadvantages often associated with this particular method of data collection.

4.6.1   Electronic surveys

E-mail and Web surveys involve computer-to-computer communication over the internet, in which those who have access to e-mail would be able to access Web surveys as well (Dillman, 2000). A web survey was chosen for use in this study, as this particular type of electronic survey has a more refined appearance and has the flexibility to provide survey capabilities far beyond e-mail and paper surveys (Dillman, 2000; Hair et al., 2007).

4.6.2   Advantages and disadvantages of electronic surveys

The electronic survey method has the potential to bring efficiencies which include elimination of paper, postage, mail out and data entry costs (Dillman, 2000). In addition to the absence of these costs, dissemination times are reduced as questionnaires were sent electronically, which in turn would increase the response rate accordingly through a direct contact made with the target respondents. On the other hand, all these benefits that come with e-mail surveys also have drawbacks. It is a challenging task to find the respondent's e-mail address, as some companies prefer to use a general e-mail address as a contact instead of the direct e-mail address of an employee. Furthermore, electronic surveys always deal with the issue of privacy and secrecy of response. If these two concerns are not assured, an individual may be hesitant to respond via the electronic medium-sized.

4.7   Selecting target population, database of successful SMEs, individual respondents and ethical considerations

4.7.1   Target population

Defining the population was the first step in selecting the target population and sampling frame. The population chosen comprised of all SMEs in Malaysia. Large firms were omitted because this study focuses on relevant issues which closely target SMEs. Within this study, the focus is on the financial practices among successful SMEs which largely comprises of small and medium-sized-sized enterprises. This particular group of SMEs plays an important role in the Malaysian economy, especially as the driver of growth with a higher potential of becoming large enterprises. SMEs in Malaysia have been recognized as being important drivers of the economy, contributing primarily to the growth of domestic industries and also providers of employment. Census 2005 reported that in terms of SMEs' share of value added and output, value added of SMEs in Malaysia is mainly contributed by small and medium-sized sized enterprises. Their contributions to the overall value added by SMEs to the Malaysian economy are 96%, 64.2% and 78.5% for the manufacturing sector, the services and agriculture sector respectively. It may also be noted that a large proportion of contributions are by large enterprises. In terms of employment, small and medium-sized-sized of SMEs are found to provide the biggest number of employment in the country with a total of 93.7% in the manufacturing sector, 67.4% in the services sector and 76.4% in the agriculture sector. This indicates that although micro enterprises form the bulk of establishments of SMEs, their overall contributions to productivity and employment are less when compared to

small and medium-sized-sized SMEs. An understanding of the financial practices of this particular group of SMEs would enable better support for them in order to become large-listed companies. In summary, the population of this study consists of successful SMEs which have been selected appropriately, and with the aim of understanding the financial practices among successful SMEs in Malaysia.

4.7.2   Database of successful SMEs

A suitable database was necessary to support a reliable selection of SMEs. As this study focuses on understanding financial practices of successful SMEs in Malaysia, selecting a database that encompasses all successful SMEs covering all sectors and sizes of SMEs (microenterprises, small and medium-sized-sized) is narrowed down to the list of a few awards specifically established to recognized SMEs' achievements in different fields and themes. In the case of Malaysian SMEs, some awards have been established to give an opportunity for the Malaysian SMEs to showcase their abilities in gaining local, regional, and international exposure. In addition, such awards will also enable them to earn endorsements from the Government Agencies at both national and international level. The Industry Excellence Award organized by Ministry of International Trade and Industry (MITI), for instance, is an award established to recognize achievements among successful SMEs in the field of exports in regards to the enterprise's commitment, efforts and performance in penetrating the export market. Another award, The Asia Pacific ICT Awards (APICTA), was established to select high-growth ICT companies with the potential of becoming Multimedia Super Corridor (MSC) Malaysia Global

Companies. This award is organised annually to select the best Malaysian ICT companies, technopreneurs and students involved in ICT-based entrepreneurial activities.

Enterprise 50 (E50) Award programme is another award that was established to evaluate home-grown success stories of Malaysian enterprises in term of company management and financial performance. This annual award programme is organized by the SME Corporation Malaysia (SME Corp.) and Deloitte Malaysia, with supporting sponsorship by RHB Bank Berhad and Telekom Malaysia Berhad (TM). It was first established in 1996 to celebrate and highlight the achievements of enterprising small and medium-sized-sized companies that are well positioned for the future. Each year, 50 winners are selected from amongst the nominations received and the evaluation is based on key financial and non-financial factors. The qualifying criteria for any enterprise to be nominated for this award programme are as follows:

1. Need to fulfill the definition of SMEs and locally incorporated with at least 40% local equity;

2. Must fulfill 4 star and above from SCORE Programme;

3. Must not be listed on any Stock Exchange, including MESDAQ;

4. Can either be a parent company or a subsidiary. If the parent company participates, all subsidiaries will not be eligible; and

5. Must have audited financial records for the last three (3) years

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As this award includes an evaluation of the financial performance of the enterprises, it was deemed appropriate and suitable to be chosen as the main database for selecting the respondents for this study. All SMEs receiving this award are considered as successful and appropriately represents a group of successful SMEs in Malaysia.

There were several reasons for this choice. Firstly, this award was created for SMEs of every size and sector. This criterion is desired so as to investigate the topic of interest within all sizes and sectors of SMEs, as certain awards were created specifically for certain sectors. Secondly, the latest three years of audited financial reports were requested as part of the nomination requirement for this award. This particular award's requirement would enable a greater understanding of financial issues related to the one required for the purpose of accomplishing the research objectives of this study. The selected list of Enterprise 50 award winners covering a period of 13 years from 1998 to 2010 consisted of 650 SMEs. The initial lists were then filtered down to 450 SMEs, excluding those SMEs that have won the award more than once during the covered periods, and then finally filtered to exclude those companies that has been listed on Bursa Malaysia (formerly known as Kuala Lumpur Stock Exchange, KLSE) and ACE markets as these listing are an indication of company's shares being traded and being no longer qualified as an SMEs. The final listing comprises of 444 SMEs which largely consist of small and medium-sized-sized enterprises in Malaysia.

Originally, the primary data of the financial reports of the selected SMEs listed for this award were intended to be the initial sources in identifying the issues and much needed data for further analyses. Nonetheless, the identified institutions (Companies

Commission of Malaysia, CCM) were unable to provide the data due to the fact that some of the SMEs were not submitting financial reports as requested in the Company Act 1956. The provided data (for the period requested) were thus not sufficient enough for further investigation. Therefore, the original idea was not suitable, and was substituted with the use of questionnaire surveys as the best possible instrument to obtain all the information needed for the study.

4.7.3   Selecting the individual respondents

The questionnaire was then developed, requiring respondents to be familiar with their company's financial data and reports so it was necessary to select respondents who met this requirement. Providing careful instructions to the respondents was very crucial in order to guarantee that the information required was provided. Considerable effort was made to identify the respondents who were likely to have a good understanding of the financial structure of their organization as well as contextual factors required to test the hypotheses. Requesting the appropriate people, without identifying a person's name or an appropriate job title to complete the questionnaire could mean that people not well informed about some aspects of the questionnaire might answer some questions beyond their understanding. This in turn would affect the reliability of the results. Therefore, the Finance/Accounting Directors/Managers are considered to be the person most likely to provide accurate and useful data concerning their financial structure. They are assumed to have specific knowledge and direct information on company financial data and reports. It was also presumed that these managers have a direct involvement (at decision-making level) in developing the company's financial policies and strategies. E-

mails were sent directly to the named Finance/Accounting Directors/Managers of the company. However, where it was not possible to identify any direct contacts of such person in a company, the e-mails were sent to general e-mail addresses, but the recipients were requested to forward the e-mail to the required correspondence.

Upon finalising the list of respondent (n=444) to be used in this study, contact information concerning all SMEs were then searched electronically and manually (directories) for information, particularly relating to the e-mail contact addresses of the companies. All selected SMEs were found to have their own company's website, either retrieved directly or through their parent company's website. This indicates a higher chance for realistic and adequate responses required as their website does include an e-mail addressed for general enquiries and contact. As direct e-mail addresses were required to give an access to the required respondents (Finance/Accounting Manager), information regarding companies' contact numbers was also collected for further queries through the telephone regarding the e-mail addresses of the designated person in charge of the company's finance and accounting department. Companies' contact addresses were also relied upon for contact through mail in the form of a postcard to inform them of the surveys.

4.74. Ethical considerations

The survey approach applied in this study requires some ethical considerations concerning the confidentiality of data, especially when the financial and accounting information of a business is at stake. For this reason, prior to conducting the surveys, an

application was made to The Faculty Research Ethical Approval Committee, and approval was gained as the study complied with the University of Plymouth's ethical standards for researching human participants.

4.8   Questionnaire development

As the questionnaire was the sole survey instrument to be used in gaining much needed data for this study, it was clear that detailed and careful planning should be undertaken to develop a reliable instrument. The following sub-sections further discuss issues concerning the stages involved in the development of the questionnaire.

The pre-survey stage was carefully undertaken to take into consideration all important aspects and issues regarding this study. The study purpose and objectives were clarified and a survey method was selected at this very stage. The main goal was to gather information about the financial aspects of the company, with specific emphasis on the company's preferences of financial sources and types, and data regarding their capital structure. This goal helped to determine the information required to achieve this objective. Upon determining the list of information required, actions taken were to operationalize this list of information into variables and type of measurement to be included in the survey instrument. This list of information was also a checklist to guarantee that the questionnaire developed would gather all essential and compulsory information for the study. Developing measures that would effectively achieve the research objectives was fundamental to producing a good questionnaire. Ample time was taken in preparing the questionnaire, with the focus being on the existing literature

as the main source of information in shaping the content of the questionnaire. This was vital in order to narrate this study within the context of the existing literatures, as well as maximising the reliability and validity of the questionnaire.

Upon finalising the variables and measurements to be included in the questionnaire from the list of information required, the focus now moved to issues relating to the design, classification and sequencing of questions in the surveys. The final questionnaire contained a combination of open-ended and closed type questions. Although the main type of question used was the closed one, the advantage of obtaining further information was not lost because space for additional views was given where relevant, to be completed by the respondents. This would give the respondents the opportunity to express their views on specific issues. Questions with multiple-choice answers were also used to cater for the information needed for the study.

A questionnaire is, in essence, a prepared set of questions (or measure) used by respondents or interviewers to record answers (data). It is a structured framework designed to generate primary data (Hair et al., 2007). Designing a question for a survey instrument is thus designing a measure (Fowler, 1993). Hussey and Hussey (1997) mention general rules for designing questions as follows:

1.   Explain the purpose of the questionnaire to all participants.

2.   Keep the questions as simple as possible.

3.   Do not use jargon or specialist language.

4.   Phrase each question so that only one meaning is possible to avoid ambiguity.

5.   Avoid vague, descriptive words such as `large' and 'small'.

6.   Avoid asking negative questions as these are easy to misinterpret.

7.   Ask only one question at a time.

8.   Include relevant questions only

9.   Include questions which serve as cross-checks on the answers to other questions.

10.   Avoid leading or value-laden questions which imply what the required answer might be.

11.   Avoid questions which are nothing more than a memory test.

12.   Keep the interview schedule or questionnaire as short as possible, but include all the questions required to cover the research purposes.

It was the aim of the researcher to follow all the above rules as far as possible. Efforts were made during the construction of the questionnaire to keep it as simple and clear as possible. The process of constructing and designing the questionnaire mainly revolved around the reviews of the available literature and similar studies regarding the financial practices of businesses. Although some previous studies provide a good example of how to investigate the financial practices of the businesses involved, some points that are worth considering are the background and environment of where the surveys were conducted and also the types of businesses involved. These two considerations were deemed important because a different economic environment will have an impact on how those businesses behave and consequently differentiate them from this particular study. In addition, as this study focuses on the financial practices of SMEs, items to be asked in the questionnaire with regard to the financial choice that they have also need to be considered.

Questions can be classified according to their content, type and scale. In terms of question content, this can be differentiated as factual or subjective. The former content type is designed to obtain information relating to the respondent's background. This was mainly designed to gain objective information, the better to classify respondents accordingly. The latter content, on the other hand, was used to capture the subjective experiences to acquire information relating to respondent's attitude, feelings and opinions. A mix of both content-type questions was included to obtain much required information for further analysis, and to achieve the research objectives.

Dillman (2007) suggests that questions can be classified into four main types. The first type is open-ended question. Under this type of question, the respondents are not given a specific set of responses from which to choose the most appropriate answer. Instead they are asked to create their answers and state them in their own words. The second type of questions is closed-ended with ordered choices, where the respondents are provided with a specific set of responses, and each is a gradation of a single dimension of some thought or behavior. The respondent's task is to find the most appropriate place on an implied continuum for his/her response. In the third type of question, the respondents are provided with a specific set of responses, but no single dimension underlies them. Respondents must choose from among discrete, unordered categories by independently evaluating each choice and selecting the one that best reflects his/her situation. This type of question is called closed-ended with unordered response choices. The final type of question is partially closed-ended, which provide a compromise; although answer choices are provided, respondents have the option of creating their own responses.

Finally, questions can also be classified according to their scale, and are sometimes called "force format". According to their scale, questions can be classified into five different types. The first type is multiple-choice answers where respondents are asked to choose from a set of all possible answers (Hussey and Hussey. 1997). Respondents are also given an additional category labeled 'other, please specify', in order to capture all possible answers. This idea was pointed out by Hussey and Hussey (1997) who suggested that "in such circumstances, and wherever you are uncertain that you have covered all possibilities, `other' category should be add where the respondents can use to specify the answer in their own words".

Other than multiple-choice answers, questions can be in a rating scale where respondents were asked about their judgment in terms of ordered categories that are often in the form of a Likert scale. Such Likert scales have the advantages of listing different statements that do not require much space and which are easy for respondents to complete and then analyze (Hussey and Hussey, 1997). This type of question was widely used in the present questionnaire. The next type of question uses semantic differential, employing two words or phrases (contrasting adjective) to represent two ends of a continuum on a seven-point scale. The respondents are then asked to indicate their choice based on that seven-point scale (Hussey and Hussey, 1997).

A ranking scale can also be used in designing a question. This type of question is used to ask respondents to determine the degree of importance or the priorities that they attribute to a set of objects. None of these type of questions used in the questionnaire. The final classification of question based on the scale is a dichotomy question answered by 'yes'

or 'no'. This simple type of question was used several times in the present questionnaire, so as to obtain direct answers from respondents.

The sequence in which survey questions or scaled items are listed will often affect the response. The order of the questions is very important in creating logic and encouraging a suitable response rate. The questions should proceed in a logical manner, moving from topic to topic in a way that indicates to the respondent the relationship between the questions. Dillman (2000) suggests the following principles for ordering questions. First, questions are ordered along a descending gradient of social usefulness (or importance); those which the respondent is most likely to see as useful come first, and those least useful come last. Secondly, it is necessary to group questions that are similar in content, and within content areas, by type of question. Two purposes are served by this principle: the first is to ease the mental effort required for constantly switching from one kind of question to another; the second is to encourage well-thought-out answers, something that is more likely to occur if respondents are asked questions in an order that seems logical to them. Finally, the questions in any topic area that are most likely to be objectionable to respondents should be positioned after the less objectionable ones. This does not mean that all objectionable questions are relegated to the last page of the questionnaire; rather, such ordering is done within the typical order and flow suggested by adherence to the first three principles.

4.9   Questionnaire pre and pilot-test

After the first draft questionnaire has been designed, it was further refined through a careful process of pre-testing and pilot-testing.

The first draft of the questionnaire was translated into electronic form using Perseus survey solution software, and made available for dissemination through e-mail via the following link http://www.pbs.plymouth.ac.uk/surveys/Finance/. In the pre-test stage, an e-mail containing brief information regarding the survey was sent to a group of PhD students with a background of business studies. They were chosen because they had a similar background of business-related studies, and some of them also used a survey as a medium-sized of data collection. At the same time, the questionnaire was handed to the supervisory group in order to check the extent to which the questions were clear, understandable, relevant and appropriate for the purposes of the research. Time taken to complete the overall questionnaire was also taken into consideration. All participants at this stage were asked to record the overall time taken to complete the whole survey and on average, 15 to 20 minutes were considered as the average time needed to complete the overall questionnaire. Comments provided were related to the wording and the placing of some questions, the choice of scales used and the overall structure of the questionnaire. All of the comments and suggestions were taken into account in designing the final version of the questionnaire prior to the pilot study. Upon agreement with the supervisory group, and with the necessary changes made for the improvement of the final draft of the questionnaire, the latest version of the questionnaire was available to be used in the pilot study.

The final version of the questionnaire (see Appendix I) was believed to be satisfactorily good to be used for the purpose of piloting involving 50 SMEs listed in the latest Enterprise 50 award winner list for the year 2010. Out of all 50 SMEs listed on the list, screening the company's information via the company's website and existing directories, only a few SMEs were found to provide a direct e-mail contact address for the named person in charge of their Finance or Accounting Department. Action taken was to contact those SMEs without the direct e-mail contact address via telephone. It should be noted that the seven to eight hours' time differences between United Kingdom and Malaysia does effect the overall times taken to complete the piloting stages. Due to some technical reasons such as outdated addresses and contact telephone number, only 47 companies were able to be contacted out of a total of 50 SMEs. Out of these 47 SMEs, two of the SMEs contacted refused to participate in this survey mainly due to the reason that they are not interested, currently busy and do not have enough staff to deal with such surveys. The piloting stages took over a month to complete, resulting in 13 complete responses received which were used in determining the appropriate response rate.

In summary, the pre-test and pilot testing offered the chance to place emphasis on the issues relating to the overall layout of the questionnaire, generally and specifically on issues concerning the clarity of the questions and the amount of time taken to complete the questionnaire. Modifications were made after full consideration of the comments and suggestions received from the pre-test and pilot test stages. An important modification made was to reduce the number of pages of the questionnaire, but without reducing the number of important questions. Most modifications were made to make the overall

questionnaire more user-friendly. In addition, the pilot survey also provided the opportunity to test the data-coding scheme and to gain experience in small-scale data analysis, using real data with SPSS for Windows for further analyses.

4.10   Content of the final version of the questionnaire

After considering the comments and suggestions received from pre-testing and pilot testing the first draft of the questionnaire, the final version of the questionnaire was constructed, and involved four different parts, as follows:

Part A: Questions regarding the manager's preferences

Part B: Questions relating to the determinants of capital structure

Part C: Questions about the profile of the firm

Part D: Questions about the profile of the respondent

The questionnaire involved both closed-ended questions with ordered choices and partially closed-ended questions. For some questions, respondents were asked to add any further information in the space given, as the questions included an item entitled `other, please specify', in order to encourage respondents to add any other items that were not listed in the specific question.

The questions included in part A (a, ai, b, bi, c) were related to the financing preferences of the firms. The respondents were required to rate their preferences on the listed source of internal and external financing, and also the financing term based on a Likert scale of

1 to 5, with 1 being Very Low Preferences and 5 being Very High Preferences respectively. Under each source of funds, respondents were given an opportunity to add any other sources of funds used via the 'other (please specify)' questions. Question A2i was used to ask respondents to indicate the approximate proportion of their firm's funding sources, while question A2ii used a rating scale in a Likert scale format to help respondents to indicate their average proportions of sources of funds used by their firm in the last 3 years. A five-point Likert scale was used to indicate the proportion of funds with 1 being Very Low Proportion and 5 being Very High Proportion respectively. Respondents were also able to provide additional information regarding other sources of funds used, using other categories question. Question A3 also used a five-point Likert scale asking respondents to indicate their level of strictness in terms of their firm's target range for certain financial ratios.

The questions in part B (B2, B3 and B4) mainly involved a rating-type of question, with an extensive use of a five-point Likert scale regarding average changes in their firm's financial ratios, the importance of various factors influencing their firm's capital structure decision and also statements regarding the relationship between various indicators of determinants with a firm's capital structure. In comparison, Question B1 asked respondents to indicate their basic decisions with regard to their firm's capital structure via multiple-choice answers. Part C and D consisted of questions regarding the profile of the firm and the respondent. Both parts involved extensive use of multiple-choice questions (C1, C2, C3, C4, C5, D2, D3, D4a, D4b, D4c, D6) with the exception on C6 where a dichotomy type question is used. This type of question also applied to questions D1, D4 and D5.

4.11   Questionnaire administration

A well-constructed self-administrated questionnaire does not guarantee a good response rate, as it is greatly influenced by the implementation procedures applied in disseminating the questionnaire (Dillman, 2000). Saunders et al. (2009) suggest the following in conducting e-mail and web surveys:

1.   Pre-survey contact where respondents are contacted by e-mail to advise them to expect a questionnaire for the survey.

2.   Provide an e-mail cover letter with a link to the online questionnaire. The e-mail cover letter and the link should be part of the e-mail message, rather than being sent as an attachment to avoid viruses. Timing is also important, and Fridays and days surrounding public holidays prove to be poor times.

3.   First follow-up e-mail should be sent one week after the first e-mail to include thank you notes for early respondents and also a reminder for those who did not yet respond.

4.   Second follow-up e-mail is sent three weeks after the first e-mail for those who still have not responded.

5.   Use a third follow-up if time allows, or if the response rate is low.

Wherever possible, these suggestions were followed in order to increase the response rates. Before the actual data collection process took place, postcards were sent by mail indicating brief information about the surveys, including title, a link to the online questionnaire and also contact persons for any inquiries regarding the surveys. All

postcards were addressed to the company's Finance and/or Accounting Manager/Director. This is in line with Dillman (2000) who points out that one of the elements needed to achieve high response rates is multiple contacts, which includes a pre-notice letter. This letter notes that a questionnaire for an important survey will be sent and that the response will be greatly appreciated. Although this method was closely related to postal survey, its importance was deemed to be highly relevant in justifying a multiple contacts strategy. The sending of postcards to all selected respondents of SMEs was chosen as it represented the lowest costs in terms of postal expenses and was predominantly expected to inform them about the survey conducted. The dissemination of postcards was executed approximately two weeks prior to sending the first e-mail with the link to the questionnaire surveys. This was to consider the time taken for the post made from the UK to reach the respondents in Malaysia.

The link for the final version of the questionnaire was sent via e-mail to the selected respondents upon satisfactory results of pilot testing. A list of Enterprise 50 winners from 1998 to 2010 was formed to guide the overall process of data collection. SMEs isted were classified in alphabetical order, and the distribution of e-mails was made on the basis of completing the list. Telephone contacts were also made in the case where direct e-mail contact was not available mainly to get direct e-mail address of designated person in charge which in turn was hoped to increase the response rate. Anonymity of response was considered to be of paramount importance, and respondents were clearly informed and assured about the confidentiality of their participation and of all information received. They were also guaranteed that the name of individual respondents and their firms would not be released under any circumstances. Moreover,

given that the topics of interest in this study were very much private and confidential, concerns about the transfer of information through the questionnaire survey were kept at a minimum, as the following statement was included in the e-mail cover letter:

"You will not be asked to provide any specific figures related to your company's financial information as the question was developed to get a rough figure such as average changes of your firm's financial ratios, your personal views and opinion on matters related to your firm's financial practices, general info about your firm and also info about you via selection of scales and choice of answers"

The following provides a summary of the main procedures executed during the data collection processes:

1. A postcard containing the title, brief information about the surveys and contact persons for any inquiries were sent via mail to the SMEs. All postcards were addressed to the Finance/Accounting Director/Manager of the company and sent two weeks prior to the actual survey.

2. Whenever possible, e-mails were sent directly to the Finance/Accounting Director/Manager of the SMEs. The e-mail contained brief information about the survey and, most importantly, the link to the online questionnaires.

3. Timing also played an important part in sending out the e-mails. The seven to eight hours of time differences between the UK and Malaysia needed to be considered where e-mails were mostly sent on Sunday afternoon (UK times) and first received on Monday morning (Malaysia times). All major public holidays in

Malaysia involved during the data collection periods were taken into consideration. No e-mails were sent out during these celebrations.

4.   Some companies that did not publish any direct information as required were contacted by telephone to obtain the much anticipated e-mail addresses. Some companies still refused to provide a direct e-mail contact address, however, and wished the e-mail to be sent to general recipients (e.g. info@companyname.com).

5.   A reminder e-mail was sent twice (first reminder after one week of first e-mail was sent, and another one at the end of the proposed end date of responds). Each respondent was given a total of one month (two weeks from the first e-mail sent, and additional two weeks for late respond) to respond.

4.12   Summary and conclusion

This chapter has provided a justification for the positivistic quantitative approach adopted in answering the research questions and accomplishing the research aims and objectives. The definition of methodology was discussed and the data collection method was described. The justification for using a self-administered questionnaire through electronic means as the appropriate method to collect the data was provided. The stages involved in the questionnaire development, were also thoroughly discussed, and the implementation of the questionnaire administration was also explained.

Chapter 5

Descriptive Analysis

5.1   Introduction

The main purpose of this chapter is to provide an analysis to accomplish the first and second research objectives of this study. The first and second research objectives are: 1) to investigate the current state of financing preferences among Malaysian SMEs, and 2) to investigate the capital structure among Malaysian SMEs. This chapter start with a discussion of the response rate, and is followed by a discussion of the findings based on the four parts of the questionnaire.

Section 5.2 discusses the response rate for the online survey. This is followed by an analysis of the validity and reliability of the questionnaire used in this study. The descriptive analysis starts with a discussion of the respondents' and firms' profile, as presented in section 5.4.1 and Section 5.4.2., respectively. The following sections 5.4.3 and 5.4.4 presents the descriptive findings of the financing preferences and capital structure among successful SMEs in Malaysia. A summary of this chapter concludes the discussion of the descriptive analysis of this study, as presented in section 5.5.

5.2   Response rate

One of the important aspects of any data collection method is the response rate. The response rate was influenced by the visual appeal of the questionnaire and the ease with which it can be answered and returned. Fowler (1993) suggests that a more professional-

looking, personalized and attractive questionnaire will give a positive effect on the response rates. As this study adopted an electronic survey, ways to increase the response rate among respondents are very much emphasized. The response rate from internet surveys may indeed be boosted where potential respondents are contacted in advance, especially where the contact involves a personalized form of message (Denscombe, 2007). In this regard, a planned follow-up of non-responses enhances the response rate, just as it does with a postal survey (Dillman, 2007).

The following table summarizes selected studies involving Malaysian SMEs in various topics and their response rates.

Researchers	Topic studied	Response rate	Number of target sample	Sector
Ahmed et al. (2004)	Total Productivity Management	9.1%	695 SMEs	Manufacturing
Abdullah et al. (1999)	SMEs' Support Programmes	10.4%	3,069 SMEs	All sectors
Boocock and Shariff (2005)	Financing	12.3%	750 SMEs	All sectors
Jusoh et al. (2008)	Performance Measure	12.3%	975 SMEs	Manufacturing
Zakaria and Hashim (2004)	E-Business	13.0%	372 SMEs	Manufacturing
Rozali et al. (2006)	Financing	17.5%	1317 SMEs	All sectors
Ab. Wahab and Buyong (2008)	Financing	20%	462 SMEs	Technology-based SMEs
Abdullah and Ab. Manan (2010)	Adequacy of Financial Facilities	6.6%	3069 SMEs	All sectors
Ab. Wahab (1996)	Financing of SMEs sector	22%	520 SMEs	Manufacturing
Osman and Hashim (2003)	Business Practices	30.2%	500 SMEs	Manufacturing
Hashim et al. (2003)	Innovative Practices	15.3%	210 SMEs	All sectors
Sulaiman et al. (2000)	Strategic Management	18.2%	548 SMEs	All sectors

Table 5.1: Summary of response rate in the previous studies of SMEs in Malaysia

The empirical research listed in Table 5.1 involved a target sample from SMEs in all three categories of SME: micro, small and medium-sized. Ranging from 6.6% to 30.2%., 9 out of 12 studies received less than a 20% response rate. Average response rates for all studies are 15.6%. Studies by Osman and Hashim (2003) resulted in the highest response rate, as this particular study adopted a face-to-face structured interview using a questionnaire, compared to most other studies that employed a postal survey approach.

The low response rates in these studies may be due to the demographic factors of Malaysian SMEs. Boocock and Shariff (2005) have explained that the low response rate among Malaysian SMEs is closely associated with the mixed-race, multilingual nature of Malaysian society. They also argue that it is relatively rare for SMEs in Malaysia to receive academic questionnaires, and therefore, there may be a degree of suspicion concerning these documents. Furthermore, a number of follow-up telephone calls revealed, for instance, that potential respondents were reluctant to reveal any information about the financial aspects of the business. They concluded that given the length and complexity of their questionnaire, and the sensitive nature of some questions, the response rate was judged to be acceptable. The observations of Boocock and Shariff (2005) are consistent with research by Jusoh et al. (2008), who stated that for a postal survey, the low response rate was not unusual in Malaysia. They also argued that Malaysian managers are typically reluctant to participate in mail surveys, and the sensitive and confidential nature of the information requested may contribute to the overall low response rates.

The response rate may be determined by dividing the total number of surveys completed by the total number of respondent contacted. During pilot study, the overall contactable SMEs were 47, with responses received from 13 SMEs. The overall response rate for the pilot study was 27.7%. This rate was deemed to be appropriate, as the average response rate for surveys among SMEs in Malaysia was 15.6%. As this study employed an e-mail survey, it was thought that this instrument was yet to be tested within the Malaysian context, especially among SMEs and anticipated to open a new way of researching SMEs in Malaysia. The actual surveys, which took almost six months to complete, resulted in a total of 120 responses received. This figure was used to determine the response rate received for this survey. Out of 444 total SMEs in the list of Enterprise 50 Award winners from 1998 to 2010, 21 SMEs were not able to be contacted while 17 SMEs were contacted but not interested and refused to participate. After all these were taken into consideration, the overall response rate for this study was determined as follows:

$$\text{Response rate} = [120/ (444-21-17) = 29.6\%$$

Overall, in the Malaysian context, a low response rate must be expected, and this further indicates the need for a large enough sample to ensure that sufficient useable responses are received. Efforts are made through careful planning of the data collection schedule, with an emphasis on ways to improve the response rate. To begin with, the planning on implementation of the survey was thoroughly executed to make sure important factors as highlighted by Dillman (2007) regarding principles in designing e-mail surveys were taken into consideration. Factors such as utilization of multiple contact strategy, personalizing e-mail contacts, and keeping a brief cover letter are among other factors

emphasized in executing the survey process. In addition, arrangements for scheduling the execution process were carefully planned to make sure not only respondents are reached within the planned time frame, but most importantly, responded to the survey.

5.3   Assessing the validity and reliability of the questionnaire

It is normally considered that when an idea has been operationally defined, in that a measure of it has been anticipated, the ensuing measurement instrument should be both reliable and valid (Bryman and Cramer, 2009).   Validity and reliability issues should always be inspected critically, no matter what procedures are chosen for data collection. It is essential to evaluate the extent to which any instrument is likely to be valid and reliable. Measures used have to be appropriate, and concerns about the two issues relating to the validity of any survey, measurement of validity and measurement of reliability, need to be carefully addressed, accordingly. The first issue relates to whether the 'thing' that is supposed to be measured really is being measured, while the second issue refers to how accurately the topic of concern is measured. The following sub section discusses the issue of validity and reliability of an instrument.

5.3.1 Validity

The ability of the instrument that has been developed to measure the chosen concept should be well tested as a major concern is whether they are measuring the chosen concept or not (Cooper and Emory, 1995).   Questionnaire validity relates to the

attainment of the chosen measurement scale or instrument in measuring what it is designed to measure, and in producing the type of information needed for the study.

There are several types of validity that contribute to the overall validity of a study. The two main dimensions are internal and external validity, and further sub-types may be added under these headings. Internal validity is concerned with the degree of certainty that observed effects in an experiment are actually the result of the experimental treatment or condition (the cause), rather than intervening, extraneous or confounding variables. Meanwhile, external validity is concerned with the degree to which research findings can be applied to the real world, beyond the controlled setting of the research. Four types of instrument validity are frequently cited. The first is content validity, which is considered as being the most important type of validity. Content validity is the degree to which an instrument measures an intended content area. Content validity may be approached by a careful definition of the research topic and the items included in the measurement scale. Content validity is determined by expert judgment where a group of persons or experts can judge the extent to which the scale measures what it is supposed to measure. Assessing content validity involves a review of the questionnaire content in order to ensure that it includes everything it should, and does not include anything it should not.

The second type of validity is face validity, as assessed by the respondents of the measurement instrument. This is the least scientific method of validity, as it is not quantified using statistical methods. This is not validity in technical terms, as it is concerned with whether or not the instrument was measuring as it was claimed. Face validity should never be trusted on its own, because it is never sufficient to rely on face

judgments alone and more quantifiable methods of validity are necessary in order to draw acceptable conclusions. If the respondents see a measurement instrument as being valid, it can be argued that it has face validity. The next type of validity is concurrent validity. This refers to the extent to which a measurement scale relates to other measures, and is assessed on the extent to which results obtained from this scale are consistent with the results of other scales that are designed to measure the same thing or object. A related type of validity is predictive validity, which refers to the extent to which a measure predicts expected outcomes. It is also known as the operationalization's ability to predict what it is theoretically able to predict.

The fourth type of validity is construct validity. This is the most difficult type of validity to understand, assess and report. It is the degree to which inferences can be made from operationalization (connecting concepts to observations) in the study to the constructs on which that operationalization is based. It shows how well the test instrument scale links up with a set of theoretical assumptions about an abstract construct. Establishing construct validity needs evidence that the information available supports the theoretical structure. In addition, there is also a need to show a control of operationalization of the construct which shows that the theory under study has some correspondence with reality.

In this study, efforts have been made to ensure questionnaire's validity. The purpose of study was carefully identified and by doing this, questionnaire as the data collection instrument was cautiously developed. Questions included were drawn from previous studies related to the topic under investigation of this study. The questionnaire was then circulated to postgraduate students within the field of business and management during

pre-testing. Comments were taken into considerations and the clarity of the questionnaire was improved to increase its validity. Pilot testing involving the target respondents of SMEs within the list of Enterprise 50 Award winners was conducted to improve the instrument's validity. These procedures were carried out to fulfil content and face validity of the questionnaire developed.

5.3.2   Reliability

The reliability of a measure refers to its consistency (Bryman and Cramer, 2009). These authors also add that external and internal reliability are two separate aspects that are often needed to entail this notion. External reliability is the more common of the two, and refers to the degree of consistency of a measure over time. Internal reliability, on the other hand, is particularly important in connection with multiple-item scales, and raises the question of whether each scale measures a single idea and is internally consistent. There are three common methods of assessing reliability: test-retest reliability, parallel-form reliability and split-half reliability.

Test-retest reliability is the degree to which scores are consistent over time. This assessment of reliability involves comparing results from an initial test with repeated measures later on, with the assumption that if an instrument is reliable, there will be close agreement over repeated tests if the variables being measured remain unchanged. In other words, it will require the administration of a questionnaire to the same set of respondents at two different points in time, to examine to what extent responses are stable. It is commonly measured by calculating the correlation coefficient, which is

called r-value (or coefficient of stability). The r-value is considered to represent stability if it equals or exceeds 0.70. Correlation coefficients obtained from this method may be called measures of stability, as they relate to constancy over time (Hussey and Hussey).

Parallel-forms or alternate-forms reliability is used to assess the consistency of the results of two similar types of test used to measure the same variable at the same time. This involves the use of differently worded items to measure the same variable or attribute. A common way to test for alternate-form reliability is simply to correlate the scores of two (or more) forms of a measure given to a single group of respondents. The resulting correlation coefficient is called a coefficient of equivalence. The greater the obtained correlation, the greater the evidence of alternative-form reliability.

Internal consistency reliability involves a measure to indicate how well the different items measure the same construct. Individual items in an instrument measuring a single construct should give highly correlated results, which will reflect the homogeneity of the items. This can be tested using the split-half form, whereby items are divided into two halves and correlated with the Spearman-Brown formula. A more sophisticated approach is to use Cronbach's alpha, which tests all possible split halves. This method is therefore applied only to a situation where multiple questions are used to measure the same construct. The currently widely-used Cronbach's alpha essentially calculates the average of all possible split-half reliability coefficients. The rule of thumb is that the result should be 0.8 or above (Bryman and Cramer, 2009).

Cronbach's alpha was used in this study to measure the internal consistency reliability. Alpha is considered as a good indictor to achieve reliability and as one of the most important indicators of a scale's quality in the reliability coefficient. Theoretically, alpha can take on values between 0 and 1. The value of Cronbach's alpha tested using SPSS are presented in the following table.

Concept (Question Number)	Cronbach's Alpha*	Cronbach's Alpha**	N of Items
Preference for sources of financing	0.718	0.825	14
Proportion of firm's capital structure	0.761	0.784	14
Control over selected financial ratios	0.879	0.912	5
Average changes in selected financial ratios	0.706	0.833	13
Importance of factors in affecting decision	0.856	0.896	7
Opinion on statements relates to firm's leverage	0.844	0.846	14

* Pilot testing
** Overall data

Table 5.2: Results of reliability test during pilot and actual survey

In this study, questionnaire reliability was tested mainly in terms of its internal consistency. The responses received during the pilot study were tested for internal consistency reliability and as shown in table 5.2, Cronbach's alphas were more than 0.7 which is acceptable indicating a good and reliable measurement scale. The same results were found from the actual survey, where most of the items have a Cronbach's alpha of more than 0.8 indicating a good measurement scale used in measuring the concepts under study.

5.4 Descriptive results

5.4.1 Respondent's characteristics

The final part of the questionnaire was created to capture the demographic characteristics of the respondents. Six questions were included in this part to access respondents' information related to their gender, age, level of education and their previous and current working experience.

a.   *Gender and Age*

	Frequency	*Percentage (%)*
Gender		
Male	77	64.2
Female	43	35.8
Age		
Less than 25 years old	0	0
26-35 years old	23	19.2
36-45 years old	34	28.3
46-55 years old	47	39.2
56-65 years old	12	10.0
Over 65 years old	4	3.3

Table 5.3: Respondent's gender and age

Table 5.3 shows information regarding the respondent's gender and age, based on 120 responses received. 64 per cent (77 responses) came from male respondents and the rest were from female respondents. In terms of age, respondents were given 6 choices of answer (i.e. age group), namely: Less than 25 years old, between 26 to 35 years old,

between 36 to 45 years old, between 46 to 55 years old, between 56 to 65 years old and over 65 years old. The results show that none of the respondents came from the age group of less than 25 years old. The majority of respondents were in the age group of between 36 to 55 years old (81 respondents). 33 out of 120 respondents were in the age group of between 26 to 35 years old, while the remaining respondents were in the group of between 56 to 65 years old and over 65 years old with 12 and 4 responses respectively.

b.   *Highest Level of Education*

Highest level of education	Frequency	Percentage (%)
School Certificate (SRP/PMR/SPM/STPM)	10	8.3
Diploma	25	20.8
Bachelor Degree	63	52.5
Master Degree	17	14.2
PhD	1	0.8
Other (please specify)	4	3.3

Table 5.4: Respondent's level of education

To assess the level of education among respondents, six choices of answer were given for the respondents to choose from. The findings presented in Table 5.4 confirm that most of the respondents were highly educated, as 63 (52.5 per cent) held a bachelor's degree. A further 18 respondents or 15 per cent had post-degree education, with 17 of them having completed their master degree and 1 of them having held a PhD. The remaining respondents had a much lower level of education, with 25 of them having a Diploma and 10 respondents having a school certificate, namely SRP, PMR, SPM or STPM. Four respondents received the final choice of answer to this specific question

which is others, with three of the respondents declaring ACCA as their highest level of education, while another respondent classified his/her highest level of education as *"professional accountant"*.

c.   Working Experience

	Frequency	Percentage (%)
Did you have any working/business experience prior working with/running this present business?		
Yes	104	86.7
No	16	13.3
Experience as…		
Owner	26	21.7
Employee	81	67.5
Employee (active shareholder)	20	16.7
Experience in…		
Local Private Firm	61	50.8
Multinational Corporation (MNC)	46	38.3
Government-Linked Firm (GLC)	12	10.0
Government Service	18	15.0
Overall length of services		
Fewer than 5 years	19	15.8
5-9 years	18	15.0
10-14 years	22	18.3
15-19 years	16	13.3
More than 20 years	31	25.8
Length of service with present business?		
Fewer than 5 years	30	25.0
5-9 years	30	25.0
10-14 years	26	21.7
15-19 years	17	14.2
More than 20 years	17	14.2

Table 5.5: Respondent's working experience

The respondent's working experience was also taken into consideration in designing the questionnaire. Respondents were asked whether they had any working or business experience prior to working with or running the present business. As presented in Table 5.5, 86.7 per cent of respondents (104 responses) had working or business experience, with the rest of them having no working or business experience. In terms of the nature of working or business experience, respondents were given choices of answer to further assess their working or business experience. 26 respondents had experience as a business owner, 81 respondents had experience as an employee and 20 respondents reported that they had experience as an active shareholder-employee. Further assessment was included to capture their experience by asking them where they had their working experience from. 61 of respondents had a working experience in a local private firm, while 46 respondents reported that they have experience working in a Multinational Corporation (MNC). A small number of respondents reported that they had had experience of working in a Government-Linked Firm (12 respondents) and government service (18 respondents).

In term of the overall length of experience prior to working with or running the present business, 25.8 of the respondents reported having more than 20 years working experience, with the rest having between 15 to 19 years of experience (16 respondents), between 10 to 14 years of working experience (22 respondents) and between 5 to 9 years working experience (18 respondents), while 19 respondents reported having less than 5 years working experience. Another 14 respondents elected not to answer this question.

The final question assessed respondent's working experience specifically in regards to length of service with the current/present business. Respondents were given a choice of

answers as follows: fewer than 5 years, between 5 to 9 years, between 10 to 14 years, between 15 to 19 years and more than 20 years. Most of the respondents had been working with the present business for fewer than 9 years (30 respondents reported have been working less than 5 years, and another 30 respondents have been working between 5 to 9 years). 26 respondents (or 21.7 per cent) had been working between 10 to 14 years, with 34 respondents reporting having worked for the present business for between 15 to 19 years and more than 20 years.

d.   *Business Ownership*

Are you the owner/shareholders of this business?	Frequency	Percentage (%)
Yes	68	56.7
No	52	43.3
Total	120	100

Table 5.6: Business ownership

Respondents were also asked about their involvement with the present business, either as an owner (in the case of sole proprietorship) or shareholder of the business through share of business's ownership. Interestingly, 68 of total respondents (56.7 per cent) inform that they are an owner/shareholder of the business they are currently working with, while the rest of the respondents do not possess any ownership of the business.

5.4.2 Firm's profile

Information relating to the firm was collected in part C of the questionnaire. Six questions were developed to get the firm's profile, covering information on a firm's legal status and sector, number of fulltime employees, annual sales turnover, firm's age and finally ownership status of the firm. This information is helpful in understanding the background of respondents, and also in providing data for further statistical analysis.

a.   Legal status and sector

	Frequency	Percentage (%)
Legal Status		
Individual Proprietorship	6	5.0
Private Limited Firm	107	89.2
Partnership	7	5.8
Sector		
Manufacturing	54	45.0
Services	38	31.7
Manufacturing Related Services	16	13.3
Agro-based Industries	5	4.2
Information and Communication Technology (ICT)	7	5.8

Table 5.7: Firm's legal status and sector

In Malaysia, the incorporation of a local firm is carried out pursuant to the provisions of the Companies Act 1965. There are three (3) types of companies that can be incorporated under this Act, namely: a firm limited by shares; a firm limited by guarantee; or an unlimited firm. The most common type of firm incorporated for the purpose of carrying on business is a firm limited by shares. A firm limited by shares may be incorporated as a Private Limited Firm, as identified through the words 'Sendirian

Berhad' or abbreviation of 'Sdn. Bhd' as part of the firm's name. For this type of firm, few stipulations were highlighted, as there should be a restriction as to the right to transfer the firm's shares; limitation on the number of members which should not exceed 50; prohibition on any invitation to the public to subscribe the shares/debentures of the firm and prohibition on any invitation to the public to deposit money with the firm. Apart from incorporating a local firm, business activities can also be carried out by individuals as a sole proprietorship or a partnership. A sole proprietorship is a business wholly owned by a single individual, using his/her personal name as per his/her identity card or trade name. On the other hand, a partnership is a business owned by two (2) or more persons but not exceeding 20.

As presented in Table 5.10, almost 90 per cent of the respondents come from Private Limited Firms, whilst the rest are made up of individual proprietorship (5 per cent) and partnerships (5.8 per cent). In term of the sector, most of the firms are from the manufacturing sector (54 firms) followed by services (38 firms). 16 firms come from Manufacturing related services or MRS , while another 5 and 7 firms comes from two sectors   namely Agro-based   industries and Information and Communication Technology (ICT), respectively. None of the respondents come from the sector of Primary Agriculture.

b.   *Number of fulltime employees*

Number of fulltime employees	Frequency	Percentage (%)
Fewer than 5	23	19.2
5-19	20	16.7
20-50	30	25.0
51-150	47	39.1

Table 5.8: Number of fulltime employees

Respondents were given categorical groups of possible answers to indicate their number of fulltime employees as part of determining their size (i.e. micro, small or medium-sized enterprises). Table 5.8 shows findings of this study in regards to firms' number of fulltime employees. Overall, 43 firms (or 35.9 per cent) responded by indicating that they had fewer than 19 fulltime employees while 25 per cent of respondent indicate having between 20 to 50 employees. The rest of the respondents indicate having between 51 to 150 employees.

c.   *Annual sales turnover*

Annual sales turnover (RM)	Frequency	Percentage (%)
Less than 200,000	7	5.8
200,000-less than 250,000	3	2.5
250,000-less than 1 million	14	11.7
1 million-less than 5 million	30	25.0
5 million-less than 10 million	16	13.3
10 million-less than 25 million	50	41.6

Table 5.9: Annual sales turnover

Apart from information on the number of fulltime employees, SMEs can be categorized into three different sizes based on annual sales turnover. General definition of SMEs categorized SMEs into different sizes either "not exceeding RM25 million" for Manufacturing, Manufacturing-Related Services and Agro-based industries and not exceeding RM5 million" for firms in the Services, Primary Agriculture and Information & Communication Technology (ICT). In this study, annual sales turnover was categorized into six different groups where a quarter of firms reported having annual sales turnover of between 1 million to less than 5 million. 24 firms indicated having an annual sales turnover of less than 1 million. Another 13.3 per cent of firms had an annual sales turnover of between 5 million and less than 10 million. The rest of respondents indicate having an annual sales turnover between 10 to 25 million.

d.   Age of the business

Years of establishment	Frequency	Percentage (%)
Less than 5 years	18	15.0
5-9 years	31	25.8
10-14 years	22	18.3
15-19 years	17	14.2
More than 20 years	32	26.7

Table 5.10: Firm's age

The majority of respondents had been operating for more than 20 years. A further 49 firms (40.8 per cent) indicated having been operating for less than 10 years. 22 firms or 18.3 per cent indicated having been operating between 10 to 14 years, while another

14.2 per cent of the 120 respondents indicated having been operating between 15 to 19 years.

e.   Ownership status

Is the firm a subsidiary of another firm or an independent firm?	Frequency	Percentage (%)
A subsidiary firm	19	15.8
An independent firm	101	84.2

Table 5.11: Firm's ownership status

Of the 120 firms that responded to this survey, 101 of them were independent firms, while the remainder were a subsidiary of another firm.

f.   Determining Firm's Size

In order to determine the size of the SMEs involved in this study, questions were included to capture the related information needed to classify respondents (firms) into three different types of SMEs, namely micro-enterprises, small and medium-sized-sized. A general definition of SMEs in Malaysia by SMECorp states that any enterprise that fits into any of bases used in defining SMEs, namely the number of full time employees and annual sales turnover, can be considered as SMEs. The definition of SMEs was then classified into two different groups of sector, namely Manufacturing, Manufacturing Related Services (MRS) and Agro-based Industries, and Services, Information and Communication Technology (ICT) and Primary Agriculture.

Additional general characteristics in defining SMEs in Malaysia are quoted as follows, based on two different groups of sectors mentioned earlier:

Group of sector 1:"Small and medium-sized–sized enterprises in the manufacturing, manufacturing related services and agro-based industries are enterprises with full-time employees not exceeding 150 OR with annual sales turnover not exceeding RM25 million"

Group of sector 2: "Small and medium-sized–sized enterprises in the services, primary agriculture and Information & Communication Technology (ICT) sectors are enterprises with full-time employees not exceeding 50 OR with annual sales turnover not exceeding RM5 million"

The following section will further define the process involved in adjusting the information received from the questionnaire to finalise and classify firms' responded to the survey into three different sizes as mentioned above.

The definition of SMEs in Malaysia was later defined (based on two different groups of sectors) as follows:

Sector/Size	Micro-enterprise	Small enterprise	Medium-sized enterprise
Manufacturing, Manufacturing-Related Services (MRS) and Agro-based Industries	Sales turnover of less than RM250,000 OR full time employees less than 5	Sales turnover between RM250,000 and less than RM10 million OR full time employees between 5 and 50	Sales turnover between RM10 million and RM25 million OR full time employees between 51 and 150
Services, Primary Agriculture and Information & Communication Technology (ICT)	Sales turnover of less than RM200,000 OR full time employees less than 5	Sales turnover between RM200,000 and less than RM1 million OR full time employees between 5and 19	Sales turnover between RM1 million and RM5 million OR full time employees between 20 and 50

Source: SME Corporation Malaysia (SMECorp)

i. *Definition based on number of employees*

The following table classifies the surveyed firms in this particular study into three different sizes of SME, namely micro, small and medium-sized. Adjustments were made to the scale of the number of fulltime employees, so as to capture the definition used by SMECorp, resulting in a classification of firm's size, as shown in Table 5.12. In sector 1, 75 firms were included based on the sector indicated resulting in 11, 31 and 33 firms being classified as micro, small and medium-sized enterprises respectively. On the other hand, 45 firms came from sector 2, with the majority of the firms in this sector being classified as medium-sized enterprises, and another 12 firms categorized as micro enterprises. The remaining three firms were small enterprises. Overall, based on the number of full time employees, 23 firms were classified as micro enterprises, while another 34 and 63 firms were classified as small and medium-sized enterprises respectively.

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| Sector 1 | Size of Business/Number of Employees | | | |
	Micro **Less than 5**	*Small* **5-50**	*Medium* **51-150**	**Total**
Manufacturing	6	19	29	**54**
Manufacturing Related Services (MRS)	4	10	2	**16**
Agro-based Industries	1	2	2	**5**
Total	**11**	**31**	**33**	**75**
Sector 2	Size of Business/Number of Employees			
	Micro **Less than 5**	*Small* **5-19**	*Medium* **20-50**	**Total**
Services	8	2	28	**38**
Information and Communication Technology (ICT)	4	1	2	**7**
Total	**12**	**3**	**30**	**45**

Table 5.12: Firm's size based on number of fulltime employees

ii.   *Definition based on Annual Sales Turnover*

As mentioned earlier, any enterprises can be considered as SMEs, based on their annual sales turnover. The following table will further categorize the firms surveyed into three different sizes. Five firms from the sector 1 group were classified as micro enterprises, while another 38 and 32 firms were later classified as small and medium-sized enterprises respectively. On the other hand, 31 firms were classified as medium-sized enterprises under the sector 2 groups, with another 2 and 12 firms being micro and small enterprises respectively. In total, based on annual sales turnover, firms responding to this particular study comprised 7 small enterprises, 50 small enterprises and 63 medium-sized enterprises.

	Size of Business/Annual Sales Turnover			
Sector 1	*Micro* <250k	*Small* 250k-<10mil	*Medium* 10mil-<25mil	**Total**
Manufacturing	3	25	26	**54**
Manufacturing Related Services (MRS)	1	11	4	**16**
Agro-based Industries	1	2	2	**5**
Total	**5**	**38**	**32**	**75**
	Size of Business/Annual Sales Turnover			
Sector 2	*Micro* <200k	*Small* 200k-<1mil	*Medium* 1mil-5mil	**Total**
Services	0	9	29	**38**
Information and Communication Technology (ICT)	2	3	2	**7**
Total	**2**	**12**	**31**	**45**

Table 5.13: Firm's size based on annual sales turnover

In general, the classification of SMEs in Malaysia based on number of employees or annual sales turnover provide a much clearer definition and categorization of enterprises into three different sizes. In this particular study, the definition resulted in little significant difference between these two bases, but valuable information may be gained for further enhancement of understanding of different sizes of SMEs for future studies.

5.4.3 Financing preferences

The following sub section discuss the firms' preferences over; 1) internal financing, 2) external financing, and 3) financing terms.

a.   ***Internal financing***

Table 5.14 shows the findings on respondent's preferences regarding three types of internal financing available for their business funding. The majority of respondents preferred to use retained earnings as their source of financing, with 60 per cent of respondents preferring this type of internal financing compared to shareholder's own funds with only 55 per cent of respondents indicating either having a high preference or very high preference over this source of financing. Due to the fact that most respondents were independent firms, 63.3 per cent of them had a lower preference for funds from parent firms, subsidiaries or associate firms. The mean results also showed that retained earnings were favoured among respondents, with a mean of 3.56 compared to 3.19 and 2.33 for shareholder's own funds and funds from parent firms, subsidiaries or associate firm respectively.

Type of funds/Level of Preference	Very Low Preference	Low Preference	Neither High nor Low Preference	High Preference	Very High Preference	Mean Median	Ranks
Shareholder's Own Funds/Contributions	9.2	10.8	34.2	43.3	2.5	3.19 *3.00*	2
Retained Earnings (Net Income Retained for Reinvestment)	0.8	13.3	25.8	49.2	10.8	3.56 *4.00*	1
Funds from Parent/Subsidiaries/ Associate Companies	20.8	42.5	21.7	13.3	1.7	2.33 *2.00*	3

Table 5.14: Preference for internal financing

b.   *External Financing*

Type of funds/Level of Preference	Very Low Preference	Low Preference	Neither High nor Low Preference	High Preference	Very High Preference	Mean Median	Ranks
Banking Institutions	5.0	12.5	17.5	46.7	18.3	3.61 *4.00*	1
Development Financial Institutions (DFIs)	21.7	16.7	33.3	19.2	9.2	2.78 *3.00*	4
Government Funds/Scheme	22.5	9.2	14.2	37.5	16.7	3.17 *4.00*	3
Cooperative Financing	31.7	20.8	28.3	15.8	3.3	2.38 *2.00*	5
Trade/Supplier Credit	14.2	10	30.8	32.5	12.5	3.19 *3.00*	2
Leasing Companies	28.3	29.2	31.7	10.0	0.8	2.26 *2.00*	6
Factoring Companies	40.8	26.7	20.8	10.0	1.7	2.05 *2.00*	7
Equity Investment: Venture Capital Companies	42.5	29.2	19.2	9.2	0	1.95 *2.00*	10
Equity Investment: Business Angels	42.5	25.8	24.2	6.7	0.8	1.98 *2.00*	9
Private Equity Investment from Friends and Family	40.0	25.8	28.3	5.8	0	2.00 *2.00*	8
Private Equity Investment from Unrelated Companies	50.0	30.8	16.7	2.5	0	1.72 *1.50*	11

Table 5.15: Preference for external financing

Table 5.15 above provides statistical results for respondents' preferences for external financing. Banking Institutions, which included commercial and Islamic banks, is the most preferred source of external financing. This is followed by Government funds/scheme and Trade/supplier credit with 54.2 and 45 per cent respectively. Among all sources of external financing, Development Financial Institutions (DFIs), trade/supplier credit and leasing companies received one third (or almost one third) of responds indicated a neutral preference for these sources of external financing. Equity

investment and private equity investment were the least preferred source of external financing, with 80.8 per cent of respondents indicates their lower preference for financing from unrelated companies, and 71.7 per cent of them also indicating lower preference for financing from venture capital companies. The list of the least preferred source of external financing also includes equity investment from business angels, factoring companies and private equity investment from friends and family with 68.3, 67.5 and 65.8 per cent respectively.

The mean results of each type of external financing also show clearly the respondent's preferences. Banking Institutions, Trade/Supplier credit and Government funds were the top three most preferred types of financing. These were followed by DFIs, Cooperative financing, leasing and factoring companies. The least preferred external financing included all equity and private equity investment.

c. *Financing term*

Term of Financing/Level of Preference	Very Low Preference	Low Preference	Neither High nor Low Preference	High Preference	Very High Preference
Short-term Financing (Repayment in less than 1 year)	13.3	29.2	23.3	28.3	5.8
Long-term financing (Repayment in more than 1 year)	7.5	7.5	30.8	42.5	11.7

Table 5.16: Preference for term of financing

In term of the firms' preference for financing terms, 51 respondents (42.5 per cent) indicates having higher preference for long-term financing. In addition, 11.7 per cent of respondent indicates very high preferences over this term of financing. Short-term financing, as presented in Table 5.16, was the least preferred among the respondents, with 42.5 per cent of them indicating lower preferences compared to 15 per cent for long-term financing.

5.4.4 Firm's capital structure

The firms' capital structure is discussed here, based on questions asked in Part B of the questionnaire. Respondents were asked to indicate the proportion of their firm's liabilities and equity (with liabilities being separated into short-term and long-term liabilities) with a maximum total value of 100 per cent. An additional question was posed to measure the average level of proportion of each sub-unit under a firm's financial structure. Firms' control over selected financial ratios was also included, and this was followed by a discussion of the firm's choice of funding and those factors influencing their funding decisions, based on selected explanatory variables, as indicated in the previous chapter. Furthermore, respondents were also asked to indicate the average movement of selected financial ratios. Finally, an understanding of the firm's capital structure incorporated the respondent's view of the relationship between capital structure and explanatory variables.

a. ***Proportion of Liabilities and Equity***

The overall findings show that most of the firms' responses have a balance ratio between liabilities and owner's equity in their capital structure. Question 2 (i) was used to obtain the information about the proportion of firm's liabilities and equity as it was developed as an open ended type of question where respondents were asked to fill up an average amount for composition of their source of financing that consist of short-term and long-term liabilities, and owner's equity. Their overall responses must be equal to 100 per cent.

Table 5.17a shows that an equal percentage of respondents (37.5 per cent each) indicate having less than 25 per cent or between 26 to 50 per cent of short-term liabilities as their source of funding. 41.7 per cent of respondents commented that their long-term liabilities were between 26 to 50 per cent, with only 1.7 per cent of them having more than 75 per cent of long term liabilities in their capital structure. As most of the respondents were independent firms, the owner's equity seemed to have an equal proportion of their overall capital structure with 35, 31.7 and 30.9 of respondents indicate having an owner's equity of less than 25 per cent, between 26 to 50 per cent and more than 51 per cent respectively. Overall, most firms had a composition of liabilities and equity of less than 50 per cent, with a further 13.4, 11.7 and 30.9 per cent of firms reporting having filled up more than half of their total capital structure with short-term liabilities, long-term liabilities and owner's equity respectively.

Type of Funds/Percentage	Less than 25%	26% to 50%	51% to 75%	More than 75%
Short-term Liabilities	37.5	37.5	11.7	1.7
Long-term Liabilities	29.2	41.7	10.0	1.7
Owner's Equity	35.0	31.7	19.2	11.7

Table 5.17a: Proportion of liabilities and equity

	Short-term Liabilities	Long-term Liabilities	Owner's Equity
Mean	28.18	28.63	43.20
Median	30.00	30.00	40.00
Minimum	0	0	0
Maximum	80	90	100

Table 5.17b: Proportion of liabilities and equity: Mean and median

Table 5.17b above indicates a summary of debt-to-equity ratios among respondents. On average, respondents had an approximately equal amount of debt financing, with a 28.18 and 28.63 per cent reliance on short-term and long-term financing respectively. On the other hand, owner's equity with an average of 43.2 per cent completed the overall financial structure of firms that responded to this study, conveying an approximate average ratio of 57:43 between firm's debt and equity.

Moreover, the proportion for items in the firms' liabilities and equity is discussed based on Table 5.17c. Discussions are categorized into items under short-term liabilities, long-term liabilities and owner's equity.

Account payable was found to be the main source of short-term financing for the respondents, followed by trade credit. Accrued expenses and bank overdraft are the least used type of short-term financing among respondents with 48.4 and 47.5 per cent of respondents respectively indicating having lower proportions of these items in their

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financial structure. Additionally, notes payable, referring to a type of financing that can be classified either as short-term or long-term financing (based on the financing term) was the least used by respondents, with a mean average of 2.17 indicating a low proportion of these particular items in the respondent's financial structure. Regarding the proportion of items in the firm's long-term liabilities, the majority of respondents indicated having a high proportion of hire purchase and long-term debt items in their overall financial structure. Leasing and factoring were the least used type of long-term financing among respondents with more than 70 per cent of respondents indicate having either low or very low proportion of these items in their financial structure.

In terms of items in the owner's equity, retained earnings (with 46.6 per cent of respondents indicate having a higher proportion of this item in their financial structure) was the most used source of equity financing among the majority of respondents. This was then followed by the shareholder's own funds, with 33.3 and 6.7 per cent of respondents indicate having a high proportion and very high proportion of this item in their financial structure, respectively. Funds from parent/subsidiaries/associate companies were the least used source of financing under owner's equity with 68.4 per cent of respondent shows the lower proportion of this item in their owner's equity structure compared to only 9.2 per cent of respondents indicate having a higher proportion of this items their source of equity financing.

In summary, account payable and retained earnings were found to be the main sources of financing for the respondents, as 51.7 and 46.6 per cent of respondents indicate having a high or very high proportion of this item in their liabilities and equity. Leasing, factoring and notes payable were the least used source of financing in the overall financial structure of the respondents.

Items on Liabilities and Owner's Equity/Proportion of Total Liabilities and Owner's Equity	Very Low Proportion	Low Proportion	Neither High nor Low Proportion	High Proportion	Very High Proportion	Mean Median	Ranks
Account Payable	3.3	11.7	33.3	45.0	6.7	3.40 4.00	1
Bank Overdraft	30.8	16.7	22.5	19.2	10.8	2.63 3.00	6
Trade Credit	18.3	15.0	23.3	39.2	4.2	2.96 3.00	4
Accrued Expenses	16.7	31.7	40.8	8.3	2.5	2.48 3.00	8
Notes Payable	32.5	29.2	30.0	5.8	2.5	2.17 2.00	10
Long-term Debt	21.7	20.0	39.2	17.5	1.7	2.58 3.00	7
Leasing	45.0	29.2	21.7	4.2	0	1.85 2.00	12
Factoring	55.0	25.8	11.7	5.8	1.7	1.73 1.00	13
Hire Purchase	25.0	25.8	29.2	18.3	1.7	2.46 2.00	9
Retained Earnings (Net Income Retained for Reinvestment)	10.0	12.5	30.8	38.3	8.3	3.23 3.00	2
Shareholder's Own Funds/Contribution	7.5	15.0	37.5	33.3	6.7	3.17 3.00	3
Share Capital	10.0	17.5	44.2	23.3	5.0	2.96 3.00	4
Capital Reserved	14.2	21.7	40.8	18.3	5.0	2.78 3.00	5
Funds from Parent/Subsidiaries/ Associate Companies	49.2	19.2	22.5	7.5	1.7	1.93 2.00	11

Table 5.17c: Proportion of liabilities and equity: Items involved

b.   *Control over selected financial ratio*

Overall, most of the firms had strict control over their debt ratio, short-term and long-term debt ratio. 48.3 per cent of respondents indicate having a somewhat strict or very strict control over this their firm's debt ratio. However, 25.8 per cent of respondents also indicated that they had neutral control over this particular ratio, and another 25.8 per cent of respondents indicated having somewhat flexible or very flexible control over this ratio. In terms of debt to equity ratio, 8.3 per cent of respondents indicate having a very strict control over this particular ratio. This result was 0.8 per cent higher than the responses received for very strict control over debt ratio, although debt ratio was the highest control ratio of all. Retention rate, which is the percentage of net income retained for reinvestment, was the least controlled financial ratio as 26.7 per cent of respondents indicated a high flexibility in this particular ratio. Furthermore, only 32.5 per cent of respondents showed that they were having strict control over this particular ratio, and 40.8 per cent of responses received indicate having neither strictness nor flexibility on this particular ratio.

Financial Ratios/Level of Flexibility	Very Flexible	Somewhat Flexible	Neither Strict nor Flexible	Somewhat Strict	Very Strict	Mean Median
Debt Ratio	7.5	18.3	25.8	40.8	7.5	3.23 *3.00*
Short-term Debt Ratio	5.8	17.5	29.2	41.7	5.8	3.24 *3.00*
Long-term Debt Ratio	9.2	11.7	31.7	43.3	4.2	3.22 *3.00*
Debt-to-Equity Ratio	5.8	18.3	30.0	37.5	8.3	3.24 *3.00*
Retention Rate (percentage of net income retained for reinvestment)	4.2	22.5	40.8	27.5	5.0	3.07 *3.00*

Table 5.18: Level of control over selected financial ratio

c.   ***Respondent's choice of funding.***

In funding capital investment for the last 3 years, your firm......	Frequency *(Percentage)*
…seeks to maintain a constant debt-to-equity ratio.	52 *(43.3)*
…follows a hierarchy in which certain sources of funds used are exhausted before other sources are used.	68 *(56.7)*

Table 5.19: Funding choice

The majority of respondents indicated a preference for financing hierarchy, which was indicated by 56.7 per cent (68/120) responses for this choice of funding. A further 43.3 per cent of respondents would prefer to optimize the trade-off between the benefit and risk of using debt and maintaining a constants debt-to-equity ratio.

d.   ***Financial ratio's average movement***

The following Table 5.20 presents the average movements of the selected financial ratio from respondent's answer to the following question: `*Please indicate the average changes in the following financial ratios of your company in the last 3 years'*. In term of firm's liquidity, the majority of respondents indicate having an increase of their firm's QR and CR in the last three years. At the same time, approximately 25 per cent of respondents indicated a decrease in these ratios, while 32.5 and 35 per cent of respondents showed no change in the movement of these ratios in the last 3 years respectively.

Financial Ratios/Average Movement	Significance Decrease	Moderate Decrease	Neither Increase nor Decrease	Moderate Increase	Significance Increase	Mean Median
Quick Ratio *(QR)*	1.7	23.3	32.5	39.2	3.3	3.19 *3.00*
Current Ratio *(CR)*	5.0	20.8	35.0	34.2	5.0	3.13 *3.00*
Return on Assets *(ROA)*	3.3	12.5	35.8	45.0	3.3	3.33 *3.00*
Gross Profit Margin *(GPM)*	3.3	19.2	20.0	53.3	4.2	3.36 *4.00*
Net Profit Margin *(NPM)*	5.8	14.2	24.2	50.8	5.0	3.35 *4.00*
Asset Tangibility *(AT)*	2.5	20.0	40.8	31.7	5.0	3.17 *3.00*
Non-debt Tax Shields *(NDTS)*	0.8	23.3	52.5	20.8	2.5	3.01 *3.00*
Growth: Total Assets (%) - *(GTA)*	1.7	11.7	23.3	54.2	9.2	3.58 *4.00*
Growth: Total Sales (%) - *(GTS)*	5.8	10.0	20.8	58.3	5.0	3.47 *4.00*
Debt Ratio *(DR)*	0.8	22.5	31.7	40.8	4.2	3.25 *3.00*
Short-term Debt Ratio *(STDR)*	4.2	25.0	40.8	29.2	0.8	2.98 *3.00*
Long-term Debt Ratio *(LTDR)*	5.0	25.8	44.2	23.3	1.7	2.91 *3.00*
Debt-to-Equity Ratio *(DER)*	54.2	20.8	46.7	25.0	3.3	3.03 *3.00*

Table 5.20: Average movements of selected financial ratios

A firm's profitability which is indicated by ROA, GPM and NPM, was also revealed as having an upward movement in the last three years, as more than 55 per cent of respondents show an increase of their firm GPM and NPM. NDTS and AT being a sole indicator for non-debt tax shields and firm's asset structure are among the highest non-changes ratios indicated by the respondents. NDTS for example was indicated by 52.5 per cent of respondents to be neither increased nor decreased in the last three years. AT, on the other hand, was indicated having a neutral movement (i.e. be neither increased nor decreased) by 40.8 per cent of the respondents. The indictor used for firm's growth (GTA, GTS) shows an upward movement as presented in the above table. 9.2 per cent of

respondents indicated having a significant increase in their firm's growth of total assets, while 63.3 per cent of respondents also indicated that they had an increase in their firm's total sales.

DR, STDR, LTDR and DER, used to indicate the financial leverage, showed mixed results, with a third of respondents stating that their firm's STDR, LTDR and DER were stable over the last three years. Interestingly, 75 per cent of respondents indicated having a moderate or significant decrease in their DER in the last three years. This was significantly high compared to only 23.3, 29.2 and 30.8 respondents stating having a moderate and significance decrease for their DR, STDR and LTDR over the last three years. On the other hand, 45 per cent of respondents indicated having an increased movement in their firm's DR, while another 31.7 per cent had a steady DR in the last three years of their operation.

e.   *Factors influencing financing decisions*

The following table presents the importance of selected explanatory variables (i.e. factors) for a firm's capital structure. Respondents were asked to indicate the importance of the factors in their financing decisions.

Firm growth seems to be perceived as the most important factor in making decisions regarding a firm's financing decision with an average of 4.27 and 92.5 per cent of respondents stating that this specific factor is both somewhat important and very

important in making their firm's capital structure decision. This is followed by profitability, level of liquidity, asset structure, age and size.

Factors/Level of Importance	Very Unimportant	Somewhat Unimportant	Neither Important nor Unimportant	Somewhat Important	Very Important	Mean Median	Ranks
Firm's Size	5.0	5.8	22.5	58.3	8.3	3.59 *4.00*	6
Firm's Age	2.5	9.2	15.0	58.3	15.0	3.74 *4.00*	5
Firm's Profitability	2.5	5.0	4.2	50.8	37.5	4.16 *4.00*	2
Firm's Level of Liquidity	5.8	0.8	12.5	49.2	31.7	4.00 *4.00*	3
Firm's Asset Structure (Tangibility of Assets)	4.2	1.7	16.7	62.5	15.0	3.83 *4.00*	4
Firm's Growth	2.5	0.8	4.2	52.5	40.0	4.27 *4.00*	1
Non-debt Tax Shields	5.0	7.5	48.3	36.7	2.5	3.24 *3.00*	7

Table 5.21: Factors influencing financing decisions

Among all the factors included, non-debt tax shields were considered to be the least important factor in influencing a firm's financing decision. More than a third of the respondents stated that this particular factor was neither important nor unimportant in the making of funding decisions, with only 39.2 per cent of respondents indicating this factor to be important in making decisions on the firm's capital structure. A further 12.5 per cent of respondents indicated that this factor was not important when it came to making a capital structure decision.

f.   *Explanatory variables and firm's leverage.*

Respondents were asked to provide their opinions as to the statements related to the relationship between selected explanatory variables with firm's capital structure.

Statements/Opinion	Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree	Mean Median
Variable: Profitability						
Profitable firms have larger internal slack and therefore a smaller need for external finance	1.7	17.5	24.2	47.5	9.2	3.45 *4.00*
Less profitable firms facing a positive Net Present Value (NPV) investment opportunity will be more willing to use external funds.	0.0	12.5	31.7	47.5	8.3	3.52 *4.00*
Variable: Firm's Size						
Smaller firms are often discriminated against when applying for external debt finance	0.0	10.0	18.3	47.5	24.2	3.86 *4.00*
Large firms have better reputations in debt markets.	0.0	6.7	18.3	53.3	21.7	3.90 *4.00*
Variable: Asset Structure (Tangibility of Asset)						
Firms with more assets and more collateral available face fewer obstacles in receiving debt.	0.0	5.0	14.2	56.7	24.2	4.00 *4.00*
Firms with a high level of fixed assets pledging collateral to secure debt finance.	0.0	2.5	22.5	54.2	20.8	3.93 *4.00*
Variable: Firm's Growth/Growth Opportunities						
Firms with greater growth opportunities have more access to bank funds.	0.8	5.8	14.2	57.5	21.7	3.93 *4.00*
High growth firms typically do not have sufficient internal finance to meet their investment needs.	0.8	5.0	27.5	50.0	16.7	3.77 *4.00*
Variable: Firm's Age						
Older firm has a higher creditworthiness to the creditor.	0.8	6.7	25.8	48.3	18.3	3.77 *4.00*
Older and more experienced firms require less external financing as they can rely more on internally generated funds.	0.0	14.2	30.0	45.0	10.8	3.53 *4.00*
Variable: Non-Debt Tax Shields						
The tax advantage of leverage (i.e. advantages of using debt) decreases when other tax deduction (e.g. depreciation) increases.	0.0	12.5	44.2	43.3	0.0	3.31 *3.00*
Tax deductions for depreciation expenses can be used as substitutes for the tax benefits of debt financing.	0.0	10.8	44.2	40.8	4.2	3.38 *3.00*
Variable: Firm's Liquidity						
Firm with greater liquidity may use their liquidity to finance their investments.	0.0	8.3	20.8	59.2	11.7	3.74 *4.00*
A higher liquidity indicates a greater firm's ability to meet short-term obligations	4.2	1.7	15.8	54.2	24.2	3.93 *4.00*

Table 5.22: Influencing factors and firm's leverage: respondent's opinion

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As presented in Table 5.22, two statements were allocated to each variable to indicate a positive and negative nature of the relationship to firm's capital structure except for firm's asset structure and growth, which was theoretically hypothesized to have a positive relationship with firm's capital structure.

Overall, the findings show a median of 4 for most of the variables except for non-debt tax shields. The majority of respondents were generally in agreement with most of the statements, with S1 for asset structure being the highest score with a mean of 4. This is followed by S2 for the same variables, S1 for firm's growth and S2 for firm's liquidity (with a mean of 3.93 each). The relationship between the firm's size and capital structure also showed that the majority of respondents agreed with both statements with a mean of 3.86 and 3.90 for S1 and S2 respectively. The majority of respondents (more than 55 per cent) indicated their conformity to most of the statements, with 80.9 per cent being the highest percentage and 55.8 per cent being the lowest. This did not include the response received for S1 and S2 for non-debt tax shields where there were only 43.3 and 45 per cent responses received that were in favour of the respective statements. Moreover, for this particular variable, the majority of respondents (a third) chose to be neutral, stating their opinion as neither agree nor disagree.

5.5   Summary and conclusions

The univariate analysis conducted in this chapter was driven by the objective of answering the first and the second research questions in the study. The following discussions focused on attaining these two objectives and presenting them accordingly.

The first research question is as follows:

What are the financing preferences for different sources of financing among managers of successful Malaysian SMEs?

The results from the univariate analysis revealed that retained earnings were the most preferred source of internal financing among SME managers, followed by shareholders' own contribution and funds from related companies (parents, subsidiaries or associate companies). When it comes to external funding, banking institutions, trade/supplier credit and government funds were found to be the most preferred sources of financing. Other sources of financing (DFIs, cooperative financing, leasing and factoring) were found to be the least preferred by the SMEs managers with equity investments being the least preferred sources of financing. In regards to the term of financing, long-term financing was found to be the most preferred term of financing among respondents.

By comparing both the descriptive results for manager's level of financing preference for different internal and external sources of financing, a conclusion can be made as to the five most preferred sources of financing, as presented in the following table:

Rank	Source of financing	Internal/External
1	Banking Institutions	External
2	Retained Earnings (Net Income Retained for Reinvestment)	Internal
3	Shareholder's Own Fund/Contribution	Internal
4	Trade/Supplier Credit	External
5	Government Funds/Schemes	External

Table 5.23: Five most preferred source of financing

The table above indicates that the most preferred sources of financing among SME managers are a mixed of external and internal sources of financing. This list provides a clearer insight into the level of financing preferences for various sources and types of financing available for small businesses particularly in the case of Malaysian SMEs. Managers of SMEs appear to find external funding most possibly from banking institutions, suppliers and also from the Government. Otherwise, they would use internal sources of financing from retained earnings or provide their own funds to accomplish much needed funding.

The following section will summarize the findings from the univariate analysis with the aim of answering the following research question:

What are the capital structures of successful Malaysian SMEs?

This focus on the study of firm's capital structure was motivated by an objective to increase understanding of the capital structure used by successful SMEs in Malaysia within the chosen database and issues related to it. Univariate analysis indicates that

generally SMEs depend more on debt over equity-sources of financing. This is proven by the descriptive results, which show that overall Debt-to-Equity ratio (DER) was found to be approximately 57 to 43. This figure proves that firms mainly seek external debt-sources of financing over internal funds. The proportion of debt financing was also found to be equally divided into short and long-term debt financing which shows that firms generally use both types of debts in financing their business activity.

The following eight items were found to have the highest proportion in the firm's liability and equity. These items are presented as follows:

Rank	Types of financing	Debt/Equity
1	Account Payable	Debt
2	Retained Earnings (Net Income Retained for Reinvestment)	Equity
3	Shareholder's Own Fund/Contribution	Equity
4	Trade/Supplier Credit	Debt
5	Share Capital	Equity
6	Capital Reserved	Equity
7	Bank Overdraft	Debt
8	Long-term Debt	Debt

Table 5.24: Type of financing with the highest proportion in the firm's liability and equity

The results presented in table 5.24 show that firms get their funding from debt-sources of financing in the form of account payable, trade/supplier credit, bank overdraft and long-term debt. Other forms of debt financing were found to be least used by the SMEs, which supports the previous results regarding the manager's level of financing preferences for various sources of financing. Other possible ways of funding come from internally-sought funds, mainly from retained earnings.

Almost 60% of SMEs follow a hierarchy of financing, while the remainder seek to maintain a constant debt-to-equity ratio. In terms of control over their firm's capital structure, over 45% of them were found to have strict control over their firm's debt ratio, short-term debt ratio, long-term debt ratio and debt-to-equity ratio, compared to an average of 24% of firms with a flexible control over the same financial ratios.

This chapter has sought to investigate and report the results of univariate analysis conducted to address the first two research questions of this study. Both research questions were addressed accordingly and the main findings show that managers prefer to use mixed sources of financing in funding their business. Their preferences for financing were therefore translated into their firm's capital structure, which involves mixing the type of financing with debt generally being used more than equity financing.

Chapter 6

Bivariate Analysis

6.1   Introduction

This chapter seeks to investigate statistically significant associations between manager's characteristics and their preferences for different sources of financing; statistically significant associations between manager's financing preferences and the proportion of firms' capital structure; and statistically significant associations between a firm's characteristics and capital structure. These objectives may be translated into three main general alternative hypotheses as follows:

H_1:   There are statistically significant relationships between manager's characteristics and their financing preferences.

H_2:   There are statistically significant relationships between manager's financing preferences and the proportion of a firm's capital structure

H_3:   There are statistically significant relationship between a firm's characteristics and a firm's capital structure

Discussion begins with the type of data and analysis available to this study. This is then narrowed down to the introduction of a bivariate association test and the specific bivariate tests used for examining the three hypothesized relationships. The

comprehensive results of bivariate association tests for each hypothesis testing are outlined accordingly in the subsequent section. The final section provides a summary of this chapter.

6.2   The use of summated scores

Data transformations were performed on several variables in this study. These variables were assessed through certain indicators to gauge the much needed data for the analysis. These indicators were then grouped and reduced into a smaller group of variables to simplify the analysis and increase an understanding of the data more easily in achieving research objectives. Respondents were asked to respond using a five-point Likert scale. The responses given were then combined using the composite score, in which all individual items scores where summated and aggregated for hypotheses testing.

Data transformation is the process of changing the original form of data to a new format by collapsing or combining adjacent categories of a variable in a way that reduces the number of categories. Another important data transformation involves creating new variables by re-specifying the data with logical transformations. This may involve combining the scores (raw data) for several attitudinal statements into a single summated score. Another approach is to calculate the average summated score which involves calculating the summated score and then dividing it by the number of variables. When this approach is used the newly transformed, composite variable is comparable in scaling to the original scale (Hair et al., 2007). Mitchell and Jolley (2010) explain that Likert-type items can be used to create summated scores by summing up each respondent's

answers to questions (designed to measure the same variable) to obtain a total score for each respondent on that particular variable.

The use of summated scores to measure the variable has certain statistical advantages. In a meaningful way, creating a single score to summarize several observed variables based on several questions is more reliable than a score based on a single question. In addition, analyses are often simple for summated scores and can improve reliability and validity of measurement (Mitchell and Jolley, 2010; Judd et al., 1991). In addition, Foster and Swenson (1997) have added that benefit of using a composite score over an individual question is due to circumstances where: 1) the concept being measured is multidimensional and when the questions in that composite captures these multi-dimensions, or 2) there is a measurement error in an individual question that is diversified away in aggregating individual questions into a composite.

Data transformations were used to create summated scores for the level of financing preferences among managers for Internal Equity Financing (IEF), Debt Financing (DF) and External Equity Financing (EEF). The same transformation was also performed in assessing the proportions of firm's capital structure which includes Short-term Financing (STF), Long-term Financing (LTF) and Equity Financing (EF), and average changes on firm's characteristics-variables involving three different variables: Liquidity (LIQ), Profitability (PROF) and firm's growth (GROWTH). Details of data transformations may be explained in each part of the studies involving these variables.

6.3   Data and statistical analysis

Data analysis may commonly be differentiated according to three types: exploratory, descriptive and inferential. Exploratory data analysis is usually performed to produce a visualise summary of data sets, mostly through data arrangements for further analysis. Descriptive data analysis, on the other hand, is typically used to present quantitative descriptions of data which enables comparisons to be drawn across groups of data. The final type of data analysis involves hypotheses testing that may support researchers in making judgement and generalizations about the population from a sample beyond the data set itself (Hair et al., 2007). Inferential statistical analyses are usually categorized into univariate, bivariate and multivariate. Each and every category represents a number of variables involved in the analysis. Univariate statistical analysis involves analyses of one variable, while analyses performed on two variables or more than three variables are categorized as bivariate and multivariate respectively. As this chapter focuses on examining the association between two variables, the bivariate association test is the main inferential statistical analysis applied throughout the chapter, and has been discussed further in the following sections.

Bivariate measures of association and significance tests

In a study where several variables are involved, problems often arise as to how these variables are related to another (beyond knowing the descriptive statistics of the variables) and these problems are solved by investigating the nature, direction, and significance of the bivariate relationship of the variables used (Sekaran and Bougie,

2009). This investigation is an important step, and is essentially required in explaining and contributing to the construction of theories (Bryman and Cramer, 2009; Kent, 2001) and may involve testing the existence of correlation between variables by measuring the extent to which these variables are linearly related regardless of their measurement scales (Miles and Shevlin, 2001). Furthermore, this investigation can help to conclude whether there is a consistent and systematic relationship between two or more variables (Hair et al., 2007). The investigation of the relationship between variables may be categorized into a correlation or a cause-and-effect (Saunders et al. 2009). The latter tests whether a change in one or more independent variables causes a change in another dependent variable, while the former assesses the changes between variables without any clear indication as to the influence between variables. In addition, Fields (2009) suggest that there are two types of correlation, bivariate and partial. Bivariate correlation is a correlation between two variables, while partial correlation looks at the relationship between two variables while controlling for the effect of one or more additional variable. Collis and Hussey (2009) define correlation as a measure of the direction (linear or non-linear) and strength (positive or negative) of association between two quantitative variables.

The strength of relationship between pairs of variables is investigated by measuring the correlation coefficient (Saunders et al. 2009; Field, 2009). This measurement is usually represented by the letter r, and can take any value between -1 and +1 to represent and quantify the strength of the linear relationship between two ranked or numerical variables (Collis and Hussey, 2009; Saunders et al. 2009). A coefficient of +1 indicates two variables that are perfectly positively correlated, while a perfect negative

relationship is represented by a coefficient of -1. A coefficient of zero, on the other hand, indicates that there is no relationship at all. Cohen (1988, 1992) cited in Miles and Shevlin (2001) and Field (2009), has made some widely used suggestions about the level of strength of correlation between variables. Small, medium-sized and large correlation is represented with the value of correlation coefficients, r of ±0.1, ±0.3 and ±0.5 (or greater) respectively.

Alternative suggestions by Saunders et al. (2009) and Collis and Hussey (2009) on assessing the strength of the relationship between variables are presented in the following table.

Value of coefficient correlation	Strength of relationship
-1	Perfect negative linear correlation
-0.90 to -0.99	Very high negative correlation
-0.70 to -0.89	Strong/high negative correlation
-0.40 to -0.69	Medium negative correlation
0 to -0.39	Weak/low negative correlation
0	Perfect independence (No linear association)
0 to 0.39	Weak/low positive correlation
0.40 to 0.69	Medium positive correlation
0.70 to 0.89	Strong positive correlation
0.90 to 0.99	Very high positive correlation
1	Perfect positive linear correlation

Source: Saunders et al. (2009), Collis and Hussey (2009)
Table 6.1: Measuring the strength of relationship between variables

For the purposes of assessing the strength of relationship between variables in this study, the suggested method by Cohen (1988, 1992) will be used as a guideline. The following

discussions will put emphasis on assessing the significance of the relationship between variables.

Miles and Shevlin (2001) suggest that it is always useful to test if the correlation is statistically significant. Testing the likelihood of the relationship helps to rule out the possibility that results found could be due to random variations in the sample (Saunders et al., 2009). Cohen et al., (2003) employ a classical null hypothesis test in which the probability of the sample result is compared to a pre-specified significance criterion, α. If the probability of the sample result is less than α, the null hypothesis is rejected, and the sample result is deemed statistically 'significant' at the α level. The α of 0.05 is so widely used as a standard of significance criterion in behavioural sciences. A significance criterion of 0.05 indicates that 95 times out of 100, it can be sure that there is a true or significant correlation between the two variables, and there is only a 5% chance that the relationship does not truly exist (Sekaran and Bougie, 2009). Based on the discussion, the significance criterion of 0.05 is used in the bivariate association test in this study to assess the significance of the relationship between independent and dependent variables.

Determining appropriate tests

Determination of the analysis for hypothesis testing generally involves two broad classes of inferential statistical significance test: parametric and nonparametric (Cooper and Emory, 1995; Saunders et al., 2009; Collis and Hussey, 2009). The former were used with continuous data which make certain assumptions about the distributional

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characteristics of the population under investigation whilst the latter are designed to be used when data are not normally distributed, and often used with categorical data. Hence, in order to determine whether the bivariate association test for this study falls under parametric or non-parametric test, the type of data will first be analyzed. Table 6.2 below summarizes the type of data used in this study.

General alternative hypothesis	Area of study	DV	Level of measurement	IV	Level of measurement
H_1	Determinants of financing preferences	IEF, DF,EEF	Interval	Age, Education, Experience	Ordinal
				Gender, Ownership	Nominal
H_2	Determinants of the proportions of firm's capital structure	STF, LTF, EF	Interval	IEF, DF, EEF	Interval
H_3	Determinants of firm's capital structure	DR, STDR, LTDR, DER	Interval	LIQ, PROF, TANG, NDTS, GROWTH	Interval
				Firm's Age,	Ordinal
				Firm's Size	Nominal

Note: Details of each variable are explained later in each parts of the analysis

Table 6.2: Type of data and variables used in the study

All dependent variables were measured using an interval scale, whereas the independent variables were measured using interval, ordinal and nominal scales. These thus indicate a violation of the requirement for continuous type of data for the use of parametric tests. In addition, parametric tests also require the tests to be appropriate only for use when other basic assumptions are established and fulfilled. Using a parametric test with a non-parametric data will result in inaccurate outcomes (Field, 2009).

To prove that parametric tests were appropriate for use in this study, the following section discusses each basic assumption – level of measurement, normality of distribution, homogeneity of variance and independence.

Testing assumptions of parametric bivariate analysis

Assumption 1: Level of Measurement

Variables can be categorical (binary, nominal or ordinal) or continuous (interval or ratio) and one of the assumptions of parametric tests is that the measurement of the data should be at least at an interval level (Field, 2009). In this study, three different level of measurement were used consisting of all categorical type variables, and an interval level of measurements. Determining the appropriate statistical techniques based on this particular assumption were satisfied where only variables measured at interval level ware appropriately tested using parametric tests. The differences between ordinal and interval variable is quite difficult to differentiate, but as long as the equal intervals on the scale represent equal differences of the items being measured, that variable can be classified as an interval. Measurement using 5-point scales, for example, are often ordinal but look like interval and are treated as interval. In addition, continuous variables can also be discrete where the measurement can take only certain values on the scale.

Variables measured using 5-point Likert scale such as level of financing preferences, proportion of firm's capital structure and an average movement of selected firm's financial ratios are analysed with each other's using parametric test for bivariate

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association and significance. Other variables measured at the categorical level were analysed using non-parametric tests. However, as parametric tests for nominal (dichotomous) data has excluded this assumption (with appropriate adjustment), parametric tests involving the assessment of bivariate association between an interval and dichotomous nominal data were applied accordingly. Details of each statistical test are explained in each part of the analysis, primarily on the basis of the measurement level used for each variable.

The next section discusses the remainder of the assumptions for the use of parametric data, focusing only on variables that have met the first assumption of parametric tests.

Assumption 2: Normally distributed data

An evaluation of the normality of data is a prerequisite for the use of parametric tests. There are two main approaches for evaluating normality, graphically and numerically. These two approaches rely on visual inspection or statistical tests. The latter has an advantage of making an objective evaluation of normality over the former approach, which on the other hand allows a good evaluation to be made in a condition where numerical tests might be over or under-sensitive in regards to the sample size where the central limit theorem does inform that for big sample of 30 or more, the sampling distribution tends to be normal (Field, 2009). He added that in essence, checking for normality can be undertaken visually or by comparing the distribution of one's data to a normal distribution, using values that quantify aspects of a distribution.

The graphical test of normality was presented in Appendix II, but will not be discussed extensively. Tests of normality in this study are focused primarily on the use of statistical tests which also involve employing calculation-based methods (Miles and Shevlin, 2005). The Kolmogorov-Smirnov test is a statistical test, used to see whether the distribution as a whole deviates from a comparable normal distribution. This test compares the scores in the sample to a normally distributed set of scores with the same mean and standard deviation. If the test is non-significant ($p>0.05$) it shows that the distribution of the sample is not significantly different from a normal distribution, and vice versa.

The results of K-S test presented in Table 6.3 are all highly significant, indicating that not all data are normally distributed. However, this test has a limitation with large sample sizes where it is very easy to obtain significant results from small deviations from normality (Field, 2009). This limitation does not necessarily inform whether the deviation from normality is enough to bias any statistical procedures applied to the data. It is suggested to plot the data (in addition to using this test) and make an informed decision as to the extent of non-normality. A calculation based method is then used to check the normality of the data.

Variable	Skewness	SE skewness	Kurtosis	SE kurtosis	Kolmogorov-Smirnov Z	
					Statistic	Significance
IEF	-0.271	0.221	1.051	0.438	0.141	0.000*
DF	-0.122	0.221	-0.471	0.438	0.119	0.000*
EEF	0.555	0.221	-0.378	0.438	0.144	0.000*
STF	-0.145	0.221	-0.385	0.438	0.109	0.001*
LTF	0.066	0.221	-1.080	0.438	0.145	0.000*
EF	-0.444	0.221	-0.204	0.438	0.131	0.000*
DR	-0.215	0.221	-0.823	0.438	0.253	0.000*
STDR	-0.269	0.221	-0.566	0.438	0.220	0.000*
LTDR	-0.132	0.221	-0.315	0.438	0.234	0.000*
DER	-0.126	0.221	-0.055	0.438	0.239	0.000*
Liquidity	-0.220	0.221	-0.405	0.438	0.159	0.000*
Prof	-0.878	0.221	0.344	0.438	0.175	0.000*
Growth	-0.972	0.221	0.749	0.438	0.268	0.000*
Tang	-0.119	0.221	-0.330	0.438	0.207	0.000*
NDTS	0.218	0.221	-0.011	0.438	0.271	0.000*

* Denotes that the data differs from a normal distribution. The result is statistically significant at the 95% level of confidence

Table 6.3: Distribution statistics variables and test for normal distribution

Miles and Shevlin (2001) have discussed calculation-based methods in determining normality which focuses on the values for the degree of skew and kurtosis. The skew and kurtosis of a variable that is said to be normally distributed will both have the value 0. Therefore, any values above or below 0 indicating deportation from normality. Standard error of the skew and kurtosis were calculated in addition to the value for the skew and kurtosis. These values can be used to help to determine whether the skew or kurtosis differ significantly from what might reasonably be expected in a normally distributed population. If the value of skew or kurtosis (ignoring any minus sign) is greater than twice the standard error, then the distribution significantly differs from a normal distribution. It is cautiously suggested that if the skewness statistic is less than 1.0, there should be little problem. If the skewness is greater than 1.0 but less than 2.0,

there might be an effect on parameter estimates, but this is still likely to be satisfactory. However, if the skewness statistic is greater than 2.0, there should be concerns about the normality distribution of the data.

In this study, the value of twice standard error for skewness and kurtosis are 0.442 and 0.876 respectively. Based on value of skewness and kurtosis presented in Table 6.3, there are few variables that seems to have violated the general rules of skewness and kurtosis in determining normality. Variables denoted as EEF, EF, Prof and Growth have a value of skewness greater than twice the standard error of skewness. Furthermore, with a value of 1.051 and -1.080, variables denoted as IEF and LTF have violated the rules as their value is greater than 0.876. However, these values ranging from -0.444 (EF) to -0.972 (Growth) are still less than 1.0, and according to the rules explained above, there should be little problem with normality. The same circumstance applies to kurtosis, where two variables have a value of kurtosis greater than twice its standard error. However, all values are slightly over 1.0, indicating that there should be little problem with normality, as kurtosis causes fewer problems in the estimation of the regression model than skew (Miles and Shevlin, 2001). Generally, it may be said that the data in this study are within a satisfactory level of normality distribution and are deemed to be sufficient to be considered as normally distributed.

In addition to the previous method, the value of skew and kurtosis can also be converted to z-scores which are simply a score from a distribution that has a mean of 0 and a standard deviation of 1. The z-score for skewness and kurtosis for each continuous-scale variable used in this study are summarized in the following table:

Dependent variable	$Z_{skewness}$	$Z_{kurtosis}$	Independent variable	$Z_{skewness}$	$Z_{kurtosis}$
IEF	-1.226	2.400	Liquidity	-0.995	-0.925
DF	-0.552	-1.075	Prof	-3.973	0.785
EEF	2.511	-0.863	Growth	-4.398	1.710
STF	-0.656	-0.879	Tang	-0.538	-0.753
LTF	0.299	-2.466	NDTS	0.986	-0.025
EF	-2.009	-0.466			
DR	-0.973	-1.879			
STDR	-1.217	-1.292			
LTDR	-0.597	-0.719			
DER	-0.570	-0.126			

Table 6.4: Z-score for Skewness and Kurtosis

These z-scores are comparable to values that would be expected by chance alone which are the known values for normal distribution. An absolute value of greater than 1.96 is significant at $p<0.05$, above 2.58 is significant at $p<0.01$ and absolute values above about 3.29 are significant at $p<0.001$ (Field, 2009). In small samples, it is adequate to look for a value above 1.96. In large samples, the value should be increased to 2.58 and in very large samples (200 or more) no criterion should be applied where it is more important to look at the shape of the distribution visually.

Table 6.4 indicates that the z-scores calculated show that few independent variables indicate significant negative skew (Prof and Growth). These variables seem to have violated the normality assumption, but it is assumed the data are more likely to be negatively skewed as it does indicate an increase in both profitability and growth. As these skewness figures are anticipated for the variables, it may be concluded that the z-scores calculated do prove that the distribution of the mean for all variables was acceptably normal.

Assumption 3: Homogeneity of variance

The assumption of homogeneity means that the variances should be the same throughout the data. In other words, the variance of one variable should be stable at all levels of other variables in the correlational design (Field, 2009).

As in this study, data collected comes from two different groups of SMEs in Malaysia, which are classified based on their size. The first group represent the Micro and Small (MicroSmall) SMEs, and the other group consist of medium-sized-sized (Medium-sized) SMEs. Both groups comprise 57 and 63 of SMEs respectively. In correlational designs where continuous data were collected, the variance of one variable should be stable at all levels of the other variables (Field, 2009). In this case, to measure and justify this particular assumption, Levene's test is used to tests the null hypothesis that the variances in differences are equal. If Levene's test is significant at $p \leq 0.05$ then it may be concluded that the null hypothesis is incorrect and the variances are significantly different which violates the assumption of homogeneity of variances. In the case of dealing with a large sample size, small differences in group variances can produce a significant Levene's test. Therefore, variance ratio (Hartley's F_{Max}) is used. This is the ratio of variances between groups, and is determined by dividing the biggest value of variance by the smallest value of variance in the group. This value is then compared to the critical value of the *F*-distribution.

Dependent variables	SMEs Size				Manager's Ownership Status			
	Levene Statistic	df1	df2	Sig.	Levene Statistic	df1	df2	Sig.
IEF	.354	1	118	.553	8.772	1	118	.004
DF	5.134	1	118	.025	23.373	1	118	.000
EEF	.126	1	118	.724	1.064	1	118	.304
STF	2.553	1	118	.113	1.233	1	118	.269
LTF	3.719	1	118	.056	.057	1	118	.812
EF	3.071	1	118	.082	8.331	1	118	.005
DR	.171	1	118	.680	2.098	1	118	.150
STDR	.348	1	118	.556	3.011	1	118	.085
LTDR	3.347	1	118	.070	5.352	1	118	.022
DER	.272	1	118	.603	1.815	1	118	.181

Table 6.5: Results for the test of Homogeneity of Variance between different size of SMEs and Manager's Ownership Status

The results presented in Table 6.5 show that all dependent variables included in this test are non-significant ($p \geq 0.05$) except for DF. For the dependent variables used in this study, the variances were equal for MicroSmall and Medium-sized SMEs and summarized as follows: F (1,118) = 0.354, 0.126, 2.553, 3.719, 3.071, 0.171, 0.348, 3.347, 0.272, *ns*. However, for DF the variances were significantly different in the two groups, F (1,118) = 5.134, p <0.05. Although the result of Levene's test shows that variances are significantly different for DF, the variance ratio is calculated to double check the result. Variance ratio is calculated by dividing the biggest variance in the groups with the smallest one. The F_{Max} for DF is 1.19 (0.659/0.552) and the critical value of the F-distribution with df (2-1, 120-2) is approximately 3.92. Comparing these two values (1.19 to 3.92) indicates that the homogeneity assumption is met for this particular variable.

Homogeneity of variances among managers based on their ownership status was also tested. The results of Levene's test were presented in the above Table 5.3, showing that four out of ten dependent variables have statistically significant unequal variances with $p \leq 0.05$. The rest of the variables show a non-significant values which indicates that the variances are roughly equal and the assumption is justifiable. The F_{Max} for IEF, DF, EF and LTDR were then determined at 2.40, 1.86, 1.62 and 1.43 respectively. All these variance ratios are smaller than 3.92 at df (1,118). These results indicate that the assumptions of homogeneity are satisfied.

Assumption 4: Independence

The test of independence is different depending on the test used (Field, 2009). Generally, this means that data from different participants are independent, meaning that behaviour of one participant does not influence the behaviour of another. In regression analysis, this assumption relates to the rule that there should be no perfect linear relationship between two or more predictors, which means that predictor (independent) variables should not be highly correlated to each other. If independent variables are highly correlated, it is difficult to determine the separate effect of each independent variable, thus posing problems in interpreting regression coefficients. Highly correlated independent variables pose multicollinearity when there is a strong relationship between two or more independent variables (Field, 2009). These high intercollerations reduces ability to establish separate effects of each independent variable because of pooled variance (Hair et al., 2007). The effect of multicollinearity is that regression coefficients are inefficient or unstable, but are unbiased.

One method of identifying correlation is to examine the correlation coefficient of independent variables, which indicates the magnitude and direction of the association between two variables. Coefficients are calculated by employing the Pearson product moment, which is a measure of the linear association between two variables, indicating the direction and strength of the relationship, and has a value between -1 to +1. Those with a high correlation (above 0.8 or 0.9) show a problem of multicollinearity.

The following table 6.6 summarize the correlation matrix among predictor variables in the three different areas under investigation. A number of independent variables are correlated at the 99% and 95% level of significance, as indicated by the Pearson product moment correlation coefficients.

IV for first model

	Age	Education	Experience	Gender
Education	0.000			
Experience	0.461^{**}	0.109		
Gender	-0.487^{**}	-0.121	-0.260^{**}	
Own	-0.083	0.102	0.036	0.328^{**}

**Correlation is statistically significant at the 99% level of confidence (2-tailed).

IV for second model

	IEF	DF
DF	0.258^{**}	
EEF	0.267^{**}	0.540^{**}

**Correlation is statistically significant at the 99% level of confidence (2-tailed)

IV for third model

	Liquidity	Prof	Growth	Tang	NDTS	Firm's Size
Prof	0.330**					
Growth	0.330**	0.770**				
Tang	0.274**	0.490**	0.579**			
NDTS	-0.263**	-0.273**	-0.346**	-0.633**		
Firm's Size	0.037	-0.189*	-0.196	-0.035	0.036	
Firm's Age	0.079	-0.183*	-0.273**	-0.107	0.237**	0.304**

**Correlation is statistically significant at the 99% level of confidence (2-tailed).
**Correlation is statistically significant at the 95% level of confidence (2-tailed).

Table 6.6: Pearson product moment correlation coefficients test results for relationship between independent variables.

From the results presented in Table 6.6, the level of correlations does not suggest a high degree of collinearity among independent variables. The highest value of 0.770 was found to indicate the correlation between Growth and Profitability in the study of determinants of firm's capital structure. Results also indicate low correlation values between independent variables in the other two area of studies with the highest correlation values found at -0.487 (Gender and Age) and 0.540 (EEF and DF) respectively. As none of the correlation values exceed 0.80, it may be concluded that there is no significant level of multicollinearity between independent variables that might affect the outcome of the parametric test.

Although the magnitude of correlation coefficients is moderate, the lack of high correlation values does not ensure a lack of collinearity, as the combined effect of two or more independent variables may cause multicollinearity. Another method of assessing the assumption of independence is by computing the tolerance value (Tolerance) and Variance Inflation Factors (VIF), as presented in the following table 6.7.

Independent variables	Collinearity statistics	
	Tolerance	VIF
Age	0.633	1.581
Education	0.946	1.057
Experience	0.769	1.301
Gender	0.654	1.530
Ownership	0.855	1.169
IEF	0.910	1.098
DF	0.695	1.439
EEF	0.691	1.446
Liquidity	0.809	1.236
Profitability	0.394	2.537
Growth	0.329	3.041
Tangibility	0.430	2.324
NDTS	0.544	1.837
Firm's Size	0.877	1.140
Firm's Age	0.777	1.287

Table 6.7: Collinearity statistics for independent variables

Tolerance value is the amount of an independent variable's predictive ability that is not predicted by other independent variables in the equation, and VIF is the inverse of tolerance value (Hair et al., 2007). Tolerance is a very slight extension of R^2; the tolerance of an independent variable is the extent to which that independent variable cannot be predicted by the other independent variables (Miles and Shevlin, 2005). They later explain that tolerance for a variable is calculated as $1-R^2$, where the variable being considered is used as the dependent variable in a regression analysis and all other variables are used as independent variables. Tolerance varies between zero and one. A tolerance value of 0 for a variable means that it is completely predictable from other independent variables, and that there is thus perfect collinearity. If a variable has a tolerance value of 1, this means that the variable is completely uncorrelated with other independent variables. A high tolerance value means a small degree of multicollinearity,

and a tolerance value of 1.00 indicates that it is totally unaffected by other independent variables. The variance inflation factor (VIF), calculated as 1/ tolerance, and is closely related to the tolerance. The VIF is useful because it is relates to the amount that the standard error of the variable has been increased because of collinearity (Miles and Shevlin, 2005).

It is recommended that a very small tolerance value (0.10 or below) or a large VIF value (10 or above) be regarded as an indication of the existence of a multicollinearity problem (Hair et al., 2007). As presented in Table 6.5, tolerance values range from 0.329 (Growth) to 0.946 (Education). As to the value of VIF, there are no values that exceed the threshold value of 10 (the highest was 3.041). Therefore, there is no support for the existence of multicollinearity, and this indicates that the assumption of independence was met for the use of parametric tests in this study.

The previous discussions of parametric assumptions clearly indicate that all four assumptions were met, thus proving that parametric tests are, indeed, appropriate for use in this study. Parametric bivariate association tests may be performed on continuous types of data which are measured using an interval scale and have a normal distribution. Furthermore, these data have also met the homogeneity of variance and independence assumptions. It can be concluded that all the parametric assumptions are met, and can be used in this part of analysis. As types of data used in this study involve categorical data, non-parametric and parametric tests were used separately. The use of non-parametric tests is convenient as assumptions underpinning the use of parametric tests are not required (Collis & Hussey, 2009). Although parametric statistics are considered more

powerful, when assumptions are not satisfied, it is often possible to use non-parametric statistics (Saunders et al., 2009).

The following section elaborates on the types of parametric and non-parametric statistical tests used for the bivariate association test in this study.

Parametric Bivariate Tests

Having met the parametric test's underlying assumptions, the types of statistical analysis to be used in this part of the study are selected. The following section primarily discusses the tests used in the bivariate association test. Three types of parametric tests have been selected, and the details are as follows:

Pearson's Correlation Coefficient (r)

The Pearson product-moment correlation coefficient is a standardized measure of the strength and direction of association that exists between two variables measured on at least an interval scale i.e. continuous variable measured on a scale where the data can take any value within a given range (Field, 2009). The Pearson correlation coefficient, r, can take a range of values from +1 to -1. A value of 0 indicates that there is no association between the two variables. A value of greater than 0 indicates a positive association, that is, as the value of one variable increases so does the value of the other variable. A value of less than 0 indicates a negative association: that is, as the value of one variable increases, the value of the other variable decreases. This test of association

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is used to investigate the correlation between all dependent and independent variables in H_2 and partly in H_3 between firm liquidity, profitability, tangibility, non-debt tax shields and growth with the firm's capital structure.

Point-Biserial Correlation Coefficient (r_{pb})

The point biserial correlation is simply a special case of the Pearson product moment correlation applied to dichotomous and continuous variables. The point-biserial correlation coefficient, referred to as r_{pb}, is a special case of Pearson in which one variable is continuous and the other variable is dichotomous. Investigation of a statistically significant association between managers financing preferences with their gender and ownership status (in H_1) and between the firms' capital structures and their size (in H_3) involves continuous and discrete dichotomous variables. Simple transformations are performed to the dichotomous variables where one category is coded with 0 and 1 for the other.

Biserial Correlation Coefficient (r_b)

This test is used to investigate the bivariate association between firm size and firm's capital structure (in H_3). The firm's size was initially differentiated between micro, small and medium-sized based on the standardized definition of SMEs applied in Malaysia. As the proportion of micro SMEs responded to this study were very small, a decision was made to combine it with small SMEs to represent both micro and small SMEs in the same group. This transformation left the firm size categorized into two continuous

dichotomous groups, MicroSmall and Medium-sized SMEs. Investigating the relationship between these types of dichotomous variable with a continuous variable was enabled by using biserial correlation coefficient (Field, 2009). Details of the measurement of this test are discussed within the presentation of the results in the next section.

Non-parametric Bivariate Tests

Spearman's Correlation Coefficient (r_s)

The Spearman Correlation coefficient (called *Spearman's rho* or r_s) is a non-parametric measure of the strength and direction of association that exists between two variables measured on a ratio, interval or ordinal scale. It is denoted by the symbol r_s (or the Greek letter, pronounced rho). The test is used for either ordinal variables or for interval data that has failed the assumptions necessary for conducting the Pearson's product-moment correlation. This test was performed in the testing part of H_1 and H_3. Both hypotheses involve categorical variables measured at an ordinal scale. Correlations between manager's Age, Education and Experience with their financing preferences (in H_1) and between Firm age and their capital structure (in H_3) are tested to investigate the statistically significant association between the variables.

The following table summarizes the parametric and non-parametric bivariate tests used in this study.

General alternative hypothesis	Area of study	DV	IV	Bivariate test of association
H$_1$	Determinants of financing preferences	IEF, DF,EEF	Age, Education, Experience	Spearman's correlation
			Gender, Ownership	Point-Biserial correlations
H$_2$	Determinants of proportions of firm's capital structure	STF, LTF, EF	IEF, DF, EEF	Pearson's correlation
H$_3$	Determinants of firm's capital structure	DR, STDR, LTDR, DER	LIQ, PROF, TANG, NDTS, GROWTH	Pearson's correlation
			Firm Age	Spearman's correlation
			Firm Size	Biserial correlation

Note: Details of each variable are explained later in each parts of the analysis

Table 6.8: Summary of parametric and non-parametric bivariate tests used in this study

6.4 Financing preferences and manager's characteristics

The following section presents and discusses the test results, with the objective of seeking out the statistically significant association between selected independent variables and manager's preferences on Internal Equity Financing (IEF), Debt Financing (DF) and External Equity Financing (EEF). Discussions of the results are divided into 15 sub-hypotheses, to represent the testable associations between five independent variables of manager's characteristics with three dependent variables in regards to manager's financing preferences.

The variables used in this part of analysis are briefly explained, and this is followed by a discussion of the test results for each sub-hypothesis.

6.4.1 Variables used in this study

Dependent variable	Description of variable (Level of Measurement)
Manager's preference on Internal Equity Financing (IEF)	Summated score of respondents on level of preference on three types of internal equity financing (5-points Likert scale)
Manager's preference on Debt Financing (DF)	Summated score of respondents on the level of preference of seven types of debt financing (5-points Likert scale)
Manager's preference on External Equity Financing (EEF)	Summated score of responds on level of preference on four types of external equity financing (5-points Likert scale)

Independent variable	Description of variable (Level of Measurement)
Manager's Age (AGE)	Manager's age grouped into five different categories (categorical variable-ordinal)
Manager's Education (EDU)	Manager's highest level of education categorized into six different groups (categorical variable-ordinal)
Manager's Experience (EXP)	Overall length of service grouped into five different categories (categorical variable-ordinal)
Manager's Gender (GENDER)	Manager's gender categorized as Male or Female (categorical variable-nominal)
Manager's Ownership (OWN)	Manager's business ownership status i.e. holding a firm's share. Yes/No (categorical variable-nominal)

Table 6.9: Summary of Dependent and Independent Variables

Table 6.9 summarize the variables used in this study of selected manager's characteristics and their level of financing preferences. All dependent variables are measured at interval scales, using a 5-point Likert scale assessing the financing preferences among the SME managers for three different sources of financing, IEF, DF and EEF. Independent variables were measured at ordinal and nominal scale.

Due to the different level of measurement used for dependent and independent variables, two different statistical tests for bivariate association are used. Spearman's correlation coefficient is used to assess the association between manager's preference for IEF, DF and EEF with their age, level of education and experience. In addition, the association between manager's preference for IEF, DF and EEF with their gender and ownership status were tested using the point-biserial correlation coefficient.

The result of Spearman's correlation coefficients and point-biserial correlation coefficients are presented in the next two sub-sections.

6.4.2 Test of association between preference for IEF, DF and EEF with manager's characteristics (age, level of education, working experiences, gender, and business ownership)

Summated scores are used to measure the dependent variables used in this particular part of the analysis. Manager's level of financing preferences on IEF, DF and EEF were summated from three, seven and four individual scores respectively. Manager's preferences for IEF were summated from their preferences for a few types/sources of internal equity (Shareholder's Own Contributions, Retained Earnings and Funds from Parent/Subsidiaries/Associate Companies). Meanwhile, manager's preferences for DF were accumulated and aggregated from their preference for financing from Banking Institutions, Development Financial Institutions, Government funds/scheme, Cooperatives financing, Trade/supplier credit, Leasing Companies and Factoring Companies. Finally, summated scores for responses received on the level of preferences

for Equity Investment from Venture Capital Companies, Equity Investment from Business angels, Private Equity Investment from friends and family, and Private Equity Investment from unrelated companies were used to summarize manager's preferences for EEF.

The following parts present the results of the tests and discussion based on each independent variable used, so as to study the level of financing preferences among managers for IEF, DF and EEF.

Manager's Age

Manager's age is categorized into six different groups (ranks) consisting of the following: 1=Less than 25 years old, 2=26 − 35 years old, 3=36 − 45 years old, 4=46 − 55 years old, 5=56 − 65 years old and finally, 6=Over 65 years old. The following three sub-hypotheses (H_{1-1}- H_{1-3}) were developed to guide the test of association between manager's age and their level of preferences for IEF, DF and EEF.

H_{1-1}: There is a statistically significant relationship between managers' age and their preferences for IEF

H_{1-2}: There is a statistically significant relationship between managers' age and their preferences for DF

H_{1-3}: There is a statistically significant relationship between managers' age and their preferences for EEF

A summary of results from the tests accomplished is presented in the following Table 6.10.

	Hypothesis	Spearman's rho (r)	Sig.
Internal Equity Financing (IEF)	H_{1-1}	-0.023	0.807
Debt Financing (DF)	H_{1-2}	-0.085	0.354
External Equity Financing (EEF)	H_{1-3}	-0.053	0.568

Table 6.10: Spearman's correlation coefficients test results for the relationship between manager's age and different types/sources of financing.

The first three sub hypothesis (H_{1-1} to H_{1-3}) relating manager's age to their level of preferences for IEF, DF and EEF. The results presented in Table 6.10 show that there is no support for any statistically significant relationship between managers' age and their level of preferences for the three different types of financing being studied. All sub-hypotheses may therefore be rejected, confirming that there is no statistically significant evidence to support the fact that there is an association between a manager's age and their level of preferences for IEF, DF and EEF.

Manager's Education

This independent variable is measured on six different categorical (ordinal) scales, so as to capture the level of education tailored within the Malaysian environment. The first rank which is school certificates were considered to be the lowest level of education and consists of different types of school certificate obtained at secondary level of education. It is then followed by Diploma, Bachelor degree, Master degree and finally PhD.

Additionally an "other" category is included to assess any other level of education which might be the case for respondents who completed their secondary education but opted to continue with a professional certificate rather than pursuing tertiary education at university level.

For the purposes of testing the association between manager's highest levels of education and their level of preferences on three different types of financing, these sub-hypotheses were developed.

H_{1-4}: There is a statistically significant relationship between managers' level of education and their preferences for IEF

H_{1-5}: There is a statistically significant relationship between managers' level of education and their preferences for DF

H_{1-6}: There is a statistically significant relationship between managers' level of education and their preferences for EEF

The results of Spearman's correlation coefficient are presented in the following table.

	Hypothesis	Spearman's rho (r)	Sig.
Internal Equity Financing (IEF)	H_{1-4}	-0.133	0.148
Debt Financing (DF)	H_{1-5}	0.028	0.762
External Equity Financing (EEF)	H_{1-6}	*-0.320****	*0.000*

Table 6.11: Spearman's correlation coefficients test result for relationship between manager's level of education and different type/source of financing.

Of the three dependent variables tested, the test results presented in Table 6.11 show that there is a statistically significant relationship between manager's levels of education for their preferences for EEF. In terms of the strength and direction of relationship between these two variables, there is a medium negative correlation between manager's highest levels of education with their preferences for EEF, which indicates that the higher level of education the managers have, the lower their preferences for EEF. In this case, hypothesis H_{1-6} is accepted. With a significance value of 0.148 and 0.762 respectively, $H1_{-4}$ and H_{1-5} are rejected, and conclusions can be made to confirm that there is no statistically significant relationship between a manager's level of education and their preference for IEF and DF.

Manager's Experience

Five different ordinal scales were developed to measure the experience of managers with the lowest rank of less than 5 years working experience to the highest rank, with more than 20 years of experience. Spearman's correlation coefficient test was conducted to analyse the nature of the association between the manager's experience and their preference for IEF, DF and EEF. The results of the tests are presented in Table 6.12.

H_{1-7}: There is a statistically significant relationship between managers' working experiences and their preferences for IEF

H_{1-8}: There is a statistically significant relationship between managers' working experiences and their preferences for DF

H_{1-9}: There is a statistically significant relationship between managers' working experiences and their preferences for EEF

	Hypothesis	Spearman's rho (r)	Sig.
Internal Equity Financing (IEF)	H_{1-7}	-0.173	0.059
Debt Financing (DF)	H_{1-8}	-0.074	0.425
External Equity Financing (EEF)	H_{1-9}	0.028	0.760

Table 6.12: Spearman's correlation coefficients test result for relationship between manager's experience and different type/source of financing.

The result of the test presented in Table 6.12 shows that with a significance value of 0.059, 0.425 and 0.760, there are no statistically significant relationships between manager's experience and their preference for IEF, DF and EEF. Therefore, all three sub-hypotheses (H_{1-7} - H_{1-9}) are rejected indicating acceptance of the null hypothesis where there is no statistically significant evidence to support that there is a relationship between manager's experience and their preference for IEF, DF and EEF.

Manager's Gender

Data regarding manager's gender are at the nominal (dichotomous) level of measurement where respondents were given two mutually exclusive choice of answers which are either 1 (Male) or 2 (Female). As mentioned earlier, the exception for type of data enable the use of Pearson's correlation coefficient for categorical-type of data, as long as there are only two categories (Field, 2009). Data transformation was executed,

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where the dichotomous variable of 1 and 2 that represent Male and Female respectively, were changed to 0 and 1 to characterize male and female accordingly. Upon transforming the data, the point-biserial correlation coefficient which is simply a Pearson correlation coefficient with discrete dichotomy were executed to test the following three sub-hypotheses concerning the relationship between manager's gender and their preference for IEF, DF and EEF as follows;

H_{1-10}: There is a statistically significant relationship between managers' gender and their preferences for IEF

H_{1-11}: There is a statistically significant relationship between managers' gender and their preferences for DF

H_{1-12}: There is a statistically significant relationship between managesr' gender and their preferences for EEF

	Hypothesis	Point-biserial correlation (r_{pb})	Sig.
Internal Equity Financing (IEF)	H_{1-10}	-0.168	0.066
Debt Financing (DF)	H_{1-11}	-0.069	0.457
External Equity Financing (EEF)	H_{1-12}	-0.109	0.235

Table 6.13: Point-biserial correlation coefficients test result for relationship between manager's gender and different type/source of financing.

The test results show that all three sub-hypotheses (H_{1-7} - H_{1-9}) can be rejected with a significance level exceeding 0.05. It can be concluded that there is no statistically significant relationship between manager's gender and their level of financing preference for IEF, DF and EF.

Manager's Ownership Status

Manager's business ownership status was determined simply by asking the respondents whether they have any ownership of the business they are working with which also was indicated by share ownership. The raw data given was based on a mutually exclusive choice of answer where 1 represented business ownership, and 2 represented not owning or holding any business share. The raw data were transformed into 0 and 1, representing owning and not owning business respectively. Three sub-hypotheses were developed, to be tested as follows:

H_{1-13}: There is a statistically significant relationship between managers' ownership status and their preferences for IEF

H_{1-14}: There is a statistically significant relationship between managers' ownership status and their preferences for DF.

H_{1-15}: There is a statistically significant relationship between managesr' ownership status and their preferences for EEF

The test results presented in Table 6.14 show that all three hypotheses were accepted with a significance value of 0.011, 0.001 and 0.000 respectively. On the association tested between manager's ownership status and level of financing preference for IEF and DF, although there was a small correlation, there is in fact a statistically significant relationship between these variables, indicating that those who own the business do have higher preferences for IEF and DF. The strength of relationship between manager's ownership status and their preferences for DF is close to ±0.3, indicating that there is a

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close to medium-sized relationship between these variables. The same result may be found in regards to managers' preferences for EEF with a coefficient correlation, r_{pb} of -0.353 Therefore, all null hypotheses were rejected, showing that there are statistically significant relationships of manager's preference for IEF, DF and EEF with their ownership status.

	Hypothesis	Point-biserial correlation (r_{pb})	Sig.
Internal Equity Financing (IEF)	H_{1-13}	*0.230**	0.011
Debt Financing (DF)	H_{1-14}	*0.290***	0.001
External Equity Financing (EEF)	H_{1-15}	*0.353***	0.000

**Correlation is statistically significant at the 99% level of confidence (2-tailed)
*Correlation is statistically significant at the 95% level of confidence (2-tailed

Table 6.14: Point-biserial correlation coefficients test result for relationship between manager's ownership status and different type/source of financing

A summary of test results for all testable hypotheses regarding the bivariate association between manager's characteristics and their level of financing preferences is presented in the following table.

Dependent Variable	Independent Variable	Reject/Accept H_0
Manager's preference on Internal Equity Financing (IEF)	AGE (H_{1-1}), EDU(H_{1-4}), EXP (H_{1-7}), GENDER (H_{1-10})	Accept H_0
	OWN (H_{1-13})	Reject H_0
Manager's preference on Debt Financing (DF)	AGE(H_{1-2}), EDU(H_{1-5}), EXP(H_{1-8}), GENDER(H_{1-11})	Accept H_0
	OWN(H_{1-14})	Reject H_0
Manager's preference on External Equity Financing (EEF)	AGE(H_{1-3}), EXP(H_{1-9}), GENDER(H_{1-12})	Accept H_0
	EDU(H_{1-6}),OWN(H_{1-15})	Reject H_0

Table 6.15: Summary of bivariate correlation coefficient test results

In summary, manager's preferences for three different sources of financing did not have a statistically significant relationship with their age, experience and gender. This indicates that their preferences for different sources of financing were not related to these three variables. Manager's highest level of education is found to have a statistically significant negative relationship with their preferences for EEF and not with the other two sources of financing. This shows that the higher level of education the managers have, the lower their preferences for EEF. Finally, manager's ownership status is found to have a statistically significant, negative relationship with their preferences for all three sources of financing. The null hypotheses of that there are no relationship between manager's characteristics with their level of preferences for IEF, DF and EEF were accepted for H_{1-1}, H_{1-2}, H_{1-3}, H_{1-4}, H_{1-5}, H_{1-7}, H_{1-8}, H_{1-9}, H_{1-10}, H_{1-11}, and H_{1-12}. Others are rejected, indicating acceptance the alternative hypotheses.

6.5   Manager's financing preferences and proportion of firm's capital structure

Although investigating the relationship between managers' level of financing preferences and the proportion of the firm's capital structure is not the principal focus of this study, it is important to address the issue of manager's financing preferences, as this may have a significant influence on the proportion of a firm's capital structure. This particular part of the analysis aims to establish whether there is any statistically significant relationship between manager's preferences for IEF, DF and EEF and the proportion of firm's capital structure which are grouped into three different categories, namely Short Term Financing (STF), Long Term Financing (LTF) and Equity Financing (EF). The financing preferences were later tested and reported within 9 sub-hypotheses,

to assess the relationship between manager's levels of financing preferences and the proportion of the firm's capital structure

The variables used were briefly explained, followed by discussion of the test results on each sub-hypothesis accordingly.

6.5.1   Variables used in this study

Dependent variable	Description of variable (Level of Measurement)
Proportion of firm's Short-term Financing (STF)	Summated score of responses on level of proportion of four types/sources of financing (5-points Likert scale)
Proportion of firm's Long-term Financing (LTF)	Summated score of responses on level of proportion of four types/sources of financing (5-points Likert scale)
Proportion of firm's Equity Financing (EF)	Summated score of response on level of proportion of five types/sources of financing (5-points Likert scale)
Independent variable	**Description of variable (Level of Measurement)**
Manager's preference on Internal Equity Financing (IEF)	Summated score of responses on level of preference on three types of internal equity financing (5-points Likert scale)
Manager's preference on Debt Financing (DF)	Summated score of responses on level of preference on seven types of debt financing (5-points Likert scale)
Manager's preference on External Equity Financing (EEF)	Summated score of responses on level of preference on four types of external equity financing (5-points Likert scale)

Table 6.16: Summary of Dependent and Independent Variables

6.5.2 Test of association between manager's level of financing preference and the proportions of firm's capital structure.

Some indicators were primarily used to measure managers' level of preferences and proportions of firm's capital structure. The responses received for each individual indicator were then added, to create fewer variables which contain the summated scores of all indicators. The summated scores for the variables concerning manager's level of preferences were already discussed in the previous section. In this particular section, indicators regarding the proportions of firms' capital structure originally contained 14 different types of financing, which were then summated into three different variables, namely STF, LTF and EF.

The proportions of firms' STF were summated from the response received in terms of proportion of Account payable, Bank overdraft, Trade credit, and Accrued expense. Summated responses received for the proportions of firms' Notes payable, Long-term debt, Leasing and Factoring were then used to measure the overall proportion of a firm's LTF. Finally, firms' proportion of EF were aggregated from the responses received on proportion of Retained earnings, Shareholder's Own Contribution, Share capital, Capital reserved, Funds from Parent/Subsidiaries/Associate Companies in the company's balance sheet concerning types/sources of financing which falls under equity-type financing.

As mentioned earlier, the level of financing preferences among managers were measured using an interval scale, with 1 denoting Very Low Preferences and 5 representing Very

High Preferences for the source of financing under study. The same type of scale/level of measurement was used to gauge the proportion of firms' capital structure, with a five point Likert scale being used, with 1 representing Very Low Proportion and 5 signifying a Very High Proportion. As both variables were measured on an interval scale, Pearson's correlation coefficient was used to test the relationship between manager's financing preferences and the proportion of a firm's capital structure categorized as STF, LTF and EF. 9 sub-hypotheses were developed to guide the analysis. A summary of test results for Pearson's correlation coefficient are presented in the following table.

	IEF (Sig.)	DF (Sig.)	EEF (Sig.)
STF	-0.005 (0.956)	*0.192* (0.036)*	-0.130 (0.081)
LTF	0.033 (0.722)	*0.294** (0.001)*	*0.198* (0.030)*
EF	*0.388** (0.000)*	*0.337** (0.000)*	*0.444** (0.000)*

**Correlation is statistically significant at the 99% level of confidence (2-tailed)
*Correlation is statistically significant at the 95% level of confidence (2-tailed)

Table 6.17: Pearson's correlation coefficients test results for relationship between manager's financing preferences and proportion of firm's capital structure.

The following first three sub-hypotheses (H_{2-1} - H_{2-3}) were developed to guide tests of the relationship between manager's preferences for IEF with proportion of firm's capital structure, accordingly.

H_{2-1}: There is a statistically significant relationship between manager's level of financing preferences on IEF and the proportion of firm's STF

H_{2-2}: There is a statistically significant relationship between manager's level of financing preferences on IEF and the proportion of firm's LTF

H$_{2-3}$: There is a statistically significant relationship between manager's level of financing preferences on IEF and the proportion of firm's DF

The results of the test, as presented in Table 6.17, show that out of three sources of financing, managers' preferences for IEF have a statistically significant positive relationship with the proportion of firm's EF at Sig=0.000 and r=0.388. Therefore H$_{2-3}$ is accepted, indicating that there is a statistically significant medium positive relationship between managers' preferences for IEF and proportion of firm's EF. This indicates that an increase in manager's level of financing preferences for IEF will also increase the proportion of EF in their capital structure. Managers who have higher preferences for IEF seem to prefer EF over STF and LTF to fulfil their firm's financing need. This is proved by the statistically significant evidence of no relationship between manager's preferences for IEF on proportion of firm's STF and LTF.

The next three sub-hypotheses are developed to represent hypothesis testing the relationship between manager's preferences for DF and the proportion of firm's capital structure.

H$_{2-4}$: There is a statistically significant relationship between manager's financing preferences for DF and proportion of firm's STF

H$_{2-5}$: There is a statistically significant relationship between manager's financing preferences for DF and proportion of firm's LTF

H$_{2-6}$: There is a statistically significant relationship between manager's financing preferences for DF and proportion of firm's EF

The results in Table 6.17 show that all sub-hypotheses are accepted to indicate a statistically significant positive relationship between manager's preference for DF and the proportions of the firm's STF, LTF and EF. Evidence shows a small (medium) relationship between preferences for DF and the proportion of firm's STF and LTF (EF), indicating that an increase in manager's preferences for DF as a source of financing results in an increase in a firm's use of STF, LTF and EF accordingly. A close to medium and medium relationship between manager's preferences for DF and proportion of firm's LTF and EF shows that managers would prefer to use LTF and EF over STF in a condition where extra funding is needed.

Finally, the remaining three sub-hypotheses (H_{2-7} - H_{2-9}) were developed to guide the analysis of association between manager's preferences for EEF with the proportion of firm's capital structure. These sub-hypotheses are as follows:

H_{2-7}: There is a statistically significant relationship between manager's financing preferences for EEF and proportion of firm's STF

H_{2-8}: There is a statistically significant relationship between manager's financing preferences for EEF and proportion of firm's LTF

H_{2-9}: There is a statistically significant relationship between manager's financing preferences for EEF and proportion of firm's EF

Manager's preferences for EEF have a statistically significant relationship with the proportion of firm's LTF and EF with an r of 0.198 and 0.444 respectively. These results indicate that an increase in manager's preferences for EEF will also increase the

proportion of firm's LTF and EF respectively. A medium correlation between the proportion of a firm's EF and manager's preference for EEF shows that managers may opt for equity financing over long-term debt financing. There was no evidence to support the existence of a relationship between manager's preferences for EEF and the proportion of firms' STF, hence H_{2-7} is rejected.

Dependent Variable	Independent Variable	Reject/Accept H_0
Proportion of firm's Short-term Financing (STF)	IEF(H_{2-1}), EEF(H_{2-7})	Accept H_0
	DF (H_{2-4}),	Reject H_0
Proportion of firm's Long-term Financing (LTF)	IEF(H_{2-2}),	Accept H_0
	DF(H_{2-5}), EEF (H_{2-8})	Reject H_0
Proportion of firm's Equity Financing (EF)	None	Accept H_0
	IEF (H_{2-3}), DF(H_{2-6}), EEF (H_{2-9})	Reject H_0

Table 6.18: Summary of test results

The summary of test results presented in Table 6.18 shows that of the nine possible sub-hypotheses, six of them (H_{2-3}, H_{2-4}, H_{2-5}, H_{2-6}, H_{2-8}, and H_{2-9}) are accepted. These acceptances of alternative hypotheses indicate that there are statistically significant relationships between these variables at different levels of *r*. Other alternative hypotheses were rejected, as there was no proof of the existence of any statistically significant relationship between the variables under study. Overall, results indicate that manager's level of preferences for DF have a statistically significant relationship with the proportion of firm's capital structure, whereas their preferences for IEF and EFF have a statistically significant relationship only with proportion of firm's EF, and LTF and EF respectively.

6.6   Firm's capital structure and firm's characteristics

The final analysis was executed to study the association between selected firm's characteristics with firm's capital structure represented by firm's Debt Ratio (DR), Short-term Debt Ratio (STDR), Long-term Debt Ratio (LTDR) and Debt-to-Equity Ratio (DER). The analysis is separated into 28 sub-hypotheses, representing seven independent variables and four different capital structure-variables to guide the hypothesis testing and analysis in regards to this particular area of study.

A brief explanation of dependent and independent variables used is discussed, followed by explanation of the test results on each sub-hypothesis accordingly.

6.6.1   Variables and level of measurements used in this study

Table 6.19 summarizes the variables used in this part of the study. Dependent variables consist of four different indicators generally used in defining the capital structure of a business, namely the Debt Ratio (DR), Short-term Debt Ratio (STDR), Long-term Debt Ratio (LTDR) and Debt-to-Equity Ratio (DER). All these variables are measured using an interval five point Likert scale to assess their average changes in the last three years. The five point Likert scale represented four difference average changes with a neutral middle scale for no average change in the last three years. Scale 1 and 2 indicated a significant and moderate decrease respectively, while scale 4 and 5 indicated otherwise (moderate and significance increase).

Seven different variables were chosen in studying the determinants of firm's capital structure. The same level of measurement were used for five out of seven independent variables including Liquidity, Profitability, Asset Structure (Tangibility), Non-Debt Tax Shields and Growth. Summated scores were used for three of the independent variables (LIQ, PROF and GROWTH) as several indicators were used representing each and every of them accordingly. Two and three different ratios were used to study the average changes in firm's liquidity and profitability, respectively. The growth of firm's total assets and total sales were used to assess the overall changes of firm growth, and the individual score of each item were summated, together with the other two abovementioned variables, to create new summated scores for LIQ, PROF and GROWTH, and used for the purpose of further analysis of a firm's capital structure.

The other four independent variables were measured individually and responses received were straightforwardly used to further test their association with the firm's capital structure ratios. As stated earlier, a firm's asset structure (tangibility) and NDTS are measured using the same level of measurement as LIQ, PROF and GROWTH. Firm age is measured at an ordinal five levels of category. A firm's years of establishment were categorized as follows: 1= Less than 5 years, 2=5 – 9 years, 3=10 – 14 years, 4=15 – 19 years, 5=More than 20 years. Finally firm size (based on number of fulltime employees) is initially categorized into 1=Less than 5, 2=5 – 19, 3=20 – 50, 4=51 – 150 and 5=More than 150. These categories were developed to capture three different sizes of SMEs, namely, micro, small and medium-sized.

Dependent variable	Description of variable (Level of Measurement)
Debt Ratio (DR)	Average changes of firm's Debt Ratio – Total Liabilities/Total Assets (5-points Likert scale)
Short-term Debt Ratio (STDR)	Average changes of firm's Short-term Debt Ratio – Current Liabilities/Total Assets (5-points Likert scale)
Long-term Debt Ratio (LTDR)	Average changes of firm's Long-term Debt Ratio – Long-term Debt/Total Assets (5-points Likert scale)
Debt-to-Equity Ratio (DER)	Average changes of firm's Debt Ratio – Total Debt/Total Equity (5-points Likert scale)

Independent variable	Description of variable (Level of Measurement)
Liquidity (LIQ)	Summated score of responses on average changes of two liquidity ratios (5-points Likert scale)
Profitability (PROF)	Summated score of responses on average changes of three profitability ratios (5-points Likert scale)
Asset Structure/Tangibility (TANG)	Average changes of ratio between Fixed Assets/Total Assets (5-points Likert scale)
Non-Debt Tax Shields (NDTS)	Average changes of ratio between Depreciation/Total Assets (5-points Likert scale)
Firm's Growth (GROWTH)	Summated score of responses on average changes of two growth ratios (5-points Likert scale
Firm's Age (AGE)	Number of years of business established in five different categories (Ordinal/Categorical variable)
Firm's Size (SIZE)	Five different categories of size to capture three different sizes of business – Micro, Small and Medium (Ordinal/Categorical variable)

Table 6.19: Summary of Dependent and Independent Variables

The result of bivariate association tests performed (in regards to level of measurement involved) is presented in the next two sub-sections.

6.6.2 Test of association between firm's characteristics (liquidity, profitability, growth, tangibility, non-debt tax shields, firm age, and firm size) and a firm's capital structure (DR, STDR, LTDR, DER)

Three different statistical tests were used in investigating the bivariate association between variables in this part of study. Pearson's correlation coefficient test is used to analyse the relationship between dependent variables and a firm's liquidity, profitability, growth, tangibility and non-debt tax shields, while Spearman's correlation coefficient test is used to assess the association between dependent variables and firm age, which is measured on an ordinal scale. A biserial correlation coefficient is used to assess the bivariate association between firm size and its capital structure.

Test of association between firm's liquidity, profitability, growth, tangibility, and non-debt tax shields with firm's capital structure

Table 6.20 summarizes the results of a Pearson's correlation coefficient test between a firm's capital structure and a firm's liquidity, profitability, growth, tangibility and NDTS, followed by a separate discussion of the test results on the association between each five different variables with a firm's capital structure.

	Liquidity	Prof	Growth	Tang	NDTS
DR	-0.059	0.053	0.136	*0.321**	*-0.203*
STDR	*0.202*	-0.081	-0.029	0.147	*-0.395**
LTDR	0.159	0.040	0.096	0.172	*-0.468**
DER	-0.122	-0.066	0.040	*0.221*	*-0.316**

**Correlation is statistically significant at the 99% level of confidence (2-tailed)
*Correlation is statistically significant at the 95% level of confidence (2-tailed)

Table 6.20: Summary of Pearson's correlation coefficients test results

Firm's Liquidity

Current ratio and quick ratio were chosen as the basis for measuring a firm's liquidity. Summated scores of these two different indicators are then used to represent the overall average changes of a firm's liquidity in the last three years. The following four sub-hypotheses (H_{3-1}- H_{3-4}) were developed in order to guide the analysis.

H_{3-1}: There is a statistically significant relationship between firm's liquidity and firm's DR

H_{3-2}: There is a statistically significant relationship between firm's liquidity and firm's STDR

H_{3-3}: There is a statistically significant relationship between firm's liquidity and firm's LTDR

H_{3-4}: There is a statistically significant relationship between firm's liquidity and firm's DER

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The results of the Pearson's correlation coefficient show that a firm's liquidity has a statistically significant small positive relationship with a firm's STDR ($r=0.202$). This result thus indicates that, as a firm's liquidity increases, a firm's STDR also increases. However, this is not the same as with the other three capital structure ratios where there is no statistically significant evidence to support H_{3-1}, H_{3-3}, and H_{3-4}. Therefore, all of these sub-hypotheses are rejected, indicating that there is no statistically significant relationship of a firm's liquidity with a firm's DR, LTDR and DER.

Firm's Profitability

A firm's profitability is measured by three different ratios, consisting of Return on Assets (ROA), Gross Profit Margin (GPM) and Net Profit Margin (NPM). The summated scores of the average changes of these three profitability ratios were then used to test the relationship between a firm's profitability and a firm's capital structure. The following sub-hypotheses were established, to guide the analysis of the two.

H_{3-5}: There is a statistically significant relationship between firm's profitability and firm's DR

H_{3-6}: There is a statistically significant relationship between firm's profitability and firm's STDR

H_{3-7}: There is a statistically significant relationship between firm's profitability and firm's LTDR

H_{3-8}: There is a statistically significant relationship between firm's profitability and firm's DER

It is evident from the result presented in Table 6.20 that there is no support for any statistically significant relationship between a firm's profitability and firm's capital structure. Sub-hypotheses H_{3-5} - H_{3-8} may therefore be rejected, and it may be concluded that there is no statistical evidence of any relationship between a firm's profitability and a firm's DR, STDR, LTDR and DER.

Tangibility of Assets

Tangibility of assets in a firm is measured by the average changes of a ratio between a firm's fixed assets and the firm's total assets. It is a measure of a firm's levels of asset tangibility to shows the level of fixed assets owned by the firm, which might be used to support their debt financing. H_{3-9} - $H3_{-12}$ are developed to test the relationship between firms' tangibility and their capital structure. All four sub-hypotheses are presented as follows:

H_{3-9}: There is a statistically significant relationship between firm's asset structure (tangibility) and firm's DR

H_{3-10}: There is a statistically significant relationship between firm's asset structure (tangibility) and firm's STDR

H_{3-11}: There is a statistically significant relationship between firm's asset structure (tangibility) and firm's LTDR

H_{3-12}: There is a statistically significant relationship between firm's asset structure (tangibility) and firm's DER

The test results presented in Table 6.20 show that a firm's tangibility has a statistically significant medium and small positive relationship with a firm's DR and DER, with an *r* of 0.321 and 0.221 respectively. However, there is no statistically significant evidence to support the fact that there is a relationship between firm's tangibility with their STDR and LTDR. Therefore, H_{3-10} and H_{3-11} may be rejected to indicate that there are no relationship between firm's tangibility with firm's STDR and LTDR. The acceptance of H_{3-9} and H_{3-12} thus shows that when there is an increase in a firm's asset tangibility, there were also increases in a firm's debt financing.

Firm's Growth

The fourth independent variable involved in studying a firm's capital structure is measured by the summated scores of two different indicators of firm growth, which are the percentage growth of firm's total asset and total sales. These two indicators are believed to adequately signify the aspect of firm growth, and their summated scores are then tested with firm's capital structure, to establish whether there are any association between the two. The following sub-hypotheses were created and the test results were presented in Table 6.20.

H_{3-13}: There is a statistically significant relationship between firm growth and firm's DR

H_{3-14}: There is a statistically significant relationship between firm growth and firm's STDR

H_{3-15}: There is a statistically significant relationship between firm growth and firm's LTDR

$H_{3\text{-}16}$: There is a statistically significant relationship between firm growth and firm's DER

The correlation coefficients (*r*) of all four tests indicated a very small and not statistically significant evidence of relationship between firm growth and their capital structure. Therefore, all sub-hypotheses regarding the relationship between firm growth and firm's capital structure are rejected which conveys an acceptance of the null hypothesis of there are no statistically significant relationship between firm growth and their capital structure.

Non-Debt Tax Shields

This particular variable is measured according to the average changes of ratio between firm's depreciation expenses over their total assets. The sub-hypotheses developed to guide the tests of relationship between non-debt tax shields and firm's capital structures are presented as follows:

$H_{3\text{-}17}$: There is statistically significant relationship between non-debt tax shields and firm's DR

$H_{3\text{-}18}$: There is statistically significant relationship between non-debt tax shields and firm's STDR

$H_{3\text{-}19}$: There is statistically significant relationship between non-debt tax shields and firm's LTDR

H$_{3\text{-}20}$: There is statistically significant relationship between non-debt tax shields and firm's DER

The results presented in Table 6.20 support an acceptance of all sub-hypotheses to show that there is statistically significant evidence to support the relationship between non-debt tax shields with firm's capital structure. The results of the correlation coefficient (r) of -0.203 indicate a statistically significant small negative relationship between non-debt tax shields and a firm's DR. This shows that an increase in non-debt tax shield will cause a decrease in a firm's use of debt. The same situation applies to another three indicators of a firm's capital structure, where the test results shows a statistically significant medium negative relationship between non-debt tax shields and a firm's STDR, LTDR and DER. In summary, it is evident that generally there are statistically significant relationships between non-debt tax shields with firm's capital structure. This indicates that an increase in a firm's non-debt tax shields will eventually decrease the firm's use of debt.

Test of association between firm age with firm's capital structure.

Firm age was measured using an ordinal scale in five different groups ranging from less than 5 years to more than 20 years of establishment. Spearman's correlation coefficient (r_s) is used in assessing the relationship between firm age and size and a firm's capital structure, due to the type of data used to measure the independent variable. The results of the test were presented in the following Table 6.21, and discussed separately in the next two sub-sections.

	Firm Age	Sig.
Debt Ratio (DR)	-0.031	0.740
Short-term Debt Ratio (STDR)	0.022	0.813
Long-term Debt Ratio (LTDR)	-0.042	0.563
Debt-to-Equity Ratio (DER)	-0.033	0.721

Table 6.21: Spearman's correlation coefficient test results in an association between firm's ages with firm's capital structure.

The following sub-hypotheses were developed to analyse the relationship between firm age and its capital structure.

H_{3-21}: There is a statistically significant relationship between firm age and firm's DR

H_{3-22}: There is a statistically significant relationship between firm age and firm's STDR

H_{3-23}: There is a statistically significant relationship between firm age and firm's LTDR

H_{3-24}: There is a statistically significant relationship between firm age and firm's DER

Overall, there is no statistical evidence to support the acceptance of all sub-hypotheses. Therefore, all sub-hypotheses regarding the relationship between firm age and their capital structure were rejected, indicating that there are no statistically significant relationships between them.

Test of association between firm size with firm's capital structure

The initial five categories of total number of fulltime employees were initially developed to capture three different categories of SME size. Due to a very small number of responses receive from micro SMEs, these responses were combined with small SMEs to represent a group of 'smaller' SMEs, labelled MicroSmall SMEs. The following sub-hypotheses were developed to guide the test of association between firm size and their capital structure.

H_{3-25}: There is a statistically significant relationship between firm size and firm's DR

H_{3-26}: There is a statistically significant relationship between firm size and firm's STDR

H_{3-27}: There is a statistically significant relationship between firm size and firm's LTDR

H_{3-28}: There is a statistically significant relationship between firm size and firm's DER

As the new categories of SME's size became two (MicroSmall and Medium-sized), the data are considered to be a nominal (dichotomous) variable. The existence of the continuum between the two categories categorized this particular variable as continuous dichotomy (Field, 2009) and suitable for the test of bivariate association using biserial correlation coefficient (r_b). The correlation coefficient cannot be calculated directly. Point-biserial correlation coefficient must be calculated prior to adjustment of the figures using an equation. The results of the point biserial correlation coefficient are presented in the following table.

	Firm Size	Sig.
Debt Ratio (DR)	0.100	0.278
Short-term Debt Ratio (STDR)	-0.028	0.765
Long-term Debt Ratio (LTDR)	-0.024	0.798
Debt-to-Equity Ratio (DER)	0.085	0.357

Table 6.22: Point-biserial correlation coefficient test results for association between firm size with firm's capital structure.

The test results presented in Table 6.22 show a very small and not statistically significant support for all sub-hypotheses to be accepted. It can be concluded that there are no statistical significant relationship between firm size and their DR, STDR, LTDR and DER. Hence, further adjustment was not performed as the point biserial test results already proved that there are no statistically significant relationships between the variables. Therefore, H_{3-25} to H_{3-28} was rejected.

The following Table 6.23 summarize test results for the investigation between a firm's characteristics and their capital structure.

Dependent Variable	Independent Variable	Reject/Accept H_0
Debt Ratio (DR)	LIQ(H_{3-1}), PROF(H_{3-5}), GROWTH(H_{3-13}), SIZE(H_{3-25}), AGE(H_{3-21})	Accept H_0
	TANG (H_{3-9}), NDTS (H_{3-17})	Reject H_0
Short-term Debt Ratio (STDR)	PROF(H_{3-6}), GROWTH(H_{3-14}), SIZE (H_{3-26}), AGE (H_{3-22}), TANG (H_{3-10})	Accept H_0
	LIQ (H_{3-2}), NDTS(H_{3-18})	Reject H_0
Long-term Debt Ratio (LTDR)	LIQ (H_{3-3}), PROF(H_{3-7}), GROWTH(H_{3-15}), SIZE(H_{3-27}), AGE(H_{3-23}), TANG (H_{3-11})	Accept H_0
	NDTS (H_{3-19})	Reject H_0
Debt-to-Equity Ratio (DER)	LIQ (H_{3-4}), PROF (H_{3-8}), GROWTH (H_{3-16}), SIZE (H_{3-1}), AGE(H_{3-28})	Accept H_0
	TANG (H_{3-12}), NDTS (H_{3-20})	Reject H_0

Table 6.23: Summary of test results

In general, NDTS was the only variable that has a statistically significant relationship with a firm's capital structure. A firm's profitability, growth, age and size are found to not have any relationships with its capital structure. Tangibility, on the other hand, has statistically significant relationships only with firm's DR and DER, while liquidity is found to have a statistically significant relationship with a firm's STDR. In summary, a firm's capital structures are found to be significantly associated only with asset's tangibility, non-debt tax shields and liquidity. Other variables were found not to be significantly associated with firm's capital structure.

6.7 Summary and conclusions

This chapter has evaluated and reported on the results of bivariate association analysis of data obtained from SMEs within the database of Enterprise 50 award winners, with the aim of exploring and testing for probable relationships between: 1) selected manager's characteristics with manager's level of financing preferences for different sources of financing, and 2) selected firm's characteristics with firm's capital structure. Additional analysis was also performed to ascertain whether there are any associations between manager's levels of financing preferences and the proportion of a firm's capital structure.

Research questions 3 and research question 4 were developed to incorporate the analysis regarding the associations between manager's characteristics and their financing preferences, the firm's characteristics and the firm's capital structure, and finally the association between the managers' financing preferences and the proportions of the firm's capital structure.

Five independent variables were selected in the study of manager's level of financing preferences for three different sources of financing. Manager's age, gender, highest level of education, working experience and business ownership were tested to find out whether any of these characteristics were associated with their level of financing preferences. Additionally, their level of financing preferences was tested with the proportion of their firm's capital structure for any significant relationships. Finally, seven independent variables representing the firm's characteristics were selected, to

investigate whether these variables had any significant relationship with the firm's capital structure.

Different level of measurements used to quantify each variable involved in this part of the study were appropriately taken into consideration, resulting in the use of different approaches of bivariate association tests. Parametric and non-parametric tests were used accordingly, involving Pearson's, point-biserial and biserial correlation analysis (for continuous and categorical data with two categories) and Spearman's correlation (for categorical data with more than two categories).

The following table provides a summary of the significant associated independent variables for each dependent variable, followed by sections discussing each area of the study respectively.

Independent Variable	Associated Independent Variable (s)	Hypotheses	Direction of relationship
Internal Equity Financing (IEF)	Ownership Status (OWN)	H_{1-13}	+
Debt Financing (DF)	Ownership Status (OWN)	H_{1-14}	+
External Equity Financing (EEF)	Ownership Status (OWN)	H_{1-15}	+
	Highest level of education (EDU)	H_{1-6}	-
Short Term Financing (STF)	Debt Financing (DF)	H_{2-7}	+
Long Term Financing (LTF)	Debt Financing (DF)	H_{2-5}	+
	External Equity Financing (EEF)	H_{2-8}	+
Equity Financing (EF)	Internal Equity Financing (IEF)	H_{2-3}	+
	Debt Financing (DF)	H_{2-6}	+
	External Equity Financing (EEF)	H_{2-9}	+

Debt Ratio (DR)	Asset's tangibility (TANG)	H_{3-9}	+
	Non-Debt Tax Shields (NDTS)	H_{3-17}	-
Short Term Debt Ratio (STDR)	Level of liquidity (LIQ)	H_{3-2}	+
	Non-Debt Tax Shields (NDTS)	H_{3-18}	-
Long Term Debt Ratio (LTDR)	Non-Debt Tax Shields (NDTS)	H_{3-19}	-
Debt-to-Equity Ratio (DER)	Asset's tangibility (TANG)	H_{3-12}	+
	Non-Debt Tax Shields (NDTS)	H_{3-20}	-

Table 6.24: Summary of bivariate association analysis

Bivariate analysis was driven by the aims of answering the third and the fourth research questions in the study. The following discussions were focused on answering these two questions and presented, accordingly.

The third research question was as follows:

Is there any significant association between selected manager's characteristics and their level of preferences for different sources of finance, and between the selected firm's characteristics and the firm's capital structure among successful Malaysian SMEs?

Bivariate association tests were conducted, guided by 15 proposed sub-hypotheses, and these showed that only four hypotheses were accepted, and the other 11 were rejected. These results indicate that two out of five explanatory variables were significantly associated with manager's level of financing preferences for internal equity, debt and external equity financing. Interestingly, manager's ownership status is found to be significantly and positively associated with their level of financing preferences for all

three sources of financing. This tells that managers who have ownership of the business would prefer all these three sources of financing compared to those without ownership over the business. The element of 'managerial freedom' might impact their preference, as the ownership status does give them freedom to choose varieties of financing sources. Managers with business ownership do not limit the possible sources of financing to fund the business, whereas those without business ownership might have to limit their preferences, due to a certain control or policy imposed by the owner of the business itself.

In addition, the manager's highest level of education is found to have a negatively significant relationship with their preferences for EEF. The reverse relationship between these two is believed to be caused by the causal effect of external equity funding, which relates to the managerial control factor. Equity funding from outside the business may increase outsider's interference over business activity, and causes a lesser preference for this particular source of financing especially among managers with a higher education level. Their higher level of education conveys a better understanding of the causal effect of external equity funding.

Three out of seven selected firm's characteristics were found to have a statistically significant relationship with a firm's capital structure. Firms' profitability, growth, age and size, which were found to have a significant relation to a firm's capital structure in previous studies, were found not significantly associated in this study. However, non-debt tax shields, tangibility and liquidity were found to have a statistically significant relationship with one or more capital structure ratio.

Non-debt tax shields were found to be significantly associated with firm's capital structure. A negative association between this particular variable with firm's capital structure indicates that an increase in tax shields from non-debt sources would generally decrease firm's use of debt. This result confirms that for small businesses the tax benefits of using debt were overruled by tax benefits from non-debt sources. One of the main motivations behind the use of debt is interest-deductibility, which would lower a firm's tax expenses. Firms try to maximise the benefit of using debt with the accompanying financial risks involves. However, other than debt-tax shield, firms are also able to tap the tax benefits from non-debt sources. The results of this study indicate that non-debt tax shields are one of the important variables in explaining a firm's capital structure.

Tangibility is also found to be significantly correlated with firm's DR and DER. These significant positive relationships informs that when it comes to debt financing, the availability of tangible assets is important in supporting firm's debt use. Tangible assets are commonly associated with the ability of the firms to provide collateral to reduce the credit risk among debtor. Small businesses were usually required to provide collateral to support their loan application. Availability of tangible assets to be used as collateral would eventually increase the use of debt among small businesses. Finally, a firm's liquidity is found to be significantly correlated with its STDR. The positive association between these two indicates that when the liquidity levels are increases, so does their use of short-term financing. The availability of liquid assets will enable firms to fulfil their short-term funding obligations. These types of financing may serve to support a firm's working capital requirement.

This chapter has investigated the possible single relationship between two variables to identify significant relationships between selected manager's characteristics and their level of financing preferences, between proportions of firm's capital structure and manager's level of financing preferences, and between selected firm's characteristics and firm's capital structure. The analysis did not identify the interrelationships among variables in explaining variations in the manager's level of financing preferences, the proportions of a firm's capital structure and a firm's capital structure. In addition, the apparent overall explanatory power of a set of independent variables may be overstated by bivariate analysis. Therefore, multivariate regression analysis will be used to find out additional evidence as to the relationship between these independent variables in explaining variation in manager's level of financing preferences, proportions of firm's capital structure and firm's capital structure.

The following section will summarize the findings from the bivariate analysis with the aim of answering the following research question:

Is there any association between manager's financing preferences and the proportion of their firm's capital structure?

Additional analyses were conducted to study the possible relationship between manager's levels of financing preferences and the proportion of their firm's capital structure. The analyses were guided by nine sub-hypotheses and the overall results reveal that there are statistically significant and positive associations between these two. Manager's levels of financing preferences may be found to be significantly associated

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with the proportion of a firm's EF. This shows that when it comes to equity financing, managers may obtain funding either from internal equity, debt or external equity financing. On the other hand, the proportion of firm's STF is found to be significantly associated only with manager's preference for DF. This indicates that, in regard to short-term funding, managers prefer to use debt financing which relates accordingly. Finally, manager's preference for DF and EEF are found to be significantly associated with the proportion of a firm's LTF. This shows that when it comes to long-term debt financing, managers prefer to use debt (and may consider using external equity financing) rather than equity financing.

In summary, the results of bivariate association tests support the fact that there are statistically significant relationships between manager's levels of financing preferences and the proportion of their firm's capital structure.

Chapter 7

Multivariate Analysis

7.1   Introduction

The previous chapter reported the results of tests aimed at establishing whether there were any statistical significant associations between manager's level of financing preferences and selected independent variables representing manager's characteristics. In addition, bivariate tests were performed to look at whether there were any associations between the managers' level of financing preferences and the proportion of their firm's capital structure. Finally, the chapter examined whether there were any relationships between firms' capital structures and certain firm characteristics variables. This chapter will extend the analysis with the objective to answer the following questions:

1.   What is the influence of selected manager's characteristics on the level of financing preferences of SME managers for different sources of financing, where the interactive effect between explanatory variables is taken into account

2.   What is the influence of managers' level of financing preferences for different sources of financing on the proportion of a firm's capital structure, if the interactive effect between the explanatory variable is taken into account; and

3.   What is the influence of selected firm's characteristics on the firm's capital structure where the interactive effect between explanatory variables is taken into account

Multiple regression analyses were performed in two stages, to test and establish models to describe the determinants of manager's level of financing preference, the determinants of the proportion of the firm's capital structure and the determinants of the firm's capital structure. Results of the tests were reported in three main sections accordingly, after discussions regarding the justification for the use of linear regression analysis, and assumptions about regression analysis.

7.2   Regression analysis

The relationship between two variables as measured in the previous chapter is very useful in predicting the outcome of one variable from another (Field, 2009). Regression analysis is a means of predicting an outcome variable from one or several predictor variables. Justifying and explaining of the relationships between two or more variables, where the change in one variable is caused by other variables (Saunders et al., 2009) is the main focus of causality study as this study was more concerned with learning why, which is how one variable causes changes in another (Cooper and Schindler, 2003) . The proportion of variations or changes in one variable can be statistically explained using regression analysis which focusing on the cause-and-effect relationship between variables (Saunders et al., 2009). In causal studies, it is hypothesized that changes in outcome variable was caused by the changes in one or more explanatory variables. Cooper and Schindler (2003) point out that *"meeting the ideal standard of causation requires that one variable always causes another and no other variable has the same causal effect"*. They added that the possibilities of causal relationship between variables can be classified into three different ways, namely, symmetrical, reciprocal and

asymmetrical relationship. The latter suggest that changes in the outcome variable are dependable to the changes in the predictor or explanatory variable. The focus of this part of analysis is to understand of the causality of relationships between variables (how predictor variables affects, influence or responsible for changes in the outcome variable).

Multiple regression is the main analysis performed in this chapter to establish a model in predicting the managers' level of financing preferences, the proportions of a firms' capital structure and the firms' capital structure from a set of manager's characteristics, manager's level of financing preferences and selected firm's characteristics, respectively. The suggested model for each area of study is presented accordingly.

Regression's methods

Field (2009) suggests that there are three different methods of selecting predictors to be included in the model, namely hierarchical, forced entry and stepwise methods. In the first method, the model's known predictors are selected based on past work and hierarchically included into the model according to the order of their importance. New predictors were then entered, either using the same methods or two other two methods. Forced entry on the other hand is a method in which all predictors are forced into the model simultaneously without considering their order of importance as in the hierarchical method. Stepwise methods are differentiated between forward and backward methods. In forward method, an initial model is defined and the best predictors were then selected automatically. The backward method is the opposite of the

forward method, in which all predictors are placed in the model and then their contribution to the model is compared against the removal criterion.

In this study, two stages of regression analyses were executed, with the hierarchical and forced entry methods being used as the regression methods in the first stage. Selection on which predictors to use was primarily based on the previous literature, and the results from the bivariate analysis were presented in the previous chapter. As recommended by Field (2009), suggested models were developed based on past research, where meaningful predictors were selected based on their order of importance. Regression analysis was performed, in which all predictors were entered into the model and the output was examined to see which predictors contributed substantially to the model's ability to predict the outcome variable.

In the second stage of regression analysis, once the important predictors were established, analysis was rerun using forward stepwise method, to include only the important predictors to find out the individual contribution of each predictor. The results were then used to define the regression model in the second stage of the regression analysis. The final regression models were established based on the results of the second stage of analysis, and discussed thoroughly in the sections regarding each area of study.

The following section discusses the assumptions of the regression analysis.

7.2.1 Assumptions of regression analysis

Assumptions of regression analysis mainly concern the measurement and distribution of data involved in the regression analysis.

The following assumptions were made about the nature of the data concerning the level of measurement used for both dependent and independent variables in regression analysis. In the case of outcome variables, all variables should be measured on a continuous (interval or ratio) scale. Predictor variables, on the other hand should be measured on a continuous scale, or if the independent variables are measured on categorical scales, they can be used after a little recoding.

The first assumption on measurement of outcome variables was met, as all dependent variables were measured on a continuous scale. However, assumption 2 was not met as some of the predictor variables used in this study were measured on categorical scales with more than two categories. To include these groups as predictors in the regression model, the data need to be transformed into categorical data with only two categories, as regression assumptions clearly indicate that predictor variables must be measured at continuous or categorical scale with only two categories.

The following table 7.1 summarize all the predictor variables involve;

Predictor variable	Description of variable (Level of Measurement)	Number of groups	Number of dummy variables
Manager's Age (AGE)	Manager's age (categorical variable-ordinal)	Five	Four
Manager's Education (EDU)	Manager's highest level of education (categorical variable-ordinal)	Six	Five
Manager's Experience (EXP)	Overall length of service (categorical variable-ordinal)	Six*	Five
Firm Age (AGE)	Number of years of business established in five different categories (Ordinal/Categorical variable)	Five	Four

* Including new category (None) representing manager's with no previous business/working experience

Table 7.1: Categorical variables in regression model

Four predictor variables involved need to be transformed to satisfy this particular assumption of measurement as these groups cannot be distinguished using a single variable coded with zeros and ones (Field, 2009). The transformation involved was to create several dummy variables via dummy coding as a way of representing groups of people using only zeros and ones. Eight basic steps were involved, resulting in the creation of 18 dummy variables for manager's age, level of education and experience (in a study of determinants of manager's level of financing preference) and firm age (in a study of determinants of a firm's capital structure). These data transformations fulfil all the assumptions of measurement required for the use of regression analysis. The next section discussed the remaining regression assumptions regarding the distribution of data.

A number of assumptions were made about the distribution of the outcome variable and the distribution of the residuals. In the case of multivariate distribution that contains

more than one variable, consideration is mainly focused on joint distributions, with the following four assumptions (Miles and Shevlin, 2001);

Assumption 1: At each value of outcome variable, the distribution of the residuals is normal.

To test the normality of residuals, histogram and normal probability plots of the residuals were included and presented in Appendix III. The histogram should look like a normal distribution with a bell-shaped curve. SPSS draws a curve on the histogram to show the shape of the residuals distribution. The normal probability plot shows up deviations from normality. The straight line in this plot represents a normal distribution, and the points represent the observed residuals. In a perfectly normally distributed data set, all points will lie on the line. The more distance the dots from the normality line, the larger the deviation from normality.

In this study, the histograms and P-P plots indicate that the distribution of residuals at each value of outcome variable is found to be roughly normal. The P-P plots also show that, although there are indications of deviation from normality, they are not significantly large. These conditions lead to the conclusion that this particular assumption of normality is met.

Assumption 2: The variance of the residuals at every set of values for the predictor variable is equal. This assumption that the variance is equal is called homoscedasticity (if the assumption of equality is not satisfied, the condition is call heteroscedasticity).

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In order to check whether this particular assumption is met, a graph of *ZRESID against *ZPRED was plotted to determine whether the assumption of random errors and homoscedasticity have been met. *ZRESID shows the values of standardized residuals, or errors which are the standardized differences between the observed data and the values that model predicts, while *ZPRED indicates the standardized predicted values of the dependent variable based on the model. In this study, all graphs (as shown in Appendix IV) show that the assumption of equality of variance was met as the dots are randomly and evenly dispersed around zero throughout the plot. The pattern also indicates that the assumption of linearity has been met.

Assumption 3: At every possible value of the outcome variables, the expected (mean) value of the residuals is equal to zero.

This particular assumption is tested and justified by looking at the value of mean from the histogram presented in Appendix III. The value of mean for each outcome variable was summarized in the following table 7.2.

Outcome variable	Mean
Internal Equity Financing (IEF)	2.39E-15
Debt Financing (DF)	1.81E-15
External Equity Financing (EEF)	8.93E-16
Short Term Financing (STF)	3.11E-16
Long Term Financing (LTF)	1.04E-17
Equity Financing (EF)	1.59E-16
Debt Ratio (DR)	1.72E-16
Short Term Debt Ratio (STDR)	-1.21E-15

Long Term Debt Ratio (LTDR)	-1.08E-16
Debt-to-Equity Ratio (DER)	6.28E-16

Table 7.2: Mean of outcome variables

The value of the mean of the residuals of the outcome variables shows a value that is very close to zero. These indicate an acceptance of this assumption of normally distributed data to enable the use of parametric tests in conducting multivariate analysis.

Assumption 4: For any two cases, the expected correlation between the residuals should be equal to zero. This is referred to as the independence assumption, or a lack of autocorrelation.

Durbin-Watson statistics were selected in the regression analysis with SPSS to provide evidence that the independence assumption is met. It is assumed that for any two observations, the residual terms should be uncorrelated or independent. The Durbin-Watson test is used to tests whether adjacent residuals are correlated. The test statistic can vary between 0 and 4 with a value of 2 meaning that residuals are uncorrelated. A value greater than 2 indicates a negative correlation between adjacent residuals, while a value below 2 indicates otherwise. Field (2009) suggests that as a very conservative rule of thumb, values less than 1 or greater than 3 are definitely cause for concern. This rule of thumb was used to test this particular assumption. Table 7.3 provides a summary of Durbin-Watson statistics for both stages of regression analysis.

Outcome variable	Durbin-Watson statistic	
	Stage 1	Stage 2
Internal Equity Financing (IEF)	1.842	1.899
Debt Financing (DF)	2.083	1.871
External Equity Financing (EEF)	1.804	1.795
Short Term Financing (STF)	1.953	1.955
Long Term Financing (LTF)	2.094	2.087
Equity Financing (EF)	1.661	1.705
Debt Ratio (DR)	1.460	1.373
Short Term Debt Ratio (STDR)	1.976	1.813
Long Term Debt Ratio (LTDR)	1.645	1.506
Debt-to-Equity Ratio (DER)	1.893	1.791

Table 7.3: Summary of Durbin-Watson statistics

Durbin-Watson test results show that for every outcome variable, the Durbin-Watson statistics are found to be between 1 and 2 which indicates that this particular assumption of lack of autocorrelation has been met.

As all regression assumptions regarding measurement and distribution of data have been met, the following section begins the discussion of the regression analysis executed with an objective of establishing models to predict manager's level of financing preferences, the proportion of a firm's capital structure and a firm's capital structure. The results of the first stage of regression analysis performed in this study are presented in Appendix V. Discussions of regression results for each area under study are based on the second stage of regression analysis, presented as follows.

7.3 Determinants of managers' level of financing preferences

Multivariate analysis starts with a discussion of the models describing the determinants of managers' level of financing preferences for three different sources of financing. A general linear regression model is presented in the following equation (7.1) to show the possible model in predicting the outcome variable.

$$FP_{IEF, DF, EEF} = \alpha + \beta_1 OWN_i + \beta_2 GENDER_i + \beta_3 EDU_i + \beta_4 AGE_i + \beta_5 EXP_i + \varepsilon \qquad (7.1)$$

Where;

$FP_{IEF, DF, EEF}$ = Manager's Level of Financing Preferences on IEF, DF and EEF

α = Model's intercept

β_{1-5} = Regression coefficients associated with variable 1 to 5

AGE = Manager's Age

$GENDER$ = Manager's Gender

EDU = Manager's Level of Education

EXP = Manager's Length of Working Experience

OWN = Manager's Ownership Status

ε = Residual term

The selected predictor variables in predicting the outcome variable (the level of financing preferences among managers) were included as based on previous literature. In addition, results of bivariate association tests were also used to direct the order of

importance of each predictor variable in predicting the outcome variable. The residual term, ε, which represents the difference between the participant's predicted and obtained scores, is often ignored in conceptualization of the model (Field, 2009). As mentioned earlier, regression analyses are performed in two stages, whereby the hierarchical regression and forced entry are used in the first stage, while the forward stepwise method is then applied based on the results of the first stage.

In the first stage, predictor variables were hierarchically entered based on their importance. Manager's business ownership status is found to be significantly correlated with all the outcome variables, and was placed in the first level of hierarchy in the regression analysis. All other predictors were then entered using the forced entry method into the regression model. Gender is the second predictor entered into the model, followed by three different hierarchies for 13 dummy variables representing three main predictor variables (EDU, AGE and EXP). All related dummy variables had to be entered in the same block. If there was more than one variable that was measured in the categorical scale and needed to be transformed into dummy variables, these dummy variables had to be entered in a different block. This meant that only dummy variables that have recoded the same variable needed to be entered in the same block (Field, 2009). Results from the first stage of regression analysis were then analysed, followed by the second stage, which only included all predictors that were found to be statistically significant in predicting the outcome variable.

The following sections discuss the results of the tests involved in establishing the regression model in predicting three different outcome variables, accordingly.

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7.3.1 Manager's level of financing preferences for IEF

Regression tests were executed as planned, so as to establish a model predicting manager's level of financing preferences for IEF. Initial results from the linear regression tests provide a summary of correlation matrix which is extremely useful in getting a rough idea of the relationships between predictors and the outcome, and also useful to look for the existence of multicollinearity, if there are substantial correlations ($r > 0.9$) between them (Field, 2009).

The correlation matrix shows that few predictors were found to have a statistically significant relationship with the outcome variable. They are ownership status, gender, level of education (Bachelor vs. School Cert, Bachelor vs. Diploma) and experience (more than 20 years vs. none). It was found that ownership status correlates best with the outcome ($r = -0.230$, $p < 0.05$) compared to the others and it is likely that it will best predict the level of financing preferences for IEF among managers. Meanwhile, there was no sign of multicollinearity between predictor variables, as the highest statistically significant value of correlation coefficient (r) was found at 0.387.

A summary of the test results for the first stage of regression analysis were presented in the Appendix. Five hierarchical stages involved resulting in five different models. In model 1 the correlation coefficient is found at 0.203 with an R^2 of 0.053. This shows that ownership status accounts for only 5.3% of the variation in manager's level of preferences for IEF. However, when all predictors were included in the regression model, the correlation coefficient and R^2 increased to 0.495 and 0.245 respectively. The

inclusion of the other variables explained another 19.2% variation in the outcome variable.

Results for the test of whether the model is significantly better at predicting the outcome was presented in the ANOVA table. The F-ratio represent the ratio of improvement in prediction that results from fitting the model, relative to the inaccuracy that still exists in the model. If the value of F is greater than 1, then it is proved that the improvement due to fitting the regression model is much greater than the inaccuracy within the model. All models were found to be statistically significant at $p < 0.05$ with F-ratios greater than 1. The next part of the output is concerned with the parameters of the model, which were shown in the coefficient table to indicate the individual contribution of each predictor to the model designated by b-values.

In all five different stages of hierarchical regression, it was found that model 1(with the highest F) and model 5 (with R of 0.245) were the best models in predicting the manager's level of financing preferences for IEF. Within these two models, four variables were found to be statistically significant and included in further regression analysis using stepwise forward regression. The four variables are ownership status, gender, level of education (Bachelor vs. School Cert) and age (4655 vs. Over 65).

A summary of test results is presented in the following table 7.4.

Correlations

		IEF	Ownership	Gender	Bachelor vs. School Cert	4655 vs. Over 65
Pearson Correlation	IEF	1.000	.230	-.168	-.158	-.147
	Ownership	.230	1.000	-.328	.020	-.025
	Gender	-.168	-.328	1.000	.026	-.139
	Bachelor vs. School Cert	-.158	.020	.026	1.000	-.056
	4655 vs. Over 65	-.147	-.025	-.139	-.056	1.000
Sig. (1-tailed)	IEF	.	.006	.033	.043	.055
	Ownership	.006	.	.000	.413	.393
	Gender	.033	.000	.	.388	.065
	Bachelor vs. School Cert	.043	.413	.388	.	.272
	4655 vs. Over 65	.055	.393	.065	.272	.

Model Summary[b]

					Change Statistics					
Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.230[a]	.053	.045	.54766	.053	6.593	1	118	.011	1.899

ANOVA[b]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	1.977	1	1.977	6.593	.011[a]
	Residual	35.392	118	.300		
	Total	37.369	119			

a. Predictors: (Constant), Ownership
b. Dependent Variable: IEF

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	3.137	.066		47.238	.000
	Ownership	.259	.101	.230	-2.568	.011

a. Dependent Variable: IEF

Table 7.4: Summary of linear regression test results for manager's level of financing preferences for IEF.

Results from the linear regression tests show that only the first three predictors were found to have a statistically significant relationship with the outcome variable. It was also found that ownership status was the only variable that was statistically significant in predicting the manager's level of financing preferences for IEF. However, this predictor

only accounted for 5.3% variations of the outcome variable. The final model is as follows:

$$FP_{IEF} = 3.137 + 0.26OWN$$

The value of b for ownership (0.26) indicates a positive relationship between the predictor and the outcome variable. It can be concluded that managers who have business ownership have a higher level of preferences for IEF compared to those who do not. This also suggests that managers with business ownership prefer to use internal financing either through retained earnings, own contributions or funding from parent/subsidiaries/associate companies to finance their business activities, compared to those who did not have business ownership.

In summary, linear regression tests for predicting the manager's level of financing preferences for IEF prove that of all five predictors, ownership status was found to be the only predictor that was significantly able to predict the outcome variable from the initial model suggested. Even though other predictors (gender, education and age) were initially found to have the ability to predict the outcome variable, further analysis proved that they were not. The final model was found to be significant, but did not tell much about the variation in outcome variables. It may be concluded that there might be another predictors (other than manager's age, gender, level of education, working experience and business ownership status) that would be able to predict the manager's level of financing preferences for IEF.

7.3.2 Manager's level of financing preferences for DF

In this part of establishing the model for predicting the manager's level of financing preferences for DF, the initial model replicates the model predicting the manager's level of financing preferences as in the equation (6.1). Two stages of regression analysis were executed as planned and results of the first stage of regression analysis are presented in the Appendix. In the first stage of regression analysis, using hierarchical and forced entry regression methods, the results of the correlation matrix show that ownership, education (Bachelor vs. Master Degree), age (4655 vs. 3645) and experience (More than 20 years vs. 10-14) were initially found to have a statistically significant relationship with the outcome variable at $p < 0.05$.

Results also show that all models were statistically significant in predicting the outcome variable. The first model, which includes ownership as a single predictor for the outcome variable, shows that this particular predictor only accounts for 8.4% of the variation in manager's level of financing preferences for DF. The fifth model covering all predictors correlates at 0.521 with the outcome variable and accounts for another 18.8% of variation in manager's level of preferences for DF. The F-ratio also indicates that model 1 is statistically significant F-ratio of 10.824 with all models having an F-ratio greater than 1. All other models are also found to be statistically significant.

The following table 7.5 presented coefficient and collinearity statistics for regression model 1 and model 5. Three predictors were found to be significant in predicting the outcome variable within these two models. All three predictors were included in further regression, using forward stepwise regression analysis to find out the individual contribution of each predictor. Results of forward stepwise regression analysis are presented as follows:

Correlations

		DF	Ownership	Bachelor vs. Master Degree	More than 20 years vs. 10-14
Pearson Correlation	DF	1.000	.290	-.154	.226
	Ownership	.290	1.000	.114	.197
	Bachelor vs. Master Degree	-.154	.114	1.000	.116
	More than 20 years vs. 10-14	.226	.197	.116	1.000
Sig. (1-tailed)	DF	.	.001	.046	.007
	Ownership	.001	.	.107	.016
	Bachelor vs. Master Degree	.046	.107	.	.103
	More than 20 years vs. 10-14	.007	.016	.103	.

Model Summary[d]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	Change Statistics F Change	Change Statistics df1	Change Statistics df2	Change Statistics Sig. F Change	Durbin-Watson
1	.290[a]	.084	.076	.75618	.084	10.824	1	118	.001	
2	.346[b]	.120	.104	.74454	.036	4.718	1	117	.032	
3	.395[c]	.156	.134	.73210	.036	5.012	1	116	.027	1.871

ANOVA[d]

Model		Sum of Squares	Df	Mean Square	F	Sig.
1	Regression	6.189	1	6.189	10.824	.001[a]
	Residual	67.473	118	.572		
	Total	73.663	119			
2	Regression	8.805	2	4.402	7.941	.001[b]
	Residual	64.858	117	.554		
	Total	73.663	119			
3	Regression	11.491	3	3.830	7.146	.000[c]
	Residual	62.172	116	.536		
	Total	73.663	119			

a. Predictors: (Constant), Ownership
b. Predictors: (Constant), Ownership, Bachelor vs. Master Degree
c. Predictors: (Constant), Ownership, Bachelor vs. Master Degree, More than 20 years vs. 10-14
d. Dependent Variable: DF

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Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.975	.092		32.440	.000
	Ownerships	.458	.139	-.290	-3.290	.001
2	(Constant)	3.050	.097		31.541	.000
	Ownership	.493	.138	-.312	-3.567	.001
	Bachelor vs. Master Degree	-.426	.196	-.190	-2.172	.032
3	(Constant)	2.958	.104		28.575	.000
	Ownership	.435	.138	.275	-3.148	.002
	Bachelor vs. Master Degree	-.468	.194	-.208	-2.414	.017
	More than 20 years vs. 10-14	.396	.177	.196	2.239	.027

a. Dependent Variable: DF

Table 7.5: Summary of linear regression analysis test results for manager's level of financing preferences for DF.

Interestingly, all three predictors were found to have an ability to predict the outcome variable. The final regression model is as follows:

$$FP_{DF} = 2.958 + 0.435OWN - 0.468EDU + 0.396EXP$$

All three predictors are found to be statistically significant, and account for 15.6% variation in managers' level of preferences for DF. Managers' level of financing preferences for DF and their ownership status are positively correlated, which means that managers who have business ownership have higher preferences for DF than those who do not. This shows that managers who own the business also have higher preferences for debt for business funding. A positive significant association may also be found between the outcome variable and managers' level of experience. In this case, it was between the baseline categories (More than 20 years) with those with 10-14 years of experience. This result means that managers who have an experience between 10-14 years have a higher preference for DF than those experienced managers. This also shows that the change in the manager's level of financing preferences for DF is greater for the

10-14 years group than it is for the more than 20 years group. The level of financing preferences for DF increases more for the group of manager's with 10-14 years level of experience than those with more than 20 years' experience. This also suggests that fewer experienced managers have a higher preference for DF than those with more than 20 years of experience.

On the other hand, managers' highest level of education is found to have a statistically significant negative relationship with their preferences for DF between the baseline category (Bachelor Degree) and Master Degree. There is a statistically significant difference between these two groups, in which the level of financing preferences for DF decreases more for the group of managers with master degree than those with a bachelor's degree. This means that the higher the level of education, the lower the preferences for DF.

In summary, DF as a source of financing is found to be preferred by less experienced manager with business ownership. However, this source of financing is found to be less preferred by managers who possess a higher level of education than Bachelor degree.

7.3.3   Manager's level of financing preferences for EEF

The final analysis focuses on the manager's level of financing preferences for EEF. The correlation matrix shows that business ownership, education and experience were found to be significantly correlated with the outcome variable at $p<0.05$. This initial model shows that business ownership accounts for only 12.4% of the variation in managers'

level of preferences for EEF. In the final model, where all predictors are included in the model, the R^2 increased to 0.305 or 30.5% which shows that the other predictors account for another 18.1% of variation in the outcome variable. All model's F-ratios are found to be greater than 1 and statistically significant at $p < 0.05$, which shows that the improvement due to fitting the regression model is much greater than the inaccuracy within the model. Within all models, only two predictors were found to be statistically significant in predicting the outcome variable, and were included in the second stage of regression analysis to find out the individual contribution of each predictor in the regression model to predict the level of financing preferences for EEF among managers. The results of the regression analysis are presented as follows:

Correlations

		EEF	Ownership	Bachelor vs. Master Degree
Pearson Correlation	EEF	1.000	.353	-.268
	Ownership	.353	1.000	.114
	Bachelor vs. Master Degree	-.268	.114	1.000
Sig. (1-tailed)	EEF	.	.000	.002
	Ownership	.000	.	.107
	Bachelor vs. Master Degree	.002	.107	.

Model Summary^c

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.353^a	.124	.117	.73523	.124	16.765	1	118	.000	
2	.470^b	.220	.207	.69668	.096	14.420	1	117	.000	1.795

ANOVA^c

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9.063	1	9.063	16.765	.000^a
	Residual	63.787	118	.541		
	Total	72.849	119			
2	Regression	16.062	2	8.031	16.546	.000^b
	Residual	56.788	117	.485		
	Total	72.849	119			

Correlations

		EEF	Ownership	Bachelor vs. Master Degree
Pearson Correlation	EEF	1.000	.353	-.268
	Ownership	.353	1.000	.114
	Bachelor vs. Master Degree	-.268	.114	1.000
Sig. (1-tailed)	EEF	.	.000	.002
	Ownership	.000	.	.107
	Bachelor vs. Master Degree	.002	.107	.

Model Summary[c]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.353[a]	.124	.117	.73523	.124	16.765	1	118	.000	
2	.470[b]	.220	.207	.69668	.096	14.420	1	117	.000	1.795

a. Predictors: (Constant), Ownership
b. Predictors: (Constant), Ownership, Bachelor vs. Master Degree
c. Dependent Variable: EEF

Coefficients[a]

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.
1	(Constant)	2.151	.089		24.122	.000
	Ownership	-.555	.135	-.353	-4.095	.000
2	(Constant)	2.274	.090		25.129	.000
	Ownership	.611	.129	.388	-4.726	.000
	Bachelor vs. Master Degree	-.697	.184	-.312	-3.797	.000

a. Dependent Variable: EEF

Table 7.6: Summary of linear regression analysis test results for manager's level of financing preferences for EEF.

Regression tests using the forward stepwise method shows that business ownership and level of education (Bachelor vs. Master degree) have a statistically significant ability to predict managers' level of financing preferences for EEF. In the first model, where business ownership is included as the only predictor in the regression model, the model shows 12.4% variation in the outcome variable. When the second predictor is included, it has increase the ability of the model by 9.6% in explaining the variation in the manager's level of financing preferences for EEF. The final model is as follows:

FP$_{EEF}$= 2.274 + 0.611OWN - 0.697EDU

The results show that managers who do have ownership in the business have higher
preferences for EEF than those who do not. On the other hand, there is a statistically
significant difference between managers with a Bachelors degree and those with Masters
Degree in term of their level of preferences for EEF. Preferences for EEF among
managers with Master Degree decrease greater than those with a Bachelor Degree. This
shows that preferences for EEF decrease when manager's level of education increases,
where managers with higher level of education are found to have less preference for this
particular source of financing.

7.4 Determinants of the proportions of firm's capital structure

The following analyses were included to find out whether manager's level of financing
for three different sources of financing (IEF, DF and EEF) could have an ability to
predict the proportion of their firm's capital structure differentiated into three categories
namely STF, LTF and EF. The regression model seeks to establish whether proportions
of a firm's capital structure can be predicted by manager's level of financing
preferences. Results from bivariate association analyses show that manager's level of
financing preferences for EEF is found to be significantly correlated with all three
outcome variables, while their preferences for DF and IEF are found to be significantly
associated with LTF and EF, and LTF, respectively. The following regression model
generalized these ideas as follows:

$$PCS_{STF, LTF, EF} = \alpha + \beta_1 FP_{EEF} + \beta_2 FP_{DF} + \beta_3 FP_{IEF} + \varepsilon \qquad (7.2)$$

Where;

$PCS_{STF, LTF, EF}$ = Proportion of firm's capital structure (STF, LTF and EF)

α = Model's intercept

β_{1-3} = Regression coefficients associated with variable 1 to 3

FP_{IEF} = Manager's level of financing preferences for IEF

FP_{DF} = Manager's level of financing preferences for DF

FP_{EEF} = Manager's level of financing preferences for EEF

ε = Residual term

The following sections investigate into these particular ideas and discussed within the proportion of firm's STF, LTF and EF accordingly.

7.4.1   Proportion of firm's STF

The first outcome variable is the proportion of a firm's STF. The correlation matrix reveals that of the three predictors, EEF and DF are the only predictors found to be significantly correlated with the outcome variable. The model summary shows that only 2.6% variation in the outcome variable was predicted when EEF is used as the single predictor in the regression model. In the second model, where all IEF and DF were included, this model increases its ability to explain the variation in proportion of a firm's STF by approximately 11%. The inclusion of the two predictors has increased the ability

of the model to explain the variation in the outcome variable. The first model where manager's level of financing preferences for EEF is the only predictor included is found to be not statistically significant at p=0.081. However, the second model was found to be statistically significant at $p < 0.05$ with an *F*-ratio of 6.039. Results also indicate that within these two models, two predictors were found to be statistically significant in predicting the outcome variable, and were included in the following analysis using forward stepwise to analyse further the individual contribution of each predictor. The results of the second stage of regression analysis are presented as follows:

Correlations

		STF	EEF	DF
Pearson Correlation	STF	1.000	-.160	.192
	EEF	-.160	1.000	.540
	DF	.192	.540	1.000
Sig. (1-tailed)	STF	.	.040	.018
	EEF	.040	.	.000
	DF	.018	.000	.

Model Summary[c]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.192[a]	.037	.029	.77646	.037	4.521	1	118	.036	
2	.367[b]	.135	.120	.73898	.098	13.274	1	117	.000	1.955

ANOVA[c]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.725	1	2.725	4.521	.036[a]
	Residual	71.141	118	.603		
	Total	73.867	119			
2	Regression	9.974	2	4.987	9.132	.000[b]
	Residual	63.893	117	.546		
	Total	73.867	119			

a. Predictors: (Constant), DF
b. Predictors: (Constant), DF, EEF
c. Dependent Variable: STF

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Coefficients^a

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.333	.261		8.939	.000
	DF	.192	.090	.192	2.126	.036
2	(Constant)	2.490	.252		9.878	.000
	DF	.393	.102	.393	3.847	.000
	EEF	-.375	.103	-.372	-3.643	.000

a. Dependent Variable: STF

Table 7.7: Summary of linear regression analysis test results for proportion of a firm's STF

Further analysis reveals that both predictors are able to predict the outcome variable and accounts for its 13.5% variation. Both models are statistically significant, with an F-ratio greater than 1, and the final regression model is established as follows:

$$PCS_{STF} = 2.490 + 0.393DF - 0.375EEF$$

The regression model shows that manager's level of financing preferences for DF and EEF are found to have a statistically significant positive and negative relationship with the proportion of a firm's STF, respectively. The positive relationship between manager's level of financing preferences for DF and the proportion of their firm's STF indicates that as their preference increases for DF increase, the proportion of their firm's STF also increase. A negative relationship between manager's levels of preferences for EEF with proportion of a firm's STF shows that as manager's preference for EEF increase, the proportion of their firm's STF will decrease. This means that as managers prefer EEF as their source of financing, it will decrease their firm's use of STF.

7.4.2 Proportion of firm's LTF

In this section, analyses are performed to establish the model to predict the proportion of a firm's LTF, using managers' level of financing preferences for different sources of financing. The previous regression model is replicated and hierarchical and forced entry regression methods are used in this first stage of analysis. Results show that EEF and DF are predictors that are significantly correlated with the outcome variable. Only 3.9% of variations in the proportion of a firm's LTF were explained in the first model with EEF as the only predictor used. In model 2, where two other predictors were included, the model's ability in explaining the variations in the outcome variable is slightly increased to 9.2%.

Both models were found to be statistically significant with an *F*-ratio of 4.836 and 3.900, respectively. Coefficient results show that DF is the only predictor that is statistically significant in predicting the outcome variable. In the second stage of the regression analysis, DF is used as the only predictor variable using forward stepwise regression method. Results from this stage of analysis are presented in table 7.8.

Correlations

		LTF	DF
Pearson Correlation	LTF	1.000	.294
	DF	.294	1.000
Sig. (1-tailed)	LTF	.	.001
	DF	.001	.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.294[a]	.087	.079	.67197	.087	11.191	1	118	.001	2.087

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	5.053	1	5.053	11.191	.001[a]
	Residual	53.281	118	.452		
	Total	58.335	119			

a. Predictors: (Constant), DF
b. Dependent Variable: LTF

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.430	.226		6.330	.000
	DF	.262	.078	.294	3.345	.001

a. Dependent Variable: LTF

Table 7.8: Summary of linear regression analysis test results for proportion of firm's LTF

Further analysis reveals that although EEF and DF were found to be statistically significant in predicting the proportion of a firm's LTF, the final model only includes DF as a sole predictor for the outcome variable. The final model accounts for 8.7% of variation in the outcome variable, and is statistically significant at $p < 0.05$ with an F-ratio of 11.191. The final regression model is presented as follows:

$$PCS_{LTF} = 1.430 + 0.262DF$$

The results show that there was a statistically significant positive relationship between managers' level of preferences for DF and the proportion of their firms' LTF. As managers' preferences for DF increases, the proportion of their firms' LTF also increases. This is relatively true, as increased preferences for DF will increase the use of DF for business funding, which in turn will increase the proportion of a firm's LTF.

7.4.3 Proportion of firm's EF

The final analysis regarding the proportion of a firm's capital structure and manager's level of financing preferences for different sources of financing relating to the proportion of a firm's EF. Results from the first stage of analysis are presented in Appendix IV.

The results of the correlation matrix show that all three predictors were found to be significantly correlated with the outcome variable at $p < 0.01$. The model summary also revealed that, as IEF and DF are included in the model, the model's ability to explain the variations in the proportion of a firm's EF by 8.5% compared to the first model where EEF is used as the only model's predictor is increased. The results of the tests on whether the model is significantly better at predicting the outcome are shown in the ANOVA table, where F-ratios are found to be statistically significant and greater than 1 in both models. Test results also show of the three predictors and within the two models, EEF and IEF are the only predictors that were found to be statistically significant in predicting the outcome variable. Further analysis is performed in the second stage of regression analysis to include these two predictors in the regression model, using the forward stepwise regression method.

The results of the tests are presented as follows:

Correlations

		EF	IEF	EEF
Pearson Correlation	EF	1.000	.388	.444
	IEF	.388	1.000	.267
	EEF	.444	.267	1.000
Sig. (1-tailed)	EF	.	.000	.000
	IEF	.000	.	.002
	EEF	.000	.002	.

Model Summary[c]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.444[a]	.197	.191	.68156	.197	29.031	1	118	.000	
2	.525[b]	.276	.263	.65018	.078	12.665	1	117	.001	1.705

ANOVA[c]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	13.485	1	13.485	29.031	.000[a]
	Residual	54.813	118	.465		
	Total	68.299	119			
2	Regression	18.839	2	9.420	22.283	.000[b]
	Residual	49.459	117	.423		
	Total	68.299	119			

a. Predictors: (Constant), EEF
b. Predictors: (Constant), EEF, IEF
c. Dependent Variable: EF

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	1.991	.165		12.087	.000
	EEF	.430	.080	.444	5.388	.000
2	(Constant)	.947	.333		2.843	.005
	EEF	.355	.079	.367	4.492	.000
	IEF	.393	.110	.291	3.559	.001

a. Dependent Variable: EF

Table 7.9: Summary of linear regression analysis test results for proportion of firm's EF

The results of further regression analysis using the forward stepwise regression method show that model 2, which includes both predictors in the model, accounts for 27.6% of the variation in the proportion of a firm's EF. Both models are statistically significant, and the final model is presented as follows:

$PCS_{EF} = 0.947 + 0.355EEF + 0.393IEF$

The final regression model shows that both predictors have a statistically significant positive relationship with the outcome variable. This means that as managers' preferences for EEF and IEF increase, the proportion of their firm's EF also increase. This is a relatively straightforward relationship, as preferences for two different sources of equity financing will eventually have an effect on the proportion of a firm's EF.

7.5   Determinants of firm's capital structure

Multiple regression analysis is performed to establish models predicting the capital structure among successful SMEs within the list of Enterprise 50 winners. Four different capital structure ratios were used to represent the capital structure of SMEs, namely DR, STDR, LTDR and DER. Seven firm characteristics were chosen and tested in terms of whether they have the ability to predict the firm's capital structure. Predictor variables were arranged primarily based on the results of bivariate correlation analysis presented in the previous chapter. NDTS was found to be significantly correlated with all outcome variables, while TANG and LIQ were found to be significantly correlated with DR and DER, and STDR, respectively. Of the seven predictor variables, one predictor (AGE) involves the use of dummy variables as this predictor was measured on categorical scale with more than two categories. Four dummy variables were created to represent five different categories of firm age. Regression analysis involves two stages of analysis where hierarchical and forced entry regression method are used in the first stage, and forward stepwise is used in the second stage. The regression model is developed as follows:

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$$CS = \alpha + \beta_1 NDTS_i + \beta_2 TANG_i + \beta_3 LIQ_i + \beta_4 PROF_i + \beta_5 GRO_i + \beta_6 SIZE_i + \beta_6 AGE_i + \varepsilon$$

(7.3)

Where;

CS= Firm's capital structure (DR, STDR, LTDR, DER)

α= Model's intercept

B_{1-7}= Regression coefficients associated with variable 1 to 7

NDTS= Non-Debt Tax Shields

TANG= Firm's assets structure (tangibility)

LIQ= Firm's liquidity

PROF= Firm's profitability

GRO= Firm growth

SIZE= Firm Size

AGE= Firm age

ε=Residual term

The following sub-sections discuss the results of the regression analysis in establishing the regression models for DR, STDR, LTDR and DER accordingly.

7.5.1   Firm's capital structure: DR

This section focuses primarily on establishing the regression model predicting the firm's DR. The regression model presented in the equation (7.3) guides the regression analysis

where the first stage of the analysis involves all predictor variables in three hierarchical stages, resulting in three different models. The first model includes NDTS as the only model's predictor, whereas TANG, LIQ, PROF, SIZE and GROWTH were included in the second hierarchy. The final model includes firm AGE as the final predictor, which involves four dummy variables.

Model 1, with NDTS as the only predictor, accounts for only 4.1% variation in a firm's DR. The other five predictors were included in the second hierarchy and the model's ability in explaining variation in DR is increased by 10% to 14.1%. Both model 1 and model 2 were statistically significant at $p < 0.05$. However, model 3, which include all predictor variables, were found not to be statistically significant. All models were also found to have F-ratios greater than 1. Results show that within the first two models, two predictors were found to be statistically significant in predicting the outcome variable. These two predictors were included in the second stage of regression analysis using forward stepwise methods to find out the individual contribution of each predictor. The results of the tests are presented as follows:

Correlations

		Debt Ratio	NDTS	TANG
Pearson Correlation	Debt Ratio	1.000	-.203	.321
	NDTS	-.203	1.000	-.633
	TANG	.321	-.633	1.000
Sig. (1-tailed)	Debt Ratio	.	.013	.000
	NDTS	.013	.	.000
	TANG	.000	.000	.

Model Summary^b

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.321^a	.103	.095	.839	.103	13.517	1	118	.000	1.373

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9.507	1	9.507	13.517	.000[a]
	Residual	82.993	118	.703		
	Total	92.500	119			

a. Predictors: (Constant), TANG
b. Dependent Variable: Debt Ratio: Total Liabilities/Total Assets

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	2.246	.283		7.925	.000
	TANG	.317	.086	.321	3.677	.000

a. Dependent Variable: Debt Ratio: Total Liabilities/Total Assets

Table 7.10: Summary of linear regression analysis test results for determinants of firm's DR

Further regression analysis using the forward stepwise method, as presented in table 7.10, reveals that of these two predictor variables which were found to be statistically significant in predicting a firm's DR, TANG is the only predictor that was found to be statistically significant in predicting the firm's DR, and accounts for 10.3% of variation of the outcome variable. The model's F-ratio of 13.517 is also found to be statistically significant at $p < 0.01$. The final model, which includes TANG as the only predictor variable, is presented as follows:

$$DR = 2.246 + 0.317 TANG$$

The model shows that as a firm's tangibility increases, a firm's use of long-term debt financing also increases. This also proves that the availability of tangible assets does have an effect on the level of a firm's debt financing. It is commonly associated with the ability of the firm to provide collateral to back-up debt financing as part of debtor's requirement.

7.5.2 Firm's capital structure: STDR

This section now seeks to establish a regression model to predict the firm's STDR. A correlation matrix reveals that three predictors were found to be significantly correlated with the outcome variable. These are NDTS, LIQ and AGE (More than 20 vs. Less than 5). In the first stage of regression analysis, the third model, which includes all predictor variables, is found to accounts for a 28.1% variation in the firm's STDR. All models are also found to be statistically significant at $p < 0.01$, with F-ratios of 21.875, 6.248 and 4.254 for model 1, 2 and 3, respectively.

The results of the model's coefficients show that within three different models in the first stage of regression analysis, two predictors were found to be statistically significant in predicting the firm's STDR. These two predictors (NDTS and LIQ) were included in the second stage of regression analysis using a forward stepwise regression method. The results of this stage of analysis are presented in the following table 7.11

Correlations

		Short-term Debt Ratio	NDTS	LIQ
Pearson Correlation	Short-term Debt Ratio	1.000	-.395	.202
	NDTS	-.395	1.000	-.263
	LIQ	.202	-.263	1.000
Sig. (1-tailed)	Short-term Debt Ratio	.	.000	.014
	NDTS	.000	.	.002
	LIQ	.014	.002	.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.395[a]	.156	.149	.797	.156	21.875	1	118	.000	1.813

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ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	13.907	1	13.907	21.875	.000[a]
	Residual	75.018	118	.636		
	Total	88.925	119			

a. Predictors: (Constant), NDTS
b. Dependent Variable: Short-term Debt Ratio: Current Liabilities/Total Assets

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.326	.298		14.525	.000
	NDTS	-.449	.096	-.395	-4.677	.000

a. Dependent Variable: Short-term Debt Ratio: Current Liabilities/Total Assets

Table 7.11: Summary of linear regression analysis test results for determinants of firm's STDR

Table 7.11 shows the results of forward stepwise regression analysis involving two predictors which were found to be statistically significant in predicting the firm's STDR. Of these two predictor variables, NDTS is the only variable found to be statistically significant in predicting the firm's STDR. However, NDTS accounts for only 15.6% of variations in a firm's STDR. The final regression model is also found to be statistically significant at $p<0.01$, with an *F*-ratio of 21.875. The final regression model is established and presented as follows:

STDR = 4.326 - 0.449*NDTS*

This model shows that there is a statistically significant negative relationship between a firm's STDR and NDTS. This means that as there is an increase in firms' NDTS, their STDR will decrease. This also indicates that as firms experience an increase in tax shields from other sources than debts, the firm will decrease their use of debt financing, and in this case, its short term financing.

7.5.3   *Firm's capital structure: LTDR*

The focus of this section is to establish a model to predict a firm's LTDR. The same regression model was replicated and applied in two stages of regression analysis. The correlation matrix shows that NDTS, TANG and LIQ are found to be significantly correlated with a firm's LTDR. The first stage of regression analysis involving hierarchical and forced entry method results in three different hierarchical models. Model 1, with NDTS as the only predictor, was found to account for 21.9% of variation in the firm's LTDR. However, when another five predictors are included (model 2) this value increases slightly to 22.6% of the variance in the firm's LTDR. Inclusion of firm age in the final model increases the model's R^2 to 29.2%. All models are found to be statistically significant at $p<0.01$ with F-ratio greater than 1. Results also show that NDTS is the only predictor that is statistically significant in all three models. In the second stage of regression analysis, where forward stepwise method is used, the same results are found as in the first hierarchical model with NDTS as the only predictor included. A summary of the results is presented as follows:

Correlations

		Long-term Debt Ratio	NDTS
Pearson Correlation	Long-term Debt Ratio	1.000	-.468
	NDTS	-.468	1.000
Sig. (1-tailed)	Long-term Debt Ratio	.	.000
	NDTS	.000	.

Model Summary[b]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.468[a]	.219	.213	.772	.219	33.167	1	118	.000	1.506

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ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	19.745	1	19.745	33.167	.000[a]
	Residual	70.247	118	.595		
	Total	89.992	119			

a. Predictors: (Constant), NDTS
b. Dependent Variable: Long-term Debt Ratio: Long-term Debt/Total Assets

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.518	.288		15.676	.000
	NDTS	-.535	.093	-.468	-5.759	.000

a. Dependent Variable: Long-term Debt Ratio: Long-term Debt/Total Assets

Table 7.12: Summary of linear regression analysis test results for determinants of a firm's LTDR

The results from the second stage of regression analysis using a forward stepwise method reveal that there is a statistically significant association between NDTS and a firm's LTDR. NDTS is found to account for 21.9% variations in a firm's LTDR. The regression model is also found to be statistically significant at $p<0.01$ with F-ratio of 33.167. The final regression model is established and presented as follows:

$LTDR = 4.518 - 0.535NDTS$

There is a statistically significant negative relationship between firms' LTDR with NDTS. As in the case of a firm's STDR, if a firm has an increase in tax shields from other sources than debt, this will eventually reduce the firm's use of debt financing.

7.5.4   Firm's capital structure: DER

The final section of the study of determinants of the firm's capital structure focuses on the firm's DER. A correlation matrix reveals that at this stage of analysis, NDTS and TANG were found to be significantly correlated with firm DER. The results of the regression analysis using hierarchical and forced entry methods show that NDTS accounts for 10% variation in the firm's DER. In model 2 where another five predictors are included, the model's R^2 increased to17.1%, which means that these predictors only account for an additional 7.1% variation in the outcome variable. Finally, when the final predictor (firm age) is included, there is no significance increase in the ability of the model to explain the variations in the firm's DER as the model's R^2 only increases by 1.9%. These changes in model's R^2 are replicated in the model's F-ratios which decrease from 13.087 in model 1 to 2.565 in model 3. However, these results are statistically significant at $p < 0.05$ and greater than 1.

Results also show that within the three hierarchical models, two predictors are found to be statistically significant in predicting the outcome variable. These two predictors, NDTS and LIQ are included in the second stage of regression analysis in order to discover the individual contribution of each predictor. The results of the tests are presented in table 7.13.

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Correlations

		Debt-to-Equity Ratio	NDTS	LIQ
Pearson Correlation	Debt-to-Equity Ratio	1.000	-.316	-.122
	NDTS	-.316	1.000	-.263
	LIQ	-.122	-.263	1.000
Sig. (1-tailed)	Debt-to-Equity Ratio	.	.000	.093
	NDTS	.000	.	.002
	LIQ	.093	.002	.

Model Summary[c]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.316[a]	.100	.092	.833	.100	13.087	1	118	.000	
2	.381[b]	.145	.130	.815	.045	6.164	1	117	.014	1.791

ANOVA[c]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9.077	1	9.077	13.087	.000[a]
	Residual	81.848	118	.694		
	Total	90.925	119			
2	Regression	13.173	2	6.587	9.912	.000[b]
	Residual	77.752	117	.665		
	Total	90.925	119			

a. Predictors: (Constant), NDTS
b. Predictors: (Constant), NDTS, LIQ
c. Dependent Variable: Debt-to-Equity Ratio: Total Debt/Total Equity

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	4.116	.311		13.232	.000
	NDTS	-.363	.100	-.316	-3.618	.000
2	(Constant)	5.017	.474		10.593	.000
	NDTS	-.429	.102	-.374	-4.218	.000
	LIQ	-.222	.089	-.220	-2.483	.014

a. Dependent Variable: Debt-to-Equity Ratio: Total Debt/Total Equity

Table 7.13: Summary of linear regression analysis test results for determinants of firm's DER

The model summary presented in table 6.12 shows that both predictors account for only 14.5% variations in the firm's DER. The inclusion of LIQ in model 2 increases the model's ability to explain variation in the firm's DER by 4.5%. Both models are also found to be statistically significant at $p<0.01$ with F-ratios of greater than 1. Both

predictors are found to be statistically significant at $p<0.05$ and are included in the final regression model as follows:

$$DER = 5.017 - 0.429NDTS - 0.222LIQ$$

This model shows that there are negative relationships between both predictors with the firm's DER with b-values of -0.429 and -0.222, respectively. These values indicate that as NDTS and LIQ increase, a firm's DER will decrease. The increases in tax shields from non-debt sources decrease the firm's use of debt financing. The same circumstance goes to LIQ, where an increase in the firm's liquidity reduces a firm's needs for debt financing (commonly related to short-term financing) which, in turn, will decrease the firm's overall use of debt financing.

7.5   Summary and conclusions

This section focuses on summarizing and discussing the results of regression analysis tests, with the aim of establish models predicting; 1) manager's level of financing preferences for different sources of financing and, 2) the proportion of firm's capital structure, and 3) firm's capital structure. These aims are translated into the final research question of this study which is:

What are the determinants of the manager's level of financing preferences for different sources of financing, determinants of the proportion of firm's capital structure, and determinants of firm's capital structure among successful Malaysian SMEs?

The following table 7.14 provides a summary of significant predictors for each outcome variable, followed by sections discussing each area of study accordingly.

Outcome Variable	Significant Predictor (s)	Direction of relationship
Internal Equity Financing (IEF)	Ownership Status (OWN)	+
Debt Financing (DF)	Ownership Status (OWN)	+
	Highest level of education (EDU)	-
	Length of experience (EXP)	+
External Equity Financing (EEF)	Ownership Status (OWN)	+
	Highest level of education (EDU)	-
Short Term Financing (STF)	Debt Financing (DF)	+
	External Equity Financing (EEF)	-
Long Term Financing (LTF)	Debt Financing (DF)	+
Equity Financing (EF)	External Equity Financing (EEF)	+
	Internal Equity Financing (IEF)	+
Debt Ratio (DR)	Asset's tangibility (TANG)	+
Short Term Debt Ratio (STDR)	Non-Debt Tax Shields (NDTS)	-
Long Term Debt Ratio (LTDR)	Non-Debt Tax Shields (NDTS)	-
Debt-to-Equity Ratio (DER)	Non-Debt Tax Shields (NDTS)	-
	Level of liquidity (LIQ)	-

Table 7.14: Summary of regression analysis

Manager's level of financing preferences

Generally, test results show that within the five selected variables representing the manager's characteristics, business ownership (OWN), highest level of education (EDU) and level of experience (EXP) are the only predictors that were found to be statistically significant in predicting manager's level of financing preferences for three different sources of financing. Business ownership (OWN) is found to be statistically significant in predicting the manager's level of financing preferences for all three different sources of financing. Managers who possess business ownership represent 56.7% of total respondent of this survey. This particular variable is found to be a good indicator affecting the level of financing preferences among managers of Enterprise 50 winners in Malaysia. Statistically significant positive associations between business ownership and their level of financing preferences for IEF, DF and EEF indicate that managers who possess business ownership are found to have a higher level of financing preferences for these sources of financing than those who do not. This shows that within their capacity as owner/manager, they are open to varieties of sources of finance and do not limit the possibility of having different sources of finance in comparison to managers with no business ownership. The capacity of the owner/manager does give them managerial freedom in terms of different input and ideas when it comes to making decisions in relation to a firm's sources of finance..

The highest level of education (EDU) is also found to be statistically significant in predicting managers' level of financing preferences for DF and EEF. In terms of association, significant negative relationships were found between this predictor with

outcome variables. In this case, it was between managers with a Bachelor Degree and those with a Master Degree as their highest level of education. These two groups are represented by 52.5% and 14.2% of respondents respectively. The negative association between the predictor and outcome variables indicate that managers with a higher level of education (Master Degree) have lower preferences for DF and EEF than managers with a Bachelors Degree. Higher level of education might impose a better knowledge and understanding of the causal effect of using DF and EEF as a source of finance. The use of DF, for example, might increase financial risk within the company due to the cost of borrowing. It is possible that the company might not be able to meet creditors' requirement, which might lead to the risk of bankruptcy. On the other hand, the use of EEF, which involves equity and private equity investment, might be perceived as opening a company's door to the outsider's interference.

Managers' experience (EXP) is also found to be statistically significant in predicting managers' level of preference for DF. The positive relationship between these variables shows that the level of financing preferences for DF increases more for group of managers with 10 to 14 years of experience than those with more than 20 years of experience. Both groups are represented by 25.8% and 18.3% of respondents respectively. This result shows that managers with less experience would prefer DF as a source of finance more than those with more experience. This indicates that when it comes to experiences, less experienced managers are most likely to get DF to fund the business than those with more experience.

The proportion of firm's capital structure

Additional analysis is executed to tests whether manager's level of financing preferences is a good predictor for the proportion of a firm's capital structure accordingly. In this study, proportion of a firm's capital structures was classified as STF, LTF and EF.

The proportion of a firm's STF is found to be significantly predicted by manager's level of financing preferences for DF and EEF. Both predictors were found to have a different direction of relationship with the outcome variable. Managers' level of financing preferences for DF is found to have a statistically significant, positive relationship with the proportion of the firm's STF. This result states that as the manager's preference for DF is increasing, there is also an increase in the proportion of the firm's STF, accordingly. Managers with a higher level of preference for DF will eventually acquire business funding in the form of debt, as in this case, short term liability which is financed with repayment of less than a year. Their preference for EEF, on the other hand, is found to be negatively associated with the proportion of a firm's STF. Managers who have a higher preference for external equity will eventually find business funding from other sources of financing than debt for short-term financing. This will reduce the need for debt and will reduce the proportion of a firm's STF accordingly.

Manager's preference for DF is found to be the only significant predictor for the proportion of a firm's LTF. Both variables were found to be positively correlated, which shows that as there is an increase in manager's preference for DF, the proportion of a firm's LTF is also increased. Whenever additional long-term funding is needed, managers with higher preference for debt financing will use debt as a financing source.

This will increase the use of debt in the firm, and eventually increase the proportion of the firm's LTF.

Finally, the proportion of a firm's EF is positively affected by the manager's level of financing preference for EEF and IEF. Both predictors were found to account for 27.6% variations in the firm's EF. This shows that as there is an increase in manager's preference for IEF and EEF, this will also increase the proportion of firm's EF. These relationships are found to be very clear, since managers with a higher preference for internal and external equity will find any additional funding needed through the use of equity financing instead of other sources of financing.

Firm's capital structure

Within the context of the firm's capital structure, three predictor variables were found to be statistically significant. These predictors are TANG, NDTS and LIQ. Other predictors are found not to be significant, and do not have any effect on the firm's capital structure.

Firms' DR is the first outcome variable under study. Of the seven selected predictors, only one was found to be statistically significant in predicting firms' DR. TANG is found to have a statistically significant positive relationship with the outcome variable. Where there is an increase in the firm's level of asset tangibility, firm's DR also increases. This reveals that the availability of tangible assets, commonly associated with the ability of a firm to provide collateral for debt funding, will eventually increase the

use of debt financing (preferably long-term financing). The availability of tangible assets will support the debt financing needed by the firm. In the case of SMEs, fund providers are believed to require back-up in the form of collateral to support the loan application. The availability of tangible assets will ease the loan application made by SMEs.

NDTS is found to be statistically significant in predicting the remaining firm's capital structure ratios. It is also found that this particular predictor is negatively correlated with a firm's STDR, LTDR and DER. These thus indicate that there will be a decrease in the firm's use of debt when there is an increase in NDTS. This results show that as a firm experiences an increase in the tax shield from other sources than debt, they will eventually reduce the use of debt in financing their business. In this study, NDTS was represented by the depreciation expenses over total assets. One of the motivations for the use of debt was the tax shield effect, which is the benefit of using debt. Interest paid or the costs of debt are tax-deductible, which in turn would reduce the overall firm's tax expenses. Firms are believed to try to maximise the benefit of using debt for this particular motivation. However, within the database used in this study, results show that as firms experience an increase in tax benefits from other sources than debt, they will eventually reduce the use of debt in funding the business. Depreciation expenses are an example of deductible expenses in determining firm operating income or EBIT. These expenses reduce the taxable income for the firm, and will eventually decrease the overall firm's tax expenses.

A firm's DER is also found to be significantly predicted by LIQ, in addition to the NDTS. Both predictors were found to be negatively correlated in the model predicting a

firm's DER. This shows that increases in a firm's liquidity may reduce the firm use of debt, particularly on short-term financing. Increases in a firm's liquidity, as measured by Quick and Current ratio indicate that firms will be able to use liquid assets in financing their funding requirements, which will reduce their need for debt financing. These conditions will eventually reduce the overall use of debt financing reflected by lower DER.

In summary, it may be concluded that manager's levels of financing preferences are believed to be affected by their ownership status, highest level of education and length of working experience. Other factors which are initially believed to have effects on manager's level of financing preferences for different sources of financing are found to not have the explanatory ability as initially presumed. Manager's level of financing preferences is found to have an explanatory power in predicting the proportion of a firm's capital structure, accordingly. Finally, a firm's capital structure is affected by firm level of asset tangibility, non-debt tax shields and liquidity. Other factors (profitability, growth, firm's age, firm's size) are found to be less statistically significant in predicting the firm's capital structure.

Chapter 8

Discussion of Research Findings

8.1   Introduction

This chapter summarises and discusses the findings of this research. The summary and discussion section contains five sub-sections, each relating to one of the five objectives of this study.

8.2   Summary and discussion of the key research findings

The objectives of this study were listed in Chapter 1 (section 1.4) and chapter 4 (section 4.3). They were:

1.   To investigate the preferences for different sources of finance among managers' of successful Malaysian SMEs.

2.   To investigate the capital structure of successful Malaysian SMEs.

3.   To determine if there is any significant association between selected managers' characteristics and their preferences for different sources of finance, and between selected firm characteristics and the firm's capital structure among successful Malaysian SMEs.

4.   To determine if there is any association between managers' level of financing preferences and the proportion of their firm's capital structure

5.   To determine the factors affecting managers' level of preferences for different sources of financing, factors affecting the proportion of the firm's capital structure, and the factors that affect firm's capital structure among successful Malaysian SMEs.

Univariate and bivariate analyses were conducted to address the first four objectives of this study. The results of this analysis were presented in chapter 5 and chapter 6, respectively. Finally, multivariate analysis was accomplished to achieve the final research objective and presented in the preceding chapter. The findings relating to each of the above objectives are summarised and discussed in the following sub-sections.

8.2.1   Managers' level of financing preferences

Managers' level of financing preferences for various types of finance (classified into internal and external sources of financing) was investigated, and the results show that in general, most of them prefer both sources of financing. Three types of internal financing and 11 types of external financing were included in this study. External financing was then classified into Debt Financing (DF) and External Equity Financing (EEF), while internal financing was labelled as Internal Equity Financing (IEF) and each of these sources of financing contained seven, four and three types of financing respectively.

Retained earnings, with 60% of respondents indicating high and very high preference for this type of finance, were found to be the most preferred internally generated fund among managers. This was followed by shareholder's own funds (45.8%). Funds from

parents, subsidiaries or associate companies were the least preferred type of internally generated funds among managers, with 63.3% of respondents indicating very low and low preference for this particular type of finance. Within the external sources of finance, debt financing was found to be the most preferred source of finance in comparison to external equity financing. Debt financing from banking institutions, supplier credit and government funds was found to be the most preferred types of external debt financing among owner-manager of SMEs. These were followed by funding from Development Financial Institutions (DFIs), Cooperative financing, leasing and finally, factoring companies. More than half of the respondents were found to have lower preferences for funding from Cooperative financing, leasing and factoring companies. External equity financing which consists of four different types of financing (venture capital, business angel, friends and family, unrelated companies) were found to be the least preferred sources of external financing among managers of successful SMEs in Malaysia. Results show that more that 60% of respondents indicated lower preferences for these types of financing.

The Census of Establishment and Enterprise 2005, conducted by Department of Statistics of Malaysia, shows that generally SME's in Malaysia use their own funds to finance their business activities (NSDC, 2006). This contrasts somewhat with the findings of this particular study, in which debt financing from banking institutions, supplier credit and government funds are found to be the most preferred sources of external financing among managers of successful SMEs in Malaysia. However, this result is anticipated, as the majority of SMEs in this study are SMEs (i.e. small and medium-sized-sized enterprises). These findings shed light on the importance of these

sources of finance to successful SMEs and need to be highlighted and taken into consideration particularly in developing accessible funds for this group of SMEs. Particular attention must also be given to other sources which are least preferred by the managers of successful SMEs. Further investigation needs to be conducted to find out ways of increasing their level of preference for these sources of debt financing (DFIs, cooperative financing, leasing and factoring).

8.2.2   Capital structure among successful Malaysian SMEs

Debt-to-equity ratios among SMEs in this study are found to be approximately 60 to 40. This shows that as managers of successful SMEs preferred both sources of financing, most SMEs rely more on debt sources of financing than equity financing. Although most managers of SMEs were found to have a higher preference for long-term financing, the proportion of their firm's current liabilities and long-term liabilities were found to be equally divided, which reflects that SMEs rely on both types of financing in funding their business. The use of debt financing will probably depend on their need for funds and also the availability of funds when needed. Short-term financing is accomplished through the use of supplier credit and account payable, which may come in the form of short-term bank loans and bank overdrafts. Long-term bank loan is also found to have the highest proportion of capital structure. Equity financing, on the other hand, comes in the form of retained earnings, shareholder's own funds, share capital and capital reserved.

Within this study, some SMEs indicated having up to 80% financing through short-term liabilities, while the figures is somewhat higher for the maximum funding from long-term liabilities (90%) and even higher for maximum funding from equity financing, with 100% financing. These figures thus show that some of the SMEs in Malaysia depends heavily either on debt or equity financing. For some SMEs, their total funding comes from equity financing without any use of debt, and for others, they are heavily depends on debt financing, either in the form of short or long-term financing. This is proven when the percentage average of proportions of their firm's liabilities and equity are classified into four different categories. 88.4%, 82.6% and 97.6% of the SMEs used short-term liabilities, long-term liabilities and owner's equity in funding their business, respectively. Of these figures, 75% of SMEs are found to have an average of short-term liabilities of up to half of total business funding, compared to 70% of SMEs with the same average of funding from long-term liabilities. On the other hand, 66% of SMEs are found to derive on average half of their funding from the owner's equity. This indicates that in general, SMEs are funded mainly from debt financing sources (either short or long-term).

8.2.3 The association between managers' level of financing preferences and selected manager's characteristics, and the association between firm's capital structure and selected firm's characteristics

Manager's level of financing preferences and manager's characteristics

A summary of the results for bivariate association analysis were presented in table 6.15. Five independent variables were selected to represent managers' characteristics. 15 sub-hypotheses were developed and tested to guide the study of bivariate relationships between five managers' characteristics with their level of financing preferences for three different sources of finance. Of the five managers' characteristics, two were found to be significantly associated with the managers' level of financing preferences. These two characteristics are business ownership and level of education.

Manager's business ownership status was found to be significantly and positively associated with their level of preferences for all three sources of finance; internal equity, debt and external equity financing. This shows that managers who have business ownership have higher preferences for all different sources of finance, and further indicates that managers with business ownership have more power and freedom in determining sources of finance for their business than those who did not have business ownership. Managers without business ownership are more restricted in term of their preference for financing decision, mostly relying upon the discretion of the owner of the business itself. Although there were no similar studies on the relationship between these two, previous studies (see Boateng, 1998; Osei-Assibey et al., 2011; Mac an Bhaird and Lucey, 2006; Cassar, 2004) do indeed provide some explanation as to the association between business ownership structures and a firm's financing preferences. Boateng (1998) for instance found a significant relationship between levels of ownership in a joint venture and their preferences for the use of debt among foreign partners. In

addition, Osei-Assibey et al., (2011) found that a firm's preferences for formal financing increases with the increasing level of interference due to ownership changes. Cassar (2004) also found a positive relationship (although not significant) between a firm's preferences in terms of debt finances and business ownership structure. On the other hand, Mac an Bhaird and Lucey (2011) found a mixed relationship between ownership structure and firm's capital structure where ownership structure is negatively associated with external equity but positively associated with internal equity. To summarise, although there have been no previous studies that have specifically examined the association between manager's business ownership and their preferences for different sources of financing, the findings of this study do cast light on managers' level of preferences for different sources of finance. Managers with business ownership are more open to the possibility of using various sources of finance than those without business ownership. These preferences suggest that they are willing to try to make use of the various sources of finance available in the market.

The level of education is also found to be statistically significant and negatively associated with manager's preferences for external equity financing. This result shows that managers with a higher level of education did not prefer to use external equity financing. This particular source of equity financing comes from venture capital companies, business angels, friends and family and unrelated companies. External equity financing is believed to involve external interference and is the least preferred among managers with higher level of education. In the same way, Vos et al., (2007) found a negative association between manager's levels of education and their use of debt. They

have concluded that SME owners with higher education levels are less likely to seek external financing due to the elements of interference associated with such financing.

Although previous studies on the relationship between manager's level of education and the use of debt yielded the same findings, where there is a significant and positive relationship between these two (see Zhang, 2008; Wu et al., 2008; Cassar, 2004; Coleman and Cohn, 2000; Carter and Rosa, 1998; Watson, 2006;, Osei-Assibey et al., 2011; Gebru, 2009), this study found that there is no support for the significant associations between managers' level of education and their preferences for internal equity financing and debt financing. This indicates that regardless of their level of education, managers of successful SMEs opted to use internal equity financing and debt financing available in funding their business activities, as compared to the use of external equity financing, while managers with higher education levels had a lower preference for this particular source of finance.

This is similar to the finding of Irwin and Scott (2009), who determined that owner-managers' level of education has no significant influence on the sources of finance used by SMEs in UK. However, owner-managers with a higher level of education were found to having less difficulty in obtaining finance for their business compared to those with lower education level who frequently employed finance from friends and family and home remortgaging. A further study by Sena et al., (2012) also found that this particular managerial characteristic is not significant in affecting borrowing patterns among UK entrepreneurs. Nonetheless, entrepreneurs with any type of educational qualification were more likely to apply for external finance than those without any academic

qualification at all. The same result was found among SMEs in China as owner-managers' level of education was not significant in influencing the amount of debt supplied to these SMEs (Borgia and Newman, 2012).

Managers' gender, age and level of experience were found to have no association with their level of financing preferences for all three sources of finance. Although previous studies testing the association between these managerial characteristics and SMEs financing behaviour comes with a mixed-significant results, this study revealed that it is not the case within successful SMEs in Malaysia. Hence, managers' preferences for internal equity, debt and external equity finance are not related to their gender, age and level of experience.

Firm's capital structure and firm's characteristics

Investigations into the association between selected firm's characteristics and firm's capital structure revealed that non-debt tax shields, the tangibility of assets and liquidity were found to have a statistically significant association with a firm's capital structure. Other variables, such as firm age, size, profitability and growth were found not to be significantly associated with a firm's capital structure. A summary of the results of the bivariate association test between firm's characteristics and firm's capital structure is presented in table 6.20, 6.21 and 6.22.

Of the three variables that were found to have a significant associations with a firm's capital structure, non-debt tax shields were found to be significantly and negatively

correlated with a firm's debt ratio, short-term debt ratio, long-term debt ratio and debt-to-equity ratio. This finding is similar to previous studies concerning the relationship between a firm's characteristics and their capital structure. Viviani (2008) and Deesomsak et al., (2004), in their studies, point out that the tax advantage of leverage decreases when other tax deductions (non-debt tax shields) increase. This in turn will reduce the potential tax benefit of debt and hence it should be inversely related to leverage. Since non-debt tax shields, represented by firm's depreciation expenses over their total assets, served as instruments for lowering a firm's tax expenses, the negative association of this variable with a firm's capital structure is expected.

The higher the non-debt tax shields from depreciation expenses, the lower the level of a firm's debt financing. Although trade-off theory of capital structure has proved that a firm's use of debt is encouraged by the tax-deductibility of the interest involved, within the case of successful Malaysian SMEs, as a firm enjoys the benefits of tax shields from depreciation expenses, they will decrease their use of debt as their source of finance. This indicates that within this group of successful SMEs, they are very particular about the level of tax expenses and debt financing used in funding their business activities. This is accurate in the sense that an increase in the level of debt financing will also increase the financial risk of the business. Although the advantages of using debt as a source of finance are unquestionable, the non-debt tax shields effect is also considered in making their firm's capital structure decisions.

Asset tangibility, on the other hand, is found to be positively and significantly associated with a firm's debt ratio and debt-to-equity ratio, while a firm's liquidity is found to be

positively and significantly associated with a firm's short-term debt ratio. These results are anticipated, as previous studies of financing activities among SMEs have found that generally these two variables will have an encouraging effect on the firm's level of debt. An increase in a firm's level of asset tangibility will ease the loan applications made by SMEs, as tangible assets were used as collateral for such financing. In the case of Malaysian SMEs, lack of collateral is the biggest constraint faced in obtaining finance (SME Annual Report, 2005). An increase in the level of asset tangibility among SMEs would thus enable them to obtain loan finance from banking institutions. This increase would also raise the level of debt finance used by the firm, which is translated into an increase of the firm's debt and debt-to-equity ratio.

This is similar to the previous finding of Esparanca and Gama (2003), who indicated that in the case of small firm, the risk associated with the investment is higher than the market mean. This has led to requirements imposed by the funder, whereby these firms are required to provide valuable collateral, which play an important role in SMEs' access to long-term debt (Abor and Biekpe, 2009), and in securing debt finance among SMEs (Mac an Bhaird and Lucey, 2006). Harris and Ravis (1991) also point out that firms with tangible assets will tend to accumulate more debt over time and become more highly levered. An increase in the firm's level of liquidity, on the other hand will also enable firms to use more debt. Results indicate that firm's level of liquidity has a significant association with a firm's short-term debt ratio. This is anticipated, as an increase in the firm's level of liquidity would enable them to obtain better short-term finance either from banking institutions or from their supplier. Increased level of liquidity indicates a better prospect of short term financing, as firms have increased their

ability in meeting their short-term obligations. This in turn will increase the use of short-term financing among SMEs.

8.2.4   The association between managers' level of financing preferences and the proportions of their firm's capital structure.

A summary of results of bivariate association analysis are presented in the previous chapter (see Table 6.24). The following discussion is focused on the association between managers' level of financing preferences and the proportions of the firm's capital structure.

The proportions of a firm's capital structure are found to be associated with managers' level of financing preferences for internal equity, debt and external equity financing. Managers' level of financing preferences for debt financing is found to be positively and significantly associated with the proportions of their firm's short-term financing. There are no associations to be found between their level of financing preferences for internal equity and external equity financing with the proportions of their firm's short-term financing. These associations indicate that when it comes to seeking short-term financing, managers would prefer to use debt over equity financing. They are believed to seek this short-term financing mainly from banking institutions, supplier credit or in the form of Government funds, as shown in the results of the descriptive analysis (on their level of financing preferences for different types of debt financing).

Additional analysis was also performed to enhance the understanding of the cumulative influence of manager's level of financing preferences for debt financing, internal equity and external equity financing on the proportions of firm's capital structure. The results revealed that manager's level of preference for debt and external equity financing are significant predictors of the proportion of a firm's short-term financing. This indicates that managers will consider these two sources of financing when it comes to making related decision regarding the level of their firm's short-term financing. Their preferences for debt and external equity financing will have an effect of the choice of financing used to fulfil their firm's short-term financing needs. Their preferences for internal equity financing do not have any influence on the proportion of their firm's short term financing. This indicates that when it comes to short-term financing, managers will not consider covering the financing needs through the use of internal equity.

Managers' financing preferences for debt and external equity financing are significantly and positively associated with the proportion of their firm's long-term financing. There is no proof to be found as to the relationship between managers' level of financing preferences for internal equity financing and the proportions of their firm's long-term financing. The association between managers' preferences for debt and external equity financing and the proportions of their firm's long-term financing indicates that firm's long-term financing would be achieved from either debt sources of financing (mainly from banking institutions) and also from externally-generated equity financing, either a private equity investment or equity investment from friends and family, business angels, venture capital companies or from unrelated companies.

The proportion of a firm's long-term financing is found to be significantly predicted only by managers' level of financing preferences for debt financing. This result indicates that the proportions of a firm's long-term financing are fulfilled from debt-sources of financing. Managers are believed to fulfil the need for long-term financing through debt sources of financing and their decision will never influenced by their level of preferences for equity financing. In other words, although equity-sources of financing are available, managers will only seek debt-sources of financing in satisfying their firm's need for long-term financing.

Finally, manager's preferences for all sources of financing are found to be significantly and positively related to the proportions of their firm's equity financing. This indicates that when it comes to making decisions about a firm's level of equity financing, managers are believed to consider it from different sources of financing available and are not limited to any particular sources of financing as in the proportions of the firm's short and long-term financing. Managers will consider seeking all the financing needed after considering the different sources of financing available. Multivariate analysis performed also found that manager's levels of preferences for internal and external equity are significant predictors for the proportions of a firm's equity financing. This is relatively straightforward, as a firm's proportions of equity financing is only influenced by the managers' level of financing preferences for internal or external equity financing. Managers will seek equity-types of financing to fulfil their firm's need for equity financing, either from internally-generated equity in the form of retained earnings, shareholder's own funds or funds from parent, subsidiaries and associate companies, or externally-generated equity financing in the form of private equity investment from

friends, family or unrelated companies, or equity investment from venture capital or business angels.

8.2.5 Determinants of managers' level of financing preferences, determinants of the proportions of firm's capital structure and determinants of firm's capital structure

A summary of the results of the multivariate regression analysis are presented in previous chapter (see Table 7.14). The following sections discuss the major findings in each area under investigation, relating to managers' level of financing preferences and firm's capital structure (the proportion of firm's capital structure and firm's capital structure ratios).

Determinants of managers' level of financing preferences

In this study, five different manager's characteristics were chosen as explanatory variables in predicting changes in managers' level of financing preferences for three different sources of financing (IEF, DF, and EEF). These variables are manager's age, gender, level of education, level of experience and business ownership. Multivariate analysis shows that three predictors were found to be statistically significant in predicting manager's level of financing preferences. The results of the multivariate analysis are presented in table 7.4, 7.5 and 7.6, representing the findings of multivariate tests on manager's level of preferences for IEF, DF and EEF, respectively.

Results show that among managers of successful SMEs in Malaysia, their level of preferences for IEF was found to be influenced by their business ownership status. Managers with business ownership of the business have a higher level of preferences for IEF compared to those who do not. This also reveals that managers with business ownership prefer to use internal financing, either through retained earnings, their own contributions or funding from parent/subsidiaries/associate companies to finance their business activities, as compared to those who do not have ownership of the business.

Managers' preferences for DF were found to be influenced by their business ownership status, level of education and level of experience. Managers' level of education was found to have negative influences on their preferences for DF. This is similar to the findings by Vos et al., (2007), where more educated SME owners are found to use less external financing. They have concluded that, when it comes to loan approval, SME owners with higher education level are not favoured by lenders. Correspondingly, fear of denial of a loan application decreased with the increase in SME owners' level of education. In the same way, study by Watson (2006) found that owner's of SMEs with lower levels of education are much more likely to have a higher debt to asset ratio compared to owners with tertiary education. Likewise, Osei-Assibey et al. (2011) in their study found that that formal finance is less preferred by highly educated owners for on-going finance. Finally, managers' preference for DF is also influenced by their level of experience. The findings of this study show that this explanatory variable positively influences managers' preferences for DF. Managers' experience is considered as a measure of reputation an signals better human capital, and managers with high level of experience are more likely to choose formal financing and take advantages of bank

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financing since they have a higher access to debt capital (Zhang, 2008; Cassar 2004; Wu et al., 2008).

Managers' level of preferences for EEF was influenced by their business ownership status and also their level of education. In term of business ownership status, managers with business ownership have stronger preferences for EEF. This might be due to the greater level of freedom they have in deciding on the sources of funding to be used in financing their business activities than those without business ownership. Managers with business ownership will be more open to the possibility of using various sources of external equity finance available in the market from venture capital companies, business angels, friends and family and unrelated companies. On the contrary, managers' preferences for EEF were negatively influenced by their level of education. This is similar to the findings of Vos et al., (2007), Watson (2006), and Osei-Assibey et al. (2011) where SME owners with a higher level of education use less external financing.

Other managers' characteristic (age and gender) are found to have no significant influence on manager's level of financing preferences for IEF, DF and EEF. Cassar (2004) and Verhaul and Thurik (2001) for instance, found evidence to support the fact that there is no significant relationship between decision makers' gender and their financing preferences, and conclude that gender has no influence on the likelihood of getting type of loan and proportion of bank loans. Similarly, Coleman (2000) points out that owner's gender is found to be not significant within models predicting the use of various credit products. In terms of manager's age, previous studies have found that

managers' ages are not statistically significant predictors of the level of debt used by SMEs (Buferna, 2005; Romano et al., 2000; Cassar, 2004).

Overall, it may be concluded that business ownership is found to be a significant predictor of manager's level of financing preferences for IEF, DF and EEF, while manager's level of education is found to have a significant influences on managers' level of financing preferences for DF and EEF. Furthermore, manager's level of experience was found to be a significant predictor in explaining the level of preferences among successful SME managers for DF.

Determinants of the proportions of firm's capital structure

Studies on this particular topic of SMEs' capital structure are generally accomplished by looking at explanatory variables that might have an influence on the proportions of a firm's capital structure. Such explanatory variables might include managerial characteristics, firm's characteristics and economic variables. In this study, owner's preferences are used as one of the approaches outlined by Mac an Bhaird (2010) in understanding the influence of an owner's characteristics on firm's capital structure. He also points out that *"although managerial preferences might not precisely resemble the observed capital structures, information provided will offer evidence of motivations behind the financing decision".* Managers' level of preferences for different sources of financing (which were later categorized into three sources of financing, namely, IEF, DF and EEF) were studied to determine whether they have any significant effect on the proportions of a firm's capital structure, in this case, STF, LTF and EF.

Multivariate analysis was accomplished and presented in table 7.7, 7.8 and 7.9 for each type of financing, representing the proportions of a firm's STF, LTF and EF respectively. Overall, the results indicate significant associations between managers' level of preferences for different sources of financing and the proportions of a firm's capital structure. The proportions of a firm's STF, for instance, were determined by managers' preference for DF and EEF. A positive association between managers' preference on DF and the proportion of a firm's STF indicates that the level of usage of STF is increasing, as there is an increase in managers' preference for DF. Managers' with higher preferences for short-term-debt-type of financing will seek funds either from banking institutions, supplier credit, DFIs, Government's funds, leasing or factoring companies. However, it was also evident that the proportions of firm's STF were negatively associated with managers' preference for EEF. This shows that as managers' preference for EEF increases, the proportions of a firm's STF will decrease. In this case, instead of getting short-term-debt-type of financing, managers might obtain the funds that they need from an external-equity provider, either from venture capital companies, business angels, friends and family or unrelated companies.

The proportions of a firm's LTF were found to be determined by managers' preference for DF. This indicates that as for the long-term-debt-type of financing, the proportions of this particular type of financing in the firm's liabilities and equity, was only influenced by managers' preferences for DF. The positive association between these two shows that managers will seek long-term-debt-type financing only from debt-financing sources, as indicated above. Their decisions on the type of financing to be used when it comes to LTF was not affected by their preferences for other sources of financing, in

this case, IEF and EEF. Finally, managers' preferences for IEF and EEF were found to be the determinants of the proportions of the firm's EF. This is similar to the previous finding on the determinants of a firm's LTF. A firm's equity financing needs are satisfied from equity-type of financing, either internally or externally. In this case, as retained earnings was proven to be the most preferred internal source of equity financing, this particular type of financing was believed to be used extensively in satisfying the financing need of the SMEs, internally. This is followed by owner's own funds and also funds from parent, subsidiaries and associate companies. Besides, external sources of equity financing are also chosen in satisfying the equity-financing needs of the firms.

Overall, the proportions of firm's capital structure were found to be determined by managers' level of preferences for different sources of financing. These results provide evidence that there is a significant influence of managers' level of financing preferences on the proportions of firm's capital structure. Further studies on this particular area of SME financing are needed in developing further understanding on the effect of SME managers' financing preferences on the capital structure employed by SMEs.

Determinants of firm's capital structure

The results of multivariate analysis on the determinants of a firm's capital structure were presented in table 7.10, 7.11, 7.12 and 7.13. Firm's capital structures are found to be significantly predicted by three out of seven selected predictors. Non-debt tax shields, the tangibility of assets and firms' level of liquidity are found to significantly predict a

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firm's capital structures. A firm's debt ratio is significantly predicted only by the firm's asset's tangibility, while a firm's short-term debt ratio was significantly predicted by non-debt tax shields, as in the case of a firm's long-term debt ratio. In addition to non-debt tax shields, a firm's debt-to-equity ratio is also found to be significantly predicted by that firm's level of liquidity. The following section will further explain the findings of this study with regard to each predictor that was found to be significant in explaining variations in the firm's capital structure.

NDTS is one of the predictors that were found to have explanatory power for the firm's capital structure. Tax shields are viewed as one of the reasons for the use of debt among firms. The tax deductibility nature of interest on debts will reduce a firm's tax expenses. However, alternative tax shields act as substitutes for the tax benefits of debt (Ramalho and da Silva, 2009) and this type of shield makes it unnecessary for the firm to increase debt, as tax expenses can be reduced without any need for additional use of debt (Lopez Garcia and Sanchez Andujar, 2007). A negative relationship between these two (NDTS and firm's level of debt) implies that a firm with a large NDTS is likely to be less leveraged. Within the results of this study among successful Malaysian SMEs, this predictor variable is found to have a negative relationship with the firm's capital structure. Although bivariate associate analysis has proved that there is a negative relationship between NDTS and all indicators of a firm's capital structure, multivariate analysis reveals that this predictor explains variations only in the firm's STDR, LTDR and DER. A negative relationship between NDTS and these three indicators of a firm's capital structure indicate that an increase in the firm's NDTS will reduce the need for,

and use of debt among firms. NDTS, as an alternative for tax shields of debt, thus enables firms to reduce their tax expenses.

In the case of SMEs in Malaysia, the existence of issues regarding higher tax rates, especially for small businesses, thus indicates that tax expenses was one of the concern among SMEs. The SMEs Masterplan 2012-2020 includes the issue of the tax regime as one of the factors that might discourage business formation and growth (NSDC, 2012). The differentiated tax rates for SMEs are believed not to be supportive, and discourage them from growing beyond the SME definition. In this instance, while debt financing would reduce a firm's tax expenses (due to the effect of tax-deductibility of interest), extensive use of debt would eventually increase a firm's financial risks. This (the existence of the tax issue) would support the fact that SMEs rely on alternative tax shields in reducing their tax expenses. Policy makers should take this finding into consideration in creating a better tax environment for SMEs. Firms are found to seek an alternative tax shield in reducing their tax expenses. To some extent, tax issues might impede the development of the firm as they may refuse to seek additional debt (when there is a need to do so to grow), given that additional use of debt may increase financial risk. It may be seen that an increase in NDTS among successful SMEs in Malaysia would reduce their use of short term debt, long-term debt and overall debt in general, as shown by the results of multivariate analysis for the determinants of firm's STDR, LTDR and DER.

The second explanatory variable that was found to have power in explaining the variances in the firm's capital structure is the firm's level of asset tangibility (TANG).

This explanatory variable was found to have an influence on the firm's DR, and was considered as an important determinant of SME capital structure (Abor and Biekpe, 2009). A firm's level of tangible assets has long been proven to have a positive relationship with a firm's level of debt (Ramalho and da Silva, 2009; Nguyen and Ramachandran, 2006; Ortqvist et al., 2006; Mac an Bhaird and Lucey, 2006; Brighi and Terluccio, 2007; Abor and Biekpe, 2009; Mira, 2002). This relationship supports the use of tangible assets as collateral in seeking debt financing, which in a way increases the possibility of obtaining debt financing among firms. Tangible assets also served as a back-up instrument to support debt financing, as it represent the firm's involvement by granting a firm's tangible assets as collateral (Esparanca and Gama, 2003).

Firms with a higher proportion of tangible assets have better access to the debt market (Ramalho and da Silva, 2009) as this type of asset is considered to be an ambiguous factor in determining a firm's debt-equity ratio (Psillaki and Daskalakis, 2007). Nguyen and Ramachandran (2006) have highlighted that in the case of Vietnamese SMEs, a firm with a high level of fixed assets (with a high collateral value) will have easy access to bank loans. Fixed assets of the business are also highlighted as one of the important criteria placed by lending institutions, rather than profitability, when issuing debt financing (Mac an Bhaird and Lucey, 2006) as the costs associated with adverse selection and moral hazards are reduced provided the firm's assets are used as collateral (Abor and Biekpe, 2009). As in the case of SMEs in Malaysia, lack of collateral was indicated as the biggest constraint faced by SMEs in obtaining finance (as reported in the SME Annual Report 2005). The results of multivariate analysis provide evidence to support the explanatory power of a firm's level of asset tangibility in explaining the

firm's capital structure; in this case, DR. A positive association between these two indicates that firms with a higher level of asset tangibility will have a higher level of debt, as represented by an increase in their DR. A higher level of asset tangibility will enable these SMEs to access debt-type financing, as the availability of tangible assets will increase the creditability of this SME (given that collateral is provided to back-up their debt financing).

The final explanatory variable that was found to have an influence on firms' capital structure was a firm's level of liquidity (LIQ). This variable was found to have power in explaining variances in the firm's DER. Brighi and Terlucio (2007) highlighted the negative relationship between a firm's use of debt and firm's liquidity level, according to POH, established by Myers and Majluf (1984). This is supported by Ramalho and da Silva (2009) who later explained the relationship between this explanatory variable and a firm's capital structure. Theoretically, firms with a higher level of liquidity will reduce their use of debt as they will create liquid reserves from retained earnings in financing future investments, provided they prefer to use internal sources of finance. The results of bivariate association analysis provide evidence as to the higher preferences among managers of successful SMEs in Malaysia for retained earnings as an internally sought type of financing. This result supports the finding of multivariate analysis on the influence of a firm's level of liquidity on firm's capital structure, in this case DER.

To sum up briefly, multivariate analysis accomplished in this study provides evidence of the determinants of a firm's capital structure. Three firm's characteristics were found to have an explanatory power in explaining variances in the firm's capital structure. These

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characteristics (NDTS, TANG, and LIQ) are proven to have a significant influence in determining the firm's capital structure, within this study of determinants of capital structure among successful SMEs in Malaysia.

8.3   Summary and conclusions

In summary, the major findings of this study have been discussed and explained comprehensively in different sections to address the five research objectives of this study. Univariate analysis was conducted in assessing managers' level of preference for IEF, DF and EEF, and a firm's capital structure. Results were discussed to achieve the first two research objectives of this study. The association between selected managers' characteristics (AGE, GENDER, EDU, EXP and OWN) and manager's preferences for IEF, DF and EEF, and between selected firm's characteristics (AGE, SIZE, PROF, LIQ, GROWTH, TANG and NDTS) and firm's capital structure were tested using bivariate association analyses.

The results were described and discussed in order to address the third research objective of this study. Similarly, the fourth research objective was achieved through the use of bivariate association analysis in assessing the relationship between managers' level of preferences and the proportions of the firm's capital structure. Finally, multivariate analysis was conducted to accomplish the final research objective of this study, so as to determine the factors affecting managers' level of financing preferences for IEF, DF and EEF, factors affecting the proportions of the firm's capital structure, and factors affecting the firm's capital structure.

These findings offer some recent and useful knowledge on the theme of financing preferences and capital structure among SMEs in Malaysia, with particular emphasis on successful SMEs. The significant contributions of SMEs in general and successful SMEs in particular, validate the need for better awareness and understanding of financial practices among these SMEs. In addition to that, evidence of a financing gap in developing countries and a lack of literature on financial practices among successful SMEs in Malaysia also validate the significance of this study. Emphasis on successful SMEs was motivated by the reality that the financial practices of these SMEs are still unidentified, and need to be explored to offer useful information to provide solid financial environment for SMEs in the ever challenging global economy.

Chapter 9

Conclusions

9.1   Introduction

This chapter presents the main contributions, recommendations and limitations of the study. The chapter begins with a section that summarizes the main findings of the study, followed by the research contributions and the scope and limitations of the study. In the final section, recommendations for future research are identified and discussed.

9.2   Summary and concluded findings

A summary of the results is listed based on the research questions (section 4.3) of this study, and is presented as follows:

1.   Managers' of successful SMEs in Malaysia are found to have preferences for different sources of financing. An internal source of funds preferred by them is retained earnings, while banking institutions are the most preferred sources of external financing.

2.   Successful SMEs in Malaysia use more debt than equity-sources of financing. This is proven by the average Debt-to-Equity ratio of 57 to 43. This result shows that in general, successful SMEs in Malaysia rely on debt-sources of financing for their business.

3.   Managers' levels of financing preferences are found to have a significant association with their business ownership status and their level of education. Managers' age, gender and experience are found to have no association with, and influence on their financing preferences. The firm's capital structure, on the other hand, is found to have a significant association with non-debt tax shields, asset tangibility and level of liquidity. Other factors (firm's age, firm's size, profitability and growth) are found to have no association with a firm's capital structure.

4.   Evidence also shows that there is a significant association between managers' financing preferences and the proportion of their firm's capital structure.

5.   Manager's levels of preference are found to be influenced by their business ownership status, their level of education and their level of experience. The proportions of a firm's capital structure is affected by managers' level of financing preferences for different sources of financing and finally, a firm's capital structures are found to be influenced by non-debt tax shields and also a firm's level of liquidity and asset tangibility.

9.3   Research contributions

This study concerns financial practices among successful SMEs in Malaysia in regards to their financing preferences and choice of capital structure. Current knowledge in this area has largely focused on the patterns of financing among SMEs throughout their business life-cycle and the adequacy of financing facilities (see Beck et al., 2008; Rozali et al., 2006; Ab. Wahab and Buyong, 2008; Ab Manan et al., 2011; Abdullah and Ab

Manan, 2009). Previous studies on the topic of capital structure among Malaysian firms have mostly targeted those large or public-listed companies in Malaysia (see Booth et al., 2001; Deesomsak et al., 2004; Pandey, 2004; Gurcharan, 2010; S M Zain, 2003; Wan Mahmood and Mat Kila, 2008; Yau et al., 2008; and Ahmed and Hisham, 2009). Hence these leave significant gaps in research into financing practices and capital structure in smaller firms or SMEs.

In the context of Malaysian research, the current state of knowledge of SME financing is only limited to the area of financing patterns, adequacy of financing, the use of financing and problems or difficulties faced by Malaysian SMEs in getting financing (see Abdullah et al., 1999; Rozali et al., 2006; Ab. Wahab and Buyong, 2008; Abdullah and Ab. Manan, 2010; Osman and Hashim, 2003). This study thus makes its own specific contribution by providing knowledge of financial practices, focusing on successful Malaysian SMEs. The study is distinct because it not only addresses the issue of manager's financing preferences, but also documents important matters among successful Malaysian SMEs; managers' level preferences for different sources of financing, choice of capital structure, the relationships between managers' characteristics and the level of financing preferences for various sources of financing; the relationships between manager's financing preferences with the proportions of firm's capital structure; and factors affecting manager's level of financing preferences for different sources of financing; factors affecting the proportions of firm's capital structure (in regards to managers' financing preferences) and factors affecting the capital structure of the firm.

This study has sought to advance understanding of the current condition of financial practice among SMEs, particularly in a developing country context. As such, this study has filled important research gaps as well as responding to calls for research into financing practice and capital structure in a small business in a developing country. Further, this research has made a contribution by shedding light on factors influencing the level of manager's preference and factors affecting the capital structure of a firm in SMEs. The findings indicate that manager's business ownership status, their level of education and working experience are major factors that influence the level of managers' preferences for different sources of financing, and non-debt tax shields, firm's asset tangibility and level of liquidity have a significant influence on the capital structure of the SMEs. These findings are useful in seeking to understand the important variables that affect the specific financing behavior among Malaysian SMEs.

The information on the relationship between manager financing preferences and the proportion of their firm's capital structure prove that this relationship needs further consideration among policy makers. This new knowledge will provide a new input for the policy makers by incorporating the preferences of owner-managers in developing suitable and appropriate financing facilities, and in providing better financing products and assistance to the Malaysian SMEs.

Policy makers have to recognize the existence of different group of SMEs within general classifications. This is due to the fact that although the classification of SMEs into three different groups is well developed, the financing needs of various groups representing different criteria of business development needs are still unknown. The variability of

needs should be attended to effectively. In reality, different firms are at different stages of development, and the types of finance provided should be accessible to them in terms of suitabilty and preference. This study, for example, offers some insights into the financial practices of successful SMEs in Malaysia. This will not only increase the accessibility of the financial assistance provided, but most significantly, reduce the knowledge gap in this area of SME financing, and also (eventually) the financing gap.

Furthermore, focus should be placed on increasing the awareness and also preferences among SMEs of various other financial alternatives available in the market. Further investigations in to the cause for lower preferences among successful SME managers for certain sources of financing (for example leasing, factoring, business angels and venture capital) as found in this study, needs to be explored. This will eventually help policy makers to increase the usage and preferences of SME managers to exploit the various advantages of these specific sources of finance available to them.

Availability of financial data on SMEs in Malaysia has been an issue among academic and policy researchers. It is recommended that a stronger policy be devised to address this issue. Compliance with the regulations among SMEs is needed, as the availability of financial data can give an advantage not only to the SMEs (in managing their financial activities), but also to the academic and policy researcher (with the use of this data enhancing the overall understanding of the financial practices of SMEs).

Additionally, evidence for the influence of tax-related issues in the financial decision of successful SMEs offer some useful information. A focus on developing a favourable tax

environment for this specific group of SMEs should be addressed. Again, the variability of SMEs within the classifications of SMEs should be taken into consideration, so as to capture specific needs of certain groups of SMEs. This will further offer useful assistance to these SMEs so that they can be well established businesses.

In addition to both the theoretical and practical contributions of this study, the methodological approach applied in this study is also believed to contribute to the ways in which the topic of financing behavior is studied. In circumstances where a firm's financial data is unavailable or incomplete, the questionnaire is believed to be very useful in investigating financing behavior among SMEs. The main advantage of this particular approach is the direct involvement of managers in providing a much needed response and data for the study. Information gathered was believed to reflect their perception and the true conditions of topic under study. In this case, it was the information on their preferences for different sources of finance, the proportion of their firm's capital structure and their capital structure. This information can be gathered through the use of questionnaire as an alternative to the financial information provided through reports and statements. The use of the questionnaire in this study is believed to contribute to the methodological approach used in investigating the topic of financing behavior among SMEs in Malaysia.

Additionally, the use of e-survey as the approach in collecting the data for this study is also contribute to the way of researching SMEs in Malaysia. Census of Establishments and Enterprises 2011 revealed that although 73% of SMEs did not use Information and Communication Technology (ICT) in conducting their business, 67% of SMEs that use

ICT utilized internet in their business with 12% of SMEs have their own website. These figures show great opportunities in researching SMEs via the use of electronic survey. Within the database of this study itself, it was found that, almost all the SMEs have their own company's website. The used of e-survey in this study is hoped to offer an option for future researcher in conducting research involving SMEs in Malaysia. In brief, methodological approach of e-survey applied in this study contributes to the way of conducting research particularly among SMEs in Malaysia, and to the overall businesses, generally.

Finally, this study contributes to SME owners and managers in such a way that their financial practices are explored and documented, which can be resourced for the benefit of improving the financial assistance offered to them. Theoretically, this information adds to the understanding of financing preferences and capital structure among successful SMEs. Furthermore, the findings on their financial practices will also offer useful information which can be used to enhance the awareness of policy makers about developing financial support to this particular group of SMEs. Emphasis should be placed on developing accessible financial assistance that most suits the need of SME owners and managers. In addition to this, methods to boost the use of financial assistance, which was the least preferred by this group of SMEs, also need to be developed to offer a variety of financial choices for SMEs.

In conclusion, the work presents a comprehensive survey and explanation of financing preferences and the capital structure of successful SMEs and, therefore, makes a

contribution to the awareness of financing behaviour in small firms, particularly in a developing economy.

9.4   Practical implications

This study offers practical implications from its findings, both to the Malaysian SMEs and policy-makers. For Malaysian SMEs, the findings of this study would enable them to understand more on factors that might have a relationship and also influence on their preferences for different sources of finance available in the market. Apart from that, findings on successful SMEs' capital structure shed some valuable information on the nature of capital structure of successful SMEs in Malaysia. This information would help SMEs in Malaysia about the importance of making the right decisions when it comes to balancing the mix of financing sources used to funds their business activities. It is hoped that the choices of capital structure among successful SMEs in Malaysia would give some helpful proposition to general SMEs on managing their firm's capital structure.

In addition to the practical implications of the findings of this study to the Malaysian SMEs, policy-makers can also benefits from the findings of this study. Governmental studies (such as Census and various other surveys) conducted by Department of Statistics of Malaysia and various ministries, as well as surveys by private bodies and associations, would give very general idea consisting the challenges and current practices among SMEs in Malaysia. Although very informative, findings of these studies are very general. The accessibility to finance among SMEs, for example, needs further understanding on the financial practices of SMEs covering all different groups of SMEs.

Although it is quite challenging to cover all different groups of SMEs in a study, one academic study such as this, would shed some valuable information on the financial practices of particular group of SMEs. Findings of various academic studies on different scope and groups of SMEs in Malaysia, when taken as a whole, would provide valuable information for policy-makers to consider. Findings on preferences for different sources of financing and the capital structure of successful SMEs should be taken into consideration by policy-makers in developing financial assistances for the Malaysian SMEs particularly those in the group of successful SMEs which have huge potential to become large companies, which in turn, would further contributes to the Malaysian economy.

9.5   Scope and limitations of study

The study has the following limitations. First, the low response rate of the questionnaire survey potentially introduces non-response bias, especially for the smaller enterprises. For smaller enterprises, this bias restricted generalization of the findings, and hence caution must be exercised when generalizing from the results for small and medium-sized sized enterprises, given the low response rate. However, data collection for SMEs is difficult and, therefore, the limitation of low response rates cannot be avoided.

Second, the capital structure across different dimensions was measured using qualitative perceptions rather than quantitative results. As argued before, it is clearly difficult to obtain financial data from SMEs, since most Malaysian SMEs are reluctant or cooperate less in entertaining an academic survey such as this one. Hence the concept of a self-

rating scale has been used to facilitate the survey. This is the only source available, given that SMEs are unwilling to divulge quantitative results. Dess and Robinson (1984) reported that the use of subjective measures is appropriate in the absence of objective measures.

Third, this research focused only on successful SMEs and not on all SMEs. The chosen database, therefore, restricts the ability to generalise the research findings to all SMEs.

Fourth, the range of independent variables used in this study is quite small. This reflects the less complex environment in which SMEs operate. The limited number of variables was also decided upon to avoid confusing respondents or discouraging them from responding by excessive complexity, considerations that are especially important given that the respondent is not used to academic research questionnaires.

The use of an electronic survey imposes some restrictions in terms of the nature and volume of questions, and it does not facilitate follow-up questions to explore potentially interesting areas or apparently inconsistent responses. The possibility of misinterpretation or misunderstanding questions by respondents can never be ruled out. As the study examined a large number of items, it is thus possible that respondents may have misinterpreted some items.

Finding a database within the same predetermined criteria also proved to be difficult. Although there are many directories of SMEs available, either they have not been updated or the classifications of industries or sectors are different across directories. In

addition, SMEs in Malaysia are not required to publish their financial report as are those companies listed either in Malaysian Bourse or ACE market. Given this, the public do not have any access to the company's financial reports. While companies are required to submit annual-audited financial statements to the Companies Commission of Malaysia (CCM), only a percentage of them are doing so. The respondents were drawn from the list of Enterprise 50 award winners, which was chosen as it is the best database as it involved all sizes of SME from different sectors. Audited financial statements are also one of the award's requirements which reflect better financial knowledge among SME managers and good financial management among SMEs. This study is also limited within the scope of financing preferences among finance or accounting managers of those SMEs, and also firm's capital structure with selected managers' and firm characteristics. Other related topics, such as the influence of microeconomic indicators on their preferences and the firm's capital structure, are not covered.

Despite these limitations, the study provides evidence of the state of financing preferences and the capital structure of, successful Malaysian SMEs with additional information as to the significant factors that affected their financing behaviour and capital structure. It is suggested that this piece of work has made an important contribution to research on financing behaviour, and has successfully responded to the need for research into financing and capital structure by smaller firms.

9.6 Recommendations for future research

The results of this research raise several issues that warrant future research.

First, the sample of micro and small enterprises should be extended. This would enable differences based upon size to be clearly identified and to highlight the form of financing preference and capital structure in different contexts. However, this may prove difficult as there must be the possibility that these firms will be much less likely to be in the list of successful SMEs and also to complete the questionnaire, and this will thus lead to bias in responses.

Second, it might be advantageous to focus on a sample from one particular sector such as the manufacturing or service sector by focusing on a specific industry such as the electric and electronics industry. This means that the sample would be more homogeneous and might result in having a certain financing behaviour and type of capital structure. This might also make the factors that explain financing preferences more distinct. Alternatively, a case study approach might be employed to highlight the reasons for different types of capital structure and financing preference in a more detailed context.

Third, the nature of the dependence between financing behaviour and a firm's capital structure needs further investigation. Again a qualitative case study approach would be likely to provide additional insights beyond those that can be gleaned from a questionnaire survey approach.

Fourth, the next few years are likely to see increased global competitiveness in the Malaysian industrial market, therefore, it would be interesting to expand the survey to provide a longitudinal study of financing behaviour and capital structure by documenting changes over time in terms of preferences in financing and capital structure in a more detailed way.

Lastly, research in this area can be developed by conducting a comparative study of the Malaysian situation on financing behaviour among SMEs in other developing countries, in order to explore differences in terms of cultural and other contributory factors.

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APPENDIX I-SURVEY QUESTIONNAIRES

STRUCTURE AMONG MALAYSIAN SMEs

Before you start, you need to know that:

- This questionnaire has FOUR (4) parts.
- This questionnaire is to be completed by the Finance/Accounting Manager   (or any other key person of the department) of the firm as it requires an understanding on the topic of financial practices and reporting.
- The answers you give to these questions will be treated in the strictest confidence, and used for research purposes only. The name of individual respondents and their firms will not be released under any circumstances.

Part A: Firms' Financing Preferences

A1. Please indicate your level of preferences using the following scale.

a.   Sources of funds: Internal financing

	Very Low Preference	Low Preference	Neither High nor Low Preference	High Preference	Very High Preference
Shareholder's Own Funds/Contributions	○	○	○	○	○
Retained Earnings (Net Income Retained for Reinvestment)	○	○	○	○	○
Funds from Parent/Subsidiaries/Associate Companies	○	○	○	○	○

ai. Others (please specify)

b.   Sources of funds: External financing

	Very Low Preference	Low Preference	Neither High nor Low Preference	High Preference	Very High Preference
Banking Institutions	○	○	○	○	○
Development Financial Institutions	○	○	○	○	○
Government Funds/Scheme	○	○	○	○	○
Cooperatives Financing	○	○	○	○	○

	Very Low Preference	Low Preference	Neither High nor Low Preference	High Preference	Very High Preference
Trade/Supplier Credit	○	○	○	○	○
Leasing Companies	○	○	○	○	○
Factoring Companies	○	○	○	○	○
Equity Investment: Venture Capital Companies	○	○	○	○	○
Equity Investment: Business Angels	○	○	○	○	○
Private Equity Investment from Friends and Family	○	○	○	○	○
Private Equity Investment from Unrelated Companies	○	○	○	○	○

bi. Others (please specify)

[ ]

c. Financing Terms

	Very Low Preference	Low Preference	Neither High nor Low Preference	High Preference	Very High Preference
Short-term Financing (Repayment in less than 1 year)	○	○	○	○	○
Long-term Financing (Repayment in more than 1 year)	○	○	○	○	○

A2i. Please indicate the approximate proportion of the followings out of your firm's total funding (e.g. 10%, 45% etc). All sources when added up must be equal to 100%.

Short-term Liabilities	[ ]	%
Long-term Liabilities	[ ]	%
Owner's Equity	[ ]	%
Total	<>	%

A2ii. Based on the following scale, please indicate the average proportion of the following sources of funds used by your firm in the last 3 years.

	Very Low Proportion	Low Proportion	Neither High nor Low Proportion	High Proportion	Very High Proportion
Accounts Payable	○	○	○	○	⦿
Bank Overdraft	○	○	○	○	○
Trade Credit	○	○	○	○	○
Accrued Expenses	○	○	○	○	○
Notes Payable	○	○	○	○	○
Long-term Debt	○	○	○	○	○
Leasing	○	○	○	○	○
Factoring	○	○	○	○	○
Hire Purchase	○	○	○	○	○
Retained Earnings (Net Income Retained for Reinvestment)	○	○	○	○	○
Shareholder's Own Funds /Contribution	○	○	○	○	○
Share Capital	○	○	○	○	○
Capital Reserved	○	○	○	○	○
Funds from Parent/Subsidiaries/Associate Companies	○	○	○	○	○

i. Other sources (please specify)

A3. Based on the following scale, please indicate how strict your firm's target range for the followings is:

	Very Flexible	Somewhat Flexible	Neither Strict nor Flexible	Somewhat Strict	Very Strict
Debt Ratio: Total Liabilities/Total Assets	○	○	○	○	○
Short-term Debt Ratio: Current Liabilities/Total Assets	○	○	○	○	○
Long-term Debt Ratio: Long-term	○	○	○	○	○

	Very Flexible	Somewhat Flexible	Neither Strict nor Flexible	Somewhat Strict	Very Strict
Debt/Total Assets					
Debt-to-Equity Ratio: Total Debt/Total Equity	○	○	○	○	○
Retention Rate (percentage of net income retained for reinvestment)	○	○	○	○	○

Part B: Determinants of Capital Structure

B1. In funding capital investment for the last 3 years, your firm...... (Please *choose ONE of the following answers)*

○ seeks to maintain a constant debt-to-equity ratio.

◉ follows a hierarchy in which certain sources of funds used are exhausted before other sources are used.

B2. Based on the following scale, please indicate the average changes in the following financial ratios of your company in the last 3 years.

	Significance Decrease	Moderate Decrease	Neither Increase nor Decrease	Moderate Increase	Significance Increase
Quick Ratio: (Current Assets – Inventories)/Total Assets	○	○	○	○	○
Current Ratio: Current Asset/Current Liabilities	○	○	○	○	○
Return on Assets: EBIT/Total Assets	○	○	○	○	○
Gross Profit Margin: Gross Profit/Net Sales	○	○	○	○	○
Net Profit Margin: Net Income/Sales	○	○	○	○	○
Asset Tangibility: Fixed Assets/Total Assets	○	○	○	○	○
Non-debt Tax Shields: Depreciation/Total Assets	○	○	○	○	○
Growth of Total Assets (%)	○	○	○	○	○
Growth of Total Sales (%)	○	○	○	○	○
Debt Ratio: Total Liabilities/Total Assets	○	○	○	○	○

|	Significance Decrease	Moderate Decrease	Neither Increase nor Decrease	Moderate Increase	Significance Increase
Short-term Debt Ratio: Current Liabilities/Total Assets	○	○	○	○	○
Long-term Debt Ratio: Long-term Debt/Total Assets	○	○	○	○	○
Debt-to-Equity Ratio: Total Debt/Total Equity	○	○	○	○	○

B3. Based on the following scale; please indicate the importance of the following factors in considering your firm's capital structure decision.

	Very Unimportant	Somewhat Unimportant	Neither Important nor Unimportant	Somewhat Important	Very Important
Firm's Size	○	○	○	○	○
Number of Year's Firm in Business	○	○	○	○	○
Firm's Profitability	○	○	○	○	○
Firm's Level of Liquidity	○	○	○	○	○
Firm's Asset Structure (Tangibility of Assets)	○	○	○	○	○
Firm's Growth/ Growth opportunities	○	○	○	○	○
Non-debt Tax Shields (e.g. Depreciation expenses)	○	○	○	○	○

B4. Please indicate your opinion on the following statements based on these scales:

	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree
Profitable firms have larger internal slack and therefore a smaller need for external finance.	○	○	○	○	○
Less profitable firms facing a positive Net Present Value (NPV) investment opportunity will be more willing to use external funds.	○	○	○	○	○
Smaller firms are often discriminated against when applying for external debt finance.	○	○	○	○	○
Large firms have better reputations in debt markets.	○	○	○	○	○

	Strongly Agree	Agree	Neither Agree or Disagree	Disagree	Strongly Disagree
Firms with more assets and more collateral available face fewer obstacles in receiving debt.	○	○	○	○	○
Firms with a high level of fixed assets pledging collateral to secure debt finance.	○	○	○	○	○
Firms with greater growth opportunities have more access to bank funds.	○	○	○	○	○
High growth firms typically do not have sufficient internal finance to meet their investment needs.	○	○	○	○	○
Older firm has a higher creditworthiness to the creditor.	○	○	○	○	○
Older and more experienced firms require less external financing as they can rely more on internally generated funds.	○	○	○	○	○
The tax advantage of leverage (i.e. advantages of using debt) decreases when other tax deduction (e.g. depreciation) increases.	○	○	○	○	○
Tax deductions for depreciation expenses can be used as substitutes for the tax benefits of debt financing.	○	○	○	○	○
Firm with greater liquidity may use their liquidity to finance their investments.	○	○	○	○	○
A higher liquidity indicates a greater firm's ability to meet short-term obligations.	○	○	○	○	○

Instruction: Please thick your answers in the appropriate box.

Part C: Profile of the firm

C1. Legal status
- ○ Individual Proprietorship
- ○ Private Limited Company
- ○ Partnership

C2. Sector
- ○ Manufacturing
- ○ Services
- ○ Manufacturing Related Service
- ○ Primary Agriculture
- ○ Agro-based Industries
- ○ Information and Communication Technology (ICT)

C3. Number of fulltime employees
- ○ Less than 5
- ○ 5 – 19
- ○ 20 – 50
- ○ 51 – 150
- ○ More than 150

C4. Annual sales turnover (RM)
- ○ Less than 200,000
- ○ 200,000 – less than 250,000
- ○ 250,000 – less than 1 million
- ○ 1 million – less than 5 million
- ○ 5 million – less than 10 million
- ○ 10 million – 25 million
- ○ More than 25 million

C5. Years of establishment

○ Less than 5 years

○ 5 – 9 years

○ 10 – 14 years

○ 15 – 19 years

○ More than 20 years

C6. Is the firm a subsidiary of another firm or an independent firm?

○ A subsidiary firm

○ An independent firm

Instruction: Please thick your answers in the appropriate box.

<u>Part D: Profile of Respondent</u>

D1. Gender

○ Male

○ Female

D2. Age

○ Less than 25 years old

○ 26 – 35 years old

○ 36 – 45 years old

○ 46 – 55 years old

○ 56 – 65 years old

○ Over 65 years old

D3. Highest level of education

○ School Certificate (SRP/PMR/SPM/STPM)

○ Diploma

○ Bachelor Degree

○ Master Degree

○ PhD

○ Other (please specify) [_____]

D4. Did you have any working/ business experience prior working with/running this present business?

○ Yes ○ No

If 'Yes' please answer Question a-c. If 'No' please proceed to Question 5

D4a. Experience as….. *(You may tick more than one)*

☐ Owner

☐ Employee

☐ Employee (active shareholder)

☐ Other (please specify): [   ]

D4b. Experience in…. *(You may tick more than one)*

☐ Local Private Firm

☐ Multinational Corporation (MNC)

☐ Government-Linked Company (GLC)

☐ Government service

☐ Others (please specify) [   ]

D4c. Overall length of services

○ Less than 5 years

○ 5 to 9 years

○ 10 to 14 years

○ 15 to 19 years

○ More than 20 years

D5. Are you the owner/shareholders of this business?

○ Yes

○ No

D6. Length of service with present business

○ Less than 5 years

○ 5 to 9 years

○ 10 to 14 years

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○ 15 to 19 years

○ More than 20 years

E. Would you agree to have a brief <u>phone interview</u> in the near future?

○ Yes

○ No

E (i). *If 'Yes' please provide the following information:*

Name	
Telephone Number	
Company's Name	
Address 1	
Address 2	
Postcode and State	

E (ii). If you have any comment or suggestion regarding this survey, please feel free to write them down in the space provided below.

Thank you for your cooperation. Your contribution to this study is highly appreciated.

Submit Survey

APPENDIX II- GRAPHIC NORMALITY FOR INDEPENDENT AND DEPENDENT VARIABLES

Overall length of services

Mean = 2.83
Std. Dev. = 1.731
N = 120

LTF

Mean = 2.16
Std. Dev. = .70
N = 120

Are you the owner/shareholders of this business?

Mean = 1.43
Std. Dev. = .498
N = 120

EF

Mean = 2.81
Std. Dev. = .758
N = 120

STF

Mean = 2.87
Std. Dev. = .788
N = 120

Debt Ratio: Total Liabilities/Total Assets

Mean = 3.25
Std. Dev. = .882
N = 120

Short-term Debt Ratio: Current Liabilities/Total Assets

Mean = 2.98
Std. Dev. = .864
N = 120

LIQ

Mean = 3.16
Std. Dev. = .868
N = 120

Long-term Debt Ratio: Long-term Debt/Total Assets

Mean = 2.91
Std. Dev. = .87
N = 120

PROF

Mean = 3.34
Std. Dev. = .836
N = 120

Debt-to-Equity Ratio: Total Debt/Total Equity

Mean = 3.03
Std. Dev. = .874
N = 120

GROWTH

Mean = 3.52
Std. Dev. = .631
N = 120

TANG

Mean = 3.17
Std. Dev. = .892
N = 120

Years of establishment

Mean = 3.12
Std. Dev. = 1.439
N = 120

NDTS

Mean = 3.01
Std. Dev. = .761
N = 120

Size based on no. of employee

Mean = 1.53
Std. Dev. = .501
N = 120

APPENDIX III - HISTOGRAM AND P-P PLOTS OF NORMALITY OF RESIDUALS.

Histogram
Dependent Variable: EF

Histogram
Dependent Variable: Debt Ratio: Total Liabilities/Total Assets

Histogram
Dependent Variable: Short-term Debt Ratio: Current Liabilities/Total Assets

Histogram
Dependent Variable: Long-term Debt Ratio: Long-term Debt/Total Assets

Histogram
Dependent Variable: Debt-to-Equity Ratio: Total Debt/Total Equity

Normal P-P Plot of Regression Standardized Residual
Dependent Variable: EF

Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Debt Ratio: Total Liabilities/Total Assets

Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Short-term Debt Ratio: Current Liabilities/Total Assets

Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Long-term Debt Ratio: Long-term Debt/Total Assets

Normal P-P Plot of Regression Standardized Residual
Dependent Variable: Debt-to-Equity Ratio: Total Debt/Total Equity

APPENDIX IV - SCATTERPLOTS OF THE RESIDUALS OF THE OUTCOME VARIABLES
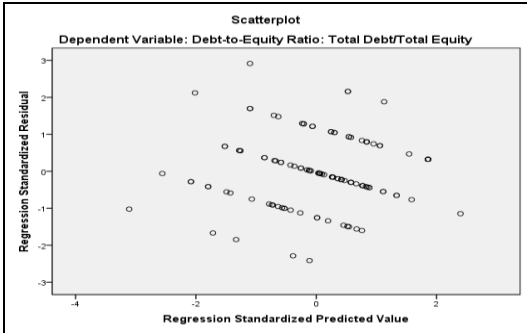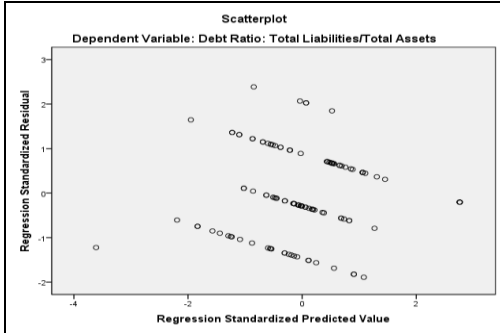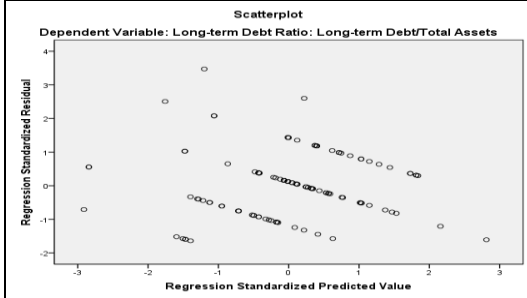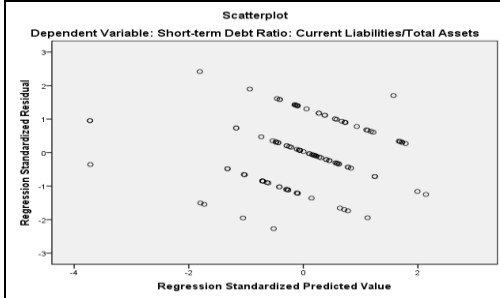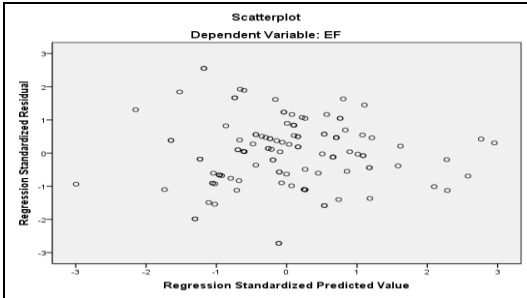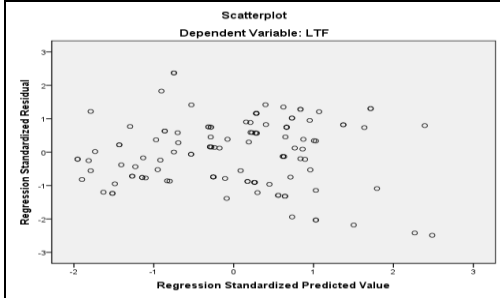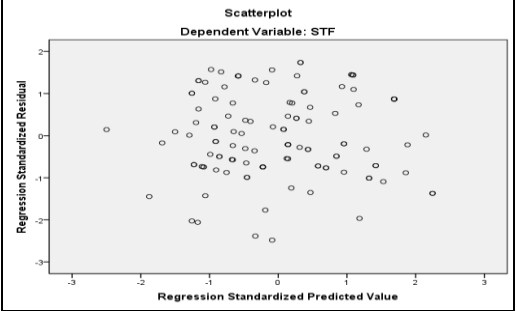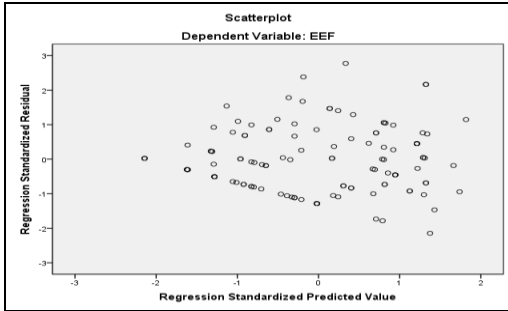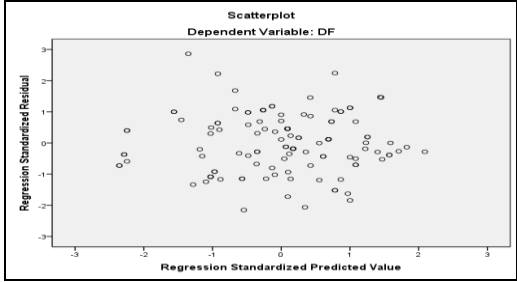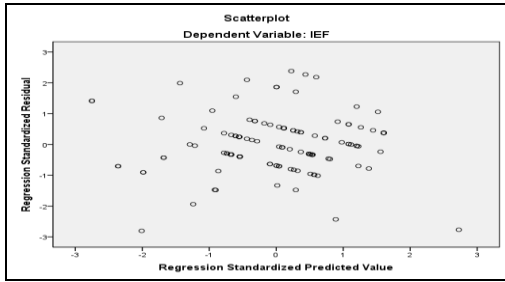
APPENDIX V - SUMMARY OF TEST RESULTS FOR THE FIRST STAGE OF REGRESSION ANALYSIS

Determinants of Managers' Level of Financing Preferences for IEF

Model Summary[f]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.230[a]	.053	.045	.54766	.053	6.593	1	118	.011	
2	.250[b]	.063	.047	.54718	.010	1.207	1	117	.274	
3	.359[c]	.129	.075	.53906	.067	1.710	5	112	.138	
4	.409[d]	.167	.082	.53686	.038	1.230	4	108	.302	
5	.495[e]	.245	.128	.52322	.078	2.140	5	103	.066	1.842

ANOVA[f]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.977	1	1.977	6.593	.011[a]
	Residual	35.392	118	.300		
	Total	37.369	119			
2	Regression	2.339	2	1.169	3.905	.023[b]
	Residual	35.031	117	.299		
	Total	37.369	119			
3	Regression	4.824	7	.689	2.371	.027[c]
	Residual	32.546	112	.291		
	Total	37.369	119			
4	Regression	6.242	11	.567	1.969	.038[d]
	Residual	31.127	108	.288		
	Total	37.369	119			
5	Regression	9.172	16	.573	2.094	.014[e]
	Residual	28.198	103	.274		
	Total	37.369	119			

a. Predictors: (Constant), Ownership

b. Predictors: (Constant), Ownership, Gender

c. Predictors: (Constant), Ownership, Gender, Bachelor vs. School Cert, Bachelor vs. PhD, Bachelor vs. Diploma, Bachelor vs. Others, Bachelor vs. Master Degree

d. Predictors: (Constant), Ownership, Gender, Bachelor vs. School Cert, Bachelor vs. PhD, Bachelor vs. Diploma, Bachelor vs. Others, Bachelor vs. Master Degree, 4655 vs. 3645, 4655 vs. 5665, 4655 vs. Over65, 4655 vs. 2635

e. Predictors: (Constant), Ownerships, Gender, Bachelor vs. School Cert, Bachelor vs. PhD, Bachelor vs. Diploma, Bachelor vs. Others, Bachelor vs. Master Degree, 4655 vs. 3645, 4655 vs. 5665, 4655 vs. Over65, 4655 vs. 2635, More than 20 years vs. 5-9, More than 20 years vs. Less than 5 years, More than 20 years vs. 15-19, More than 20 years vs. None, More than 20 years vs. 10-14

f. Dependent Variable: IEF

Coefficients[a] and collinearity statistics of the regression model

Model		Unstandardized Coefficients B	Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	VIF
1	(Constant)	2.878	.076		37.898	.000		
	Ownership	*.259*	*.101*	*.230*	*2.568*	*.011*	*1.000*	*1.000*
2	(Constant)	2.943	.096		30.547	.000		
	Ownership	.221	.107	.196	2.066	.041	.892	1.121
	Gender	-.121	.110	-.104	-1.098	.274	.892	1.121
3	(Constant)	2.972	.107		27.733	.000		
	Ownership	.226	.109	.201	2.069	.041	.827	1.210
	Gender	-.149	.111	-.128	-1.344	.182	.860	1.162
	Bachelor vs. School Cert	-.315	.184	-.156	-1.716	.089	.939	1.064
	Bachelor vs. Diploma	.169	.128	.123	1.321	.189	.895	1.117
	Bachelor vs. Master Degree	-.184	.150	-.115	-1.231	.221	.890	1.123
	Bachelor vs. PhD	-.532	.546	-.087	-.974	.332	.982	1.018
	Bachelor vs. Others	-.019	.285	-.006	-.065	.948	.923	1.083
4	(Constant)	3.016	.123		24.605	.000		
	Ownership	.198	.112	.176	1.772	.079	.780	1.283
	Gender	-.223	.128	-.192	-1.748	.083	.639	1.564
	Bachelor vs. School Cert	-.310	.185	-.153	-1.677	.096	.923	1.084
	Bachelor vs. Diploma	.237	.133	.172	1.786	.077	.827	1.209
	Bachelor vs. Master Degree	-.205	.154	-.128	-1.331	.186	.836	1.197
	Bachelor vs. PhD	.137	.632	.022	.217	.829	.729	1.372
	Bachelor vs. Others	-.066	.285	-.021	-.232	.817	.916	1.092
	4655 vs. 2635	.026	.153	.018	.168	.867	.660	1.515
	4655 vs. 3645	.046	.127	.037	.361	.719	.728	1.374
	4655 vs. 5665	-.117	.185	-.063	-.632	.529	.779	1.284
	4655 vs. Over65	*-.684*	*.332*	*-.220*	*-2.061*	*.042*	*.676*	*1.479*
5	(Constant)	3.037	.141		21.591	.000		
	Ownership	.191	.115	.169	1.658	.100	.703	1.423
	Gender	*-.311*	*.131*	*-.267*	*-2.380*	*.019*	*.580*	*1.724*
	Bachelor vs. School Cert	*-.407*	*.188*	*-.201*	*-2.159*	*.033*	*.842*	*1.188*
	Bachelor vs. Diploma	.199	.135	.145	1.472	.144	.758	1.319
	Bachelor vs. Master Degree	-.198	.152	-.124	-1.307	.194	.816	1.225
	Bachelor vs. PhD	.117	.617	.019	.189	.850	.726	1.378
	Bachelor vs. Others	-.133	.289	-.043	-.461	.646	.848	1.179
	4655 vs. 2635	-.015	.166	-.010	-.088	.930	.535	1.869
	4655 vs. 3645	.051	.133	.041	.382	.703	.639	1.566
	4655 vs. 5665	-.061	.185	-.033	-.328	.743	.739	1.354
	4655 vs. Over65	-.677	.334	-.218	-2.027	.045	.634	1.578
	More than 20 years vs. None	.370	.205	.213	1.809	.073	.529	1.890
	More than 20 years vs. Less than 5 years	.098	.174	.064	.560	.576	.564	1.772
	More than 20 years vs. 5-9	-.252	.173	-.161	-1.458	.148	.599	1.668
	More than 20 years vs. 10-14	-.030	.182	-.021	-.167	.868	.461	2.168
	More than 20 years vs. 15-19	.131	.186	.080	.706	.482	.573	1.746

a. Dependent Variable: IEF

Determinants of Managers' Level of Financing Preferences for DF

Model Summary[f]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.290[a]	.084	.076	.75618	.084	10.824	1	118	.001	
2	.291[b]	.085	.069	.75907	.001	.102	1	117	.750	
3	.410[c]	.168	.116	.73980	.083	2.235	5	112	.056	
4	.471[d]	.221	.142	.72870	.054	1.860	4	108	.123	
5	.521[e]	.272	.159	.72161	.050	1.426	5	103	.221	2.083

ANOVA

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	6.189	1	6.189	10.824	.001[a]
	Residual	67.473	118	.572		
	Total	73.663	119			
2	Regression	6.248	2	3.124	5.422	.006[b]
	Residual	67.415	117	.576		
	Total	73.663	119			
3	Regression	12.364	7	1.766	3.227	.004[c]
	Residual	61.299	112	.547		
	Total	73.663	119			
4	Regression	16.315	11	1.483	2.793	.003[d]
	Residual	57.348	108	.531		
	Total	73.663	119			
5	Regression	20.028	16	1.252	2.404	.004[e]
	Residual	53.634	103	.521		
	Total	73.663	119			

a. Predictors: (Constant), Ownership

b. Predictors: (Constant), Ownership, Gender

c. Predictors: (Constant), Ownerships, Gender, Bachelor vs. School Cert, Bachelor vs. PhD, Bachelor vs. Diploma, Bachelor vs. Others, Bachelor vs. Master Degree

d. Predictors: (Constant), Ownerships, Gender, Bachelor vs. School Cert, Bachelor vs. PhD, Bachelor vs. Diploma, Bachelor vs. Others, Bachelor vs. Master Degree, 4655 vs. 3645, 4655 vs. 5665, 4655 vs. Over65, 4655 vs. 2635

e. Predictors: (Constant), Ownerships, Gender, Bachelor vs. School Cert, Bachelor vs. PhD, Bachelor vs. Diploma, Bachelor vs. Others, Bachelor vs. Master Degree, 4655 vs. 3645, 4655 vs. 5665, 4655 vs. Over65, 4655 vs. 2635, More than 20 years vs. 5-9, More than 20 years vs. Less than 5 years, More than 20 years vs. 15-19, More than 20 years vs. None, More than 20 years vs. 10-14

f. Dependent Variable: DF

Coefficients[a] and collinearity statistics of the regression model

Model		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
1	(Constant)	2.516	.105		23.998	.000		
	Ownership	*.458*	*.139*	*.290*	*3.290*	*.001*	*1.000*	*1.000*
2	(Constant)	2.490	.134		18.629	.000		
	Ownership	.474	.148	.300	3.200	.002	.892	1.121
	Gender	.049	.153	.030	.319	.750	.892	1.121
3	(Constant)	2.530	.147		17.197	.000		
	Ownership	.571	.150	.361	3.809	.000	.827	1.210
	Gender	.055	.152	.034	.361	.719	.860	1.162
	Bachelor vs. School Cert	-.408	.252	-.144	-1.620	.108	.939	1.064
	Bachelor vs. Diploma	-.105	.176	-.055	-.600	.550	.895	1.117
	Bachelor vs. Master Degree	*-.463*	*.205*	*-.206*	*-2.257*	*.026*	*.890*	*1.123*
	Bachelor vs. PhD	.328	.750	.038	.438	.662	.982	1.018
	Bachelor vs. Others	.671	.392	.154	1.714	.089	.923	1.083
4	(Constant)	2.490	.166		14.970	.000		
	Ownership	.561	.152	.355	3.688	.000	.780	1.283
	Gender	-.053	.173	-.033	-.306	.760	.639	1.564
	Bachelor vs. School Cert	-.414	.251	-.146	-1.652	.101	.923	1.084
	Bachelor vs. Diploma	.015	.180	.008	.082	.935	.827	1.209
	Bachelor vs. Master Degree	-.438	.209	-.195	-2.100	.038	.836	1.197
	Bachelor vs. PhD	1.112	.857	.129	1.297	.197	.729	1.372
	Bachelor vs. Others	.587	.387	.135	1.516	.132	.916	1.092
	4655 vs. 2635	.030	.208	.015	.144	.886	.660	1.515
	4655 vs. 3645	.300	.173	.173	1.735	.086	.728	1.374
	4655 vs. 5665	-.145	.251	-.055	-.576	.566	.779	1.284
	4655 vs. Over65	-.735	.451	-.168	-1.630	.106	.676	1.479
5	(Constant)	2.354	.194		12.137	.000		
	Ownership	.449	.159	.284	2.834	.006	.703	1.423
	Gender	-.104	.180	-.064	-.578	.565	.580	1.724
	Bachelor vs. School Cert	-.261	.260	-.092	-1.005	.317	.842	1.188
	Bachelor vs. Diploma	.108	.186	.056	.578	.564	.758	1.319
	Bachelor vs. Master Degree	-.499	.209	-.222	-2.387	.019	.816	1.225
	Bachelor vs. PhD	1.248	.851	.145	1.468	.145	.726	1.378
	Bachelor vs. Others	.649	.398	.149	1.628	.107	.848	1.179
	4655 vs. 2635	-.088	.229	-.044	-.385	.701	.535	1.869
	4655 vs. 3645	.147	.183	.084	.801	.425	.639	1.566
	4655 vs. 5665	-.135	.256	-.052	-.530	.597	.739	1.354
	4655 vs. Over65	-.624	.461	-.143	-1.353	.179	.634	1.578
	More than 20 years vs. None	.128	.282	.052	.453	.651	.529	1.890
	More than 20 years vs. Less than 5 years	.417	.240	.194	1.736	.086	.564	1.772
	More than 20 years vs. 5-9	.147	.238	.067	.616	.539	.599	1.668
	More than 20 years vs. 10-14	*.575*	*.251*	*.284*	*2.295*	*.024*	*.461*	*2.168*
	More than 20 years vs. 15-19	.328	.256	.142	1.280	.203	.573	1.746

a. Dependent Variable: DF

Determinants of Managers' Level of Financing Preferences for EEF

Model Summary[f]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.353[a]	.124	.117	.73523	.124	16.765	1	118	.000	
2	.353[b]	.124	.109	.73835	.000	.007	1	117	.936	
3	.490[c]	.240	.192	.70325	.115	3.394	5	112	.007	
4	.521[d]	.271	.197	.70125	.031	1.161	4	108	.332	
5	.552[e]	.305	.197	.70102	.034	1.014	5	103	.414	1.804

ANOVA[f]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9.063	1	9.063	16.765	.000[a]
	Residual	63.787	118	.541		
	Total	72.849	119			
2	Regression	9.066	2	4.533	8.315	.000[b]
	Residual	63.783	117	.545		
	Total	72.849	119			
3	Regression	17.458	7	2.494	5.043	.000[c]
	Residual	55.391	112	.495		
	Total	72.849	119			
4	Regression	19.741	11	1.795	3.650	.000[d]
	Residual	53.108	108	.492		
	Total	72.849	119			
5	Regression	22.232	16	1.389	2.827	.001[e]
	Residual	50.618	103	.491		
	Total	72.849	119			

a. Predictors: (Constant), Ownership
b. Predictors: (Constant), Ownership, Gender
c. Predictors: (Constant), Ownership, Gender, Bachelor vs. School Cert, Bachelor vs. PhD, Bachelor vs. Diploma, Bachelor vs. Others, Bachelor vs. Master Degree
d. Predictors: (Constant), Ownership, Gender, Bachelor vs. School Cert, Bachelor vs. PhD, Bachelor vs. Diploma, Bachelor vs. Others, Bachelor vs. Master Degree, 4655 vs. 3645, 4655 vs. 5665, 4655 vs. Over65, 4655 vs. 2635
e. Predictors: (Constant), Ownership, Gender, Bachelor vs. School Cert, Bachelor vs. PhD, Bachelor vs. Diploma, Bachelor vs. Others, Bachelor vs. Master Degree, 4655 vs. 3645, 4655 vs. 5665, 4655 vs. Over65, 4655 vs. 2635, More than 20 years vs. 5-9, More than 20 years vs. Less than 5 years, More than 20 years vs. 15-19, More than 20 years vs. None, More than 20 years vs. 10-14
f. Dependent Variable: EEF

Coefficients[a] and collinearity statistics of the regression model

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	1.596	.102		15.655	.000		
	Ownership	*.555*	*.135*	*.353*	*4.095*	*.000*	*1.000*	*1.000*
2	(Constant)	1.590	.130		12.226	.000		
	Ownership	.558	.144	.355	3.878	.000	.892	1.121
	Gender	.012	.149	.007	.081	.936	.892	1.121
3	(Constant)	1.631	.140		11.662	.000		
	Ownership	.566	.142	.360	3.974	.000	.827	1.210
	Gender	-.067	.144	-.041	-.462	.645	.860	1.162
	Bachelor vs. School Cert	.281	.240	.100	1.174	.243	.939	1.064
	Bachelor vs. Diploma	.224	.167	.117	1.339	.183	.895	1.117
	Bachelor vs. Master Degree	*-.622*	*.195*	*-.278*	*-3.185*	*.002*	*.890*	*1.123*
	Bachelor vs. PhD	.053	.713	.006	.074	.941	.982	1.018
	Bachelor vs. Others	.011	.372	.003	.030	.976	.923	1.083
4	(Constant)	1.559	.160		9.736	.000		
	Ownership	.531	.146	.338	3.629	.000	.780	1.283
	Gender	-.211	.167	-.130	-1.267	.208	.639	1.564
	Bachelor vs. School Cert	.287	.241	.102	1.189	.237	.923	1.084
	Bachelor vs. Diploma	.276	.173	.144	1.591	.114	.827	1.209
	Bachelor vs. Master Degree	-.581	.201	-.260	-2.893	.005	.836	1.197
	Bachelor vs. PhD	.497	.825	.058	.602	.548	.729	1.372
	Bachelor vs. Others	-.022	.373	-.005	-.060	.952	.916	1.092
	4655 vs. 2635	.276	.200	.139	1.377	.171	.660	1.515
	4655 vs. 3645	.283	.167	.164	1.701	.092	.728	1.374
	4655 vs. 5665	.024	.242	.009	.098	.922	.779	1.284
	4655 vs. Over65	-.336	.434	-.077	-.775	.440	.676	1.479
5	(Constant)	1.553	.188		8.243	.000		
	Ownership	.489	.154	.311	3.177	.002	.703	1.423
	Gender	-.209	.175	-.129	-1.193	.236	.580	1.724
	Bachelor vs. School Cert	.354	.252	.125	1.401	.164	.842	1.188
	Bachelor vs. Diploma	.224	.181	.117	1.239	.218	.758	1.319
	Bachelor vs. Master Degree	-.569	.203	-.255	-2.803	.006	.816	1.225
	Bachelor vs. PhD	.490	.826	.057	.593	.555	.726	1.378
	Bachelor vs. Others	-.099	.387	-.023	-.257	.798	.848	1.179
	4655 vs. 2635	.268	.222	.135	1.206	.231	.535	1.869
	4655 vs. 3645	.272	.178	.157	1.532	.129	.639	1.566
	4655 vs. 5665	.042	.248	.016	.168	.867	.739	1.354
	4655 vs. Over65	-.283	.448	-.065	-.631	.529	.634	1.578
	More than 20 years vs. None	-.007	.274	-.003	-.025	.980	.529	1.890
	More than 20 years vs. Less than 5 years	-.260	.233	-.122	-1.114	.268	.564	1.772
	More than 20 years vs. 5-9	.167	.231	.077	.722	.472	.599	1.668
	More than 20 years vs. 10-14	.157	.244	.078	.643	.522	.461	2.168
	More than 20 years vs. 15-19	.174	.249	.076	.700	.486	.573	1.746

a. Dependent Variable: EEF

Determinants of the Proportions of firm's STF

Model Summary[c]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.160[a]	.026	.017	.78099	.026	3.105	1	118	.081	
2	.368[b]	.135	.113	.74214	.109	7.339	2	116	.001	1.953

ANOVA[c]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	1.894	1	1.894	3.105	.081[a]
	Residual	71.973	118	.610		
	Total	73.867	119			
2	Regression	9.978	3	3.326	6.039	.001[b]
	Residual	63.889	116	.551		
	Total	73.867	119			

a. Predictors: (Constant), EEF
b. Predictors: (Constant), EEF, IEF, DF
c. Dependent Variable: STF

Coefficients[a] and collinearity statistics[a] of the regression model

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	3.175	.189		16.816	.000		
	EEF	-.161	.092	-.160	-1.762	.081	1.000	1.000
2	(Constant)	2.517	.403		6.251	.000		
	EEF	*-.373*	*.105*	*-.371*	*-3.569*	*.001*	*.691*	*1.446*
	IEF	-.011	.127	-.008	-.085	.932	.910	1.098
	DF	*.395*	*.104*	*.394*	*3.804*	*.000*	*.695*	*1.439*

a. Dependent Variable: STF

Determinants of the Proportions of firm's LTF

Model Summary[c]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.198[a]	.039	.031	.68913	.039	4.836	1	118	.030	
2	.303[b]	.092	.068	.67588	.052	3.336	2	116	.039	2.094

ANOVA[c]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	2.296	1	2.296	4.836	.030[a]
	Residual	56.038	118	.475		
	Total	58.335	119			
2	Regression	5.344	3	1.781	3.900	.011[b]
	Residual	52.990	116	.457		
	Total	58.335	119			

a. Predictors: (Constant), EEF
b. Predictors: (Constant), EEF, IEF, DF
c. Dependent Variable: LTF

Coefficients[a] and collinearity statistics[a] of the regression model

Model		Unstandardized Coefficients		Standardized Coefficients			Collinearity Statistics	
		B	Std. Error	Beta	t	Sig.	Tolerance	VIF
1	(Constant)	1.817	.167		10.910	.000		
	EEF	.178	.081	.198	2.199	.030	1.000	1.000
2	(Constant)	1.578	.367		4.304	.000		
	EEF	.059	.095	.066	.619	.537	.691	1.446
	IEF	-.069	.116	-.055	-.595	.553	.910	1.098
	DF	*.243*	*.094*	*.273*	*2.572*	*.011*	*.695*	*1.439*

a. Dependent Variable: LTF

Determinants of the Proportions of firm's EF

Model Summary^c

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.444^a	.197	.191	.68156	.197	29.031	1	118	.000	
2	.531^b	.282	.263	.65029	.084	6.809	2	116	.002	1.661

ANOVA^c

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	13.485	1	13.485	29.031	.000^a
	Residual	54.813	118	.465		
	Total	68.299	119			
2	Regression	19.244	3	6.415	15.169	.000^b
	Residual	49.054	116	.423		
	Total	68.299	119			

a. Predictors: (Constant), EEF
b. Predictors: (Constant), EEF, IEF, DF
c. Dependent Variable: EF

Coefficients^a and collinearity statistics^a of the regression model

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	1.991	.165		12.087	.000		
	EEF	.430	.080	.444	5.388	.000	1.000	1.000
2	(Constant)	.833	.353		2.360	.020		
	EEF	*.310*	*.092*	*.320*	*3.381*	*.001*	*.691*	*1.446*
	IEF	*.377*	*.111*	*.279*	*3.386*	*.001*	*.910*	*1.098*
	DF	.089	.091	.092	.978	.330	.695	1.439

a. Dependent Variable: EF

Determinants of the Firm's Capital Structure: DR

Model Summary[d]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.203[a]	.041	.033	.867	.041	5.093	1	118	.026	
2	.376[b]	.141	.096	.838	.100	2.629	5	113	.027	
3	.379[c]	.144	.065	.852	.003	.086	4	109	.986	1.460

ANOVA[d]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	3.827	1	3.827	5.093	.026[a]
	Residual	88.673	118	.751		
	Total	92.500	119			
2	Regression	13.068	6	2.178	3.098	.008[b]
	Residual	79.432	113	.703		
	Total	92.500	119			
3	Regression	13.319	10	1.332	1.833	.063[c]
	Residual	79.181	109	.726		
	Total	92.500	119			

a. Predictors: (Constant), NDTS
b. Predictors: (Constant), NDTS, SIZE, LIQ, PROF, TANG, GROWTH
c. Predictors: (Constant), NDTS, SIZE, LIQ, PROF, TANG, GROWTH, More than 20 vs. 15-19, More than 20 vs. 10-14,
More than 20 vs. Less than 5, More than 20 vs. 5-9
d. Dependent Variable: Debt Ratio: Total Liabilities/Total Assets

Coefficients[a] and collinearity statistics[a] of the regression model

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	3.959	.324		12.226	.000		
	NDTS	*-.236*	*.104*	*-.203*	*-2.257*	*.026*	*1.000*	*1.000*
2	(Constant)	2.661	.769		3.462	.001		
	NDTS	-.003	.133	-.003	-.024	.980	.577	1.733
	TANG	*.370*	*.129*	*.374*	*2.869*	*.005*	*.446*	*2.240*
	LIQ	-.154	.097	-.152	-1.600	.112	.842	1.187
	PROF	-.132	.147	-.125	-.897	.372	.390	2.563
	GROWTH	.080	.156	.075	.511	.610	.349	2.862
	SIZE	.143	.160	.081	.895	.373	.918	1.090
3	(Constant)	2.576	.882		2.921	.004		
	NDTS	.008	.146	.007	.053	.958	.494	2.026
	TANG	*.384*	*.138*	*.388*	*2.783*	*.006*	*.404*	*2.475*
	LIQ	-.160	.103	-.158	-1.552	.123	.762	1.312
	PROF	-.138	.152	-.131	-.905	.368	.377	2.654
	GROWTH	.090	.169	.085	.535	.594	.310	3.224
	SIZE	.141	.177	.080	.799	.426	.776	1.288
	More than 20 vs. Less than 5	-.012	.286	-.005	-.042	.967	.582	1.718
	More than 20 vs. 5-9	-.038	.241	-.019	-.159	.874	.543	1.842
	More than 20 vs. 10-14	.100	.261	.044	.384	.702	.592	1.688
	More than 20 vs. 15-19	.029	.271	.012	.107	.915	.679	1.474

a. Dependent Variable: Debt Ratio: Total Liabilities/Total Assets

Determinants of the Firm's Capital Structure: STDR

Model Summary[d]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
1	.395[a]	.156	.149	.797	.156	21.875	1	118	.000	
2	.499[b]	.249	.209	.769	.093	2.791	5	113	.020	
3	.530[c]	.281	.215	.766	.032	1.197	4	109	.316	1.976

ANOVA[d]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	13.907	1	13.907	21.875	.000[a]
	Residual	75.018	118	.636		
	Total	88.925	119			
2	Regression	22.153	6	3.692	6.248	.000[b]
	Residual	66.772	113	.591		
	Total	88.925	119			
3	Regression	24.963	10	2.496	4.254	.000[c]
	Residual	63.962	109	.587		
	Total	88.925	119			

a. Predictors: (Constant), NDTS
b. Predictors: (Constant), NDTS, SIZE, LIQ, PROF, TANG, GROWTH
c. Predictors: (Constant), NDTS, SIZE, LIQ, PROF, TANG, GROWTH, More than 20 vs. 15-19, More than 20 vs. 10-14, More than 20 vs. Less than 5, More than 20 vs. 5-9
d. Dependent Variable: Short-term Debt Ratio: Current Liabilities/Total Assets

Coefficients[a] and collinearity statistics of the regression model

Model		Unstandardized Coefficients B	Unstandardized Coefficients Std. Error	Standardized Coefficients Beta	t	Sig.	Collinearity Statistics Tolerance	Collinearity Statistics VIF
1	(Constant)	4.326	.298		14.525	.000		
	NDTS	*-.449*	*.096*	*-.395*	*-4.677*	*.000*	*1.000*	*1.000*
2	(Constant)	5.382	.705		7.636	.000		
	NDTS	*-.555*	*.122*	*-.489*	*-4.553*	*.000*	*.577*	*1.733*
	TANG	-.053	.118	-.054	-.446	.656	.446	2.240
	LIQ	*.198*	*.088*	*.198*	*2.233*	*.028*	*.842*	*1.187*
	PROF	-.219	.135	-.211	-1.619	.108	.390	2.563
	GROWTH	-.092	.143	-.089	-.642	.522	.349	2.862
	SIZE	-.270	.147	-.156	-1.837	.069	.918	1.090
3	(Constant)	5.579	.793		7.037	.000		
	NDTS	*-.586*	*.131*	*-.516*	*-4.465*	*.000*	*.494*	*2.026*
	TANG	-.052	.124	-.054	-.423	.673	.404	2.475
	LIQ	.146	.093	.146	1.574	.118	.762	1.312
	PROF	-.228	.137	-.220	-1.664	.099	.377	2.654
	GROWTH	-.019	.152	-.018	-.123	.903	.310	3.224
	SIZE	-.307	.159	-.178	-1.933	.056	.776	1.288
	More than 20 vs. Less than 5	-.488	.257	-.202	-1.900	.060	.582	1.718
	More than 20 vs. 5-9	-.116	.217	-.059	-.534	.595	.543	1.842
	More than 20 vs. 10-14	-.030	.235	-.014	-.130	.897	.592	1.688
	More than 20 vs. 15-19	-.279	.243	-.113	-1.148	.253	.679	1.474

a. Dependent Variable: Short-term Debt Ratio: Current Liabilities/Total Assets

Determinants of the Firm's Capital Structure: LTDR

Model Summary[d]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics					Durbin-Watson
					R Square Change	F Change	df1	df2	Sig. F Change	
1	.468[a]	.219	.213	.772	.219	33.167	1	118	.000	
2	.515[b]	.265	.226	.765	.046	1.410	5	113	.226	
3	.540[c]	.292	.227	.765	.026	1.011	4	109	.405	1.645

ANOVA[d]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	19.745	1	19.745	33.167	.000[a]
	Residual	70.247	118	.595		
	Total	89.992	119			
2	Regression	23.869	6	3.978	6.798	.000[b]
	Residual	66.123	113	.585		
	Total	89.992	119			
3	Regression	26.234	10	2.623	4.485	.000[c]
	Residual	63.757	109	.585		
	Total	89.992	119			

a. Predictors: (Constant), NDTS
b. Predictors: (Constant), NDTS, SIZE, LIQ, PROF, TANG, GROWTH
c. Predictors: (Constant), NDTS, SIZE, LIQ, PROF, TANG, GROWTH, More than 20 vs. 15-19, More than 20 vs. 10-14, More than 20 vs. Less than 5, More than 20 vs. 5-9
d. Dependent Variable: Long-term Debt Ratio: Long-term Debt/Total Assets

Coefficients[a] and collinearity statistics of the regression model

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	4.518	.288		15.676	.000		
	NDTS	-.535	.093	-.468	-5.759	.000	1.000	1.000
2	(Constant)	5.667	.701		8.079	.000		
	NDTS	-.691	.121	-.605	-5.704	.000	.577	1.733
	TANG	-.196	.118	-.201	-1.669	.098	.446	2.240
	LIQ	.086	.088	.085	.972	.333	.842	1.187
	PROF	-.112	.134	-.108	-.836	.405	.390	2.563
	GROWTH	.045	.143	.043	.314	.754	.349	2.862
	SIZE	-.208	.146	-.120	-1.425	.157	.918	1.090
3	(Constant)	5.725	.792		7.232	.000		
	NDTS	-.707	.131	-.619	-5.396	.000	.494	2.026
	TANG	-.187	.124	-.191	-1.509	.134	.404	2.475
	LIQ	.031	.093	.031	.336	.737	.762	1.312
	PROF	-.135	.137	-.130	-.990	.324	.377	2.654
	GROWTH	.129	.151	.124	.854	.395	.310	3.224
	SIZE	-.218	.159	-.125	-1.371	.173	.776	1.288
	More than 20 vs. Less than 5	-.435	.256	-.179	-1.698	.092	.582	1.718
	More than 20 vs. 5-9	-.049	.216	-.025	-.227	.821	.543	1.842
	More than 20 vs. 10-14	.056	.234	.025	.239	.812	.592	1.688
	More than 20 vs. 15-19	-.120	.243	-.048	-.493	.623	.679	1.474

a. Dependent Variable: Long-term Debt Ratio: Long-term Debt/Total Assets

Determinants of the Firm's Capital Structure: DER

Model Summary[d]

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	R Square Change	F Change	df1	df2	Sig. F Change	Durbin-Watson
					Change Statistics					
1	.316[a]	.100	.092	.833	.100	13.087	1	118	.000	
2	.413[b]	.171	.127	.817	.071	1.933	5	113	.094	
3	.436[c]	.190	.116	.822	.020	.663	4	109	.619	1.893

ANOVA[d]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	9.077	1	9.077	13.087	.000[a]
	Residual	81.848	118	.694		
	Total	90.925	119			
2	Regression	15.527	6	2.588	3.878	.001[b]
	Residual	75.398	113	.667		
	Total	90.925	119			
3	Regression	17.319	10	1.732	2.565	.008[c]
	Residual	73.606	109	.675		
	Total	90.925	119			

a. Predictors: (Constant), NDTS

b. Predictors: (Constant), NDTS, SIZE, LIQ, PROF, TANG, GROWTH

c. Predictors: (Constant), NDTSR, SIZE, LIQ, PROF, TANG, GROWTH, More than 20 vs. 15-19, More than 20 vs. 10-14, More than 20 vs. Less than 5, More than 20 vs. 5-9

d. Dependent Variable: Debt-to-Equity Ratio: Total Debt/Total Equity

Coefficients[a] and collinearity statistics of the regression model

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	4.116	.311		13.232	.000		
	NDTS	*-.363*	*.100*	*-.316*	*-3.618*	*.000*	*1.000*	*1.000*
2	(Constant)	4.712	.749		6.291	.000		
	NDTS	-.355	.129	-.309	-2.740	.007	.577	1.733
	TANG	.129	.126	.131	1.023	.308	.446	2.240
	LIQ	-.202	.094	-.200	-2.145	.034	.842	1.187
	PROF	-.224	.143	-.215	-1.564	.121	.390	2.563
	GROWTH	.096	.152	.091	.631	.529	.349	2.862
	SIZE	.043	.156	.024	.274	.785	.918	1.090
3	(Constant)	4.757	.851		5.592	.000		
	NDTS	*-.363*	*.141*	*-.316*	*-2.580*	*.011*	*.494*	*2.026*
	TANG	.143	.133	.146	1.076	.284	.404	2.475
	LIQ	*-.233*	*.099*	*-.231*	*-2.344*	*.021*	*.762*	*1.312*
	PROF	-.236	.147	-.226	-1.609	.111	.377	2.654
	GROWTH	.147	.163	.140	.905	.368	.310	3.224
	SIZE	.001	.170	.001	.006	.995	.776	1.288
	More than 20 vs. Less than 5	-.264	.275	-.108	-.958	.340	.582	1.718
	More than 20 vs. 5-9	-.203	.233	-.102	-.871	.386	.543	1.842
	More than 20 vs. 10-14	.115	.252	.051	.456	.649	.592	1.688
	More than 20 vs. 15-19	-.088	.261	-.035	-.338	.736	.679	1.474

a. Dependent Variable: Debt-to-Equity Ratio: Total Debt/Total Equity