

**DETERMINANTS OF CAPITAL  
STRUCTURE IN SMALL AND  
MEDIUM-SIZED ENTERPRISES IN  
MALAYSIA**

A thesis submitted for the degree of  
Doctor of Philosophy

by  
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## ABSTRACT

This study aims to investigate the determinants of capital structure in small and medium-sized enterprises (SMEs) in Malaysia and their effect on firms' performance. The study addresses the following primary question: What are the factors that influence the capital structure of SMEs in Malaysia? The sample of this research is SMEs in the east coast region of Malaysia. Adopting a positivist paradigm, the research design includes a preliminary study comprising 25 interviews with the owner-managers of SMEs, which is analysed using thematic analysis. The results are used to finalise the conceptual framework for the main study, which takes the form of a self-completion questionnaire survey. Usable responses were received from 384 firms, giving a response rate of 75.3%. The survey data is analysed using a series of binomial logistic regression models.

Results reveal that there was no indication for the impact of owner's education and experience on capital structure decisions. Other owner-related factors, firm characteristics, management performance and environment were found to relate to all types of capital structure. Both complete and partial mediating effects are also discovered in this study. The results provide evidence to support the pecking order hypothesis (Myers, 1984; Myers and Majluf, 1984), agency theory (Jensen and Meckling, 1976) and culture model of Schwartz (1994). It appeared that owner-managers in Malaysia do not strive to adjust their capital structure towards some optimal debt ratio, which is contrary to the static trade-off theory (DeAngelo and Masulis, 1980) of capital structure.

This study makes several important contributions to the existing studies of capital structure. This research led to the development of a model of capital structure determinants by integrating factors related to owner-managers, firms, culture, and environment. This study incorporates methodological triangulation that may mitigate the problem of the difficulties in accessing financial data of SMEs in Malaysia. This study also provides meaningful insight into the financing preferences of the owner-managers with relevant implementations to academics, business practitioners, financial providers and policymakers. The research findings should assist owner-managers in making optimal

capital structure decisions as well as help the policymaker in making an appropriate policy on the financing.

## TABLE OF CONTENTS

ABSTRACT.....	ii
TABLE OF CONTENTS.....	iv
ACKNOWLEDGEMENT.....	xi
DEDICATION.....	xii
DECLARATION.....	xiv

### CHAPTER 1: INTRODUCTION

1.1 Background to the study.....	1
1.2 Research problem and rationale for the study.....	2
1.3 Purpose of the study.....	5
1.4 Overview of the methodology.....	6
1.5 Overview of the contribution of the research.....	7
1.6 Structure of the thesis.....	7

### CHAPTER 2: LITERATURE REVIEW

2.1 Introduction.....	9
2.2 Capital structure.....	9
2.3 Financial theories of capital structure.....	12
2.3.1 Pecking order theory.....	13
2.3.2 Trade-off theory.....	16
2.3.3 Agency theory.....	17
2.3.4 Life cycle theory.....	19
2.3.5 Signalling theory.....	20
2.3.6 Free cash flow problem.....	21
2.3.7 Alternative theoretical perspectives on capital structure.....	21
2.4 Determinants of capital structure.....	23
2.4.1 Characteristics of the owner-manager.....	23
2.4.2 Characteristics of the firm.....	36
2.4.3 Management performance.....	42
2.4.4 External factor.....	50
2.5 Effect of capital structure on performance.....	51
2.6 Other influences on the firm's performance.....	54
2.7 Conclusions.....	61

### CHAPTER 3: CONCEPTUAL FRAMEWORK AND HYPOTHESES DEVELOPMENT

3.1 Introduction.....	64
3.2 Conceptual framework.....	64
3.3 Hypotheses development for determinants of capital structure.....	666
3.3.1 Age of the owner-manager.....	666
3.3.2 Human capital.....	677

3.3.3 Ethnicity of the owner .....	688
3.3.4 Relationship and networking.....	699
3.3.5 Owner's preference, perceptions and attitude to debt .....	70
3.3.6 Objectives and goals.....	71
3.3.7 Culture.....	72
3.3.8 Age of the firm .....	73
3.3.9 Size of the firm.....	74
3.3.10 Profitability.....	75
3.3.11 Asset structure (tangibility).....	75
3.3.12 Business planning.....	76
3.3.13 Environment .....	77
3.4 Capital structure and firm's performance.....	78
3.5 Determinants of capital structure and firm's performance.....	78
3.6 The mediating role of debt level .....	79
3.7 Conclusions .....	80

## **CHAPTER 4: METHODOLOGY**

4.1 Introduction .....	82
4.2 Research designs .....	82
4.2.1 Approach to the research.....	82
4.2.2 Main features.....	83
4.3 Ethical issues .....	84
4.4 Preliminary study .....	84
4.4.1 Sample selection.....	85
4.4.2 Data collection.....	85
4.4.3 Data analysis .....	88
4.5 Main study.....	89
4.5.1 Research location .....	89
4.5.2 Sample selection.....	89
4.5.3 Data collection.....	91
4.6 Methods of analysis.....	96
4.6.1 Data screening.....	98
4.6.2 Exploratory factor analysis.....	99
4.6.3 Reliability analysis .....	102
4.6.4 Multicollinearity and Spearman's correlation.....	102
4.6.5 Logistic regression analysis .....	103
4.6.6 Multiple regression analysis.....	106
4.6.7 Validity.....	108
4.7 Conclusions.....	110

## **CHAPTER 5: DATA DESCRIPTION**

5.1 Introduction .....	111
5.2 The preliminary study .....	111
5.2.1 The sample firms.....	111

5.2.2 The interviewees .....	112
5.3 The main study .....	113
5.3.1 Variables in the factor analysis .....	113
5.3.2 Variables in the subsequent analysis .....	116
Dependent variables: Sources of finance .....	116
Independent variables: Categorical variables.....	117
a. The sample firms .....	117
b. Respondent demographics.....	119
Independent variables: Continuous Variables.....	121
a. Owner-related factors .....	121
b. Management performance.....	123
c. Environment .....	125
d. Performance of firms .....	126
5.4 Conclusions .....	127

## **CHAPTER 6: FINDINGS OF THE PRELIMINARY STUDY**

6.1 Introduction .....	128
6.2 Characteristics of the firm .....	128
6.2.1 Age of the firm .....	128
6.2.2 Size of the firm.....	130
6.3 Characteristics of the owner-manager .....	132
6.3.1 Owner’s age.....	132
6.3.2 Owner’s perceptions and attitudes to debt .....	134
6.3.3 Ethnicity .....	136
6.3.4 Relationships and networking .....	137
6.3.5 Objectives and goals.....	140
6.3.6 Business culture.....	143
6.4 Management performance .....	145
6.4.1 Profitability.....	145
6.4.2 Asset Structure .....	147
6.4.3 Business Planning .....	149
6.5 Business Environment.....	152
6.6 Findings related with firm’s performance and dependent variables .....	154
6.7 Revised model .....	155
6.8 Conclusions .....	156

## **CHAPTER 7: RESULTS OF THE MAIN STUDY**

7.1 Introduction .....	158
7.2 Exploratory factor analysis.....	158
7.2.1 Group 1: Goals and planning .....	158
Factor 1: Business planning (PLANNING) .....	160
Factor 2: Lifestyle goals (LIFEGOAL).....	160
Factor 3: Commercial goals (COMGOAL) .....	160
7.2.2 Group 2: Characteristics of the owner.....	161

Factor 1: Relationship (RELATION).....	162
Factor 2: Networking (NETWORK).....	163
Factor 3: Attitude to debt (ATTITUDE).....	163
7.2.3 Group 3: Cultural dimensions.....	163
Factor 1: Conservatism (CONSERV).....	164
Factor 2: Mastery (MASTERY).....	165
7.2.4 Group 4: Business environment.....	165
Factor 1: Stable environment (STABLENVT).....	166
Factor 2: External environment (EXENVT).....	167
7.3 Logistics regression analysis.....	167
7.3.1 Correlation.....	167
7.3.2 Testing of H1 and H5.....	170
7.3.3 Retained earnings.....	171
7.3.4 Personal savings and funds from friends and families (PF&F).....	175
7.3.5 Debt finance.....	178
7.3.6 External equity.....	183
7.4 Multiple regression analysis.....	187
7.5 Discussion of the hypotheses tests.....	189
7.5.1 Owner's age and managerial human capital.....	189
7.5.2 Ethnic.....	189
7.5.3 Relationship and networking.....	190
7.5.4 Owner's perceptions and attitudes to debt.....	192
7.5.5 Objectives and goals.....	193
7.5.6 Culture.....	194
7.5.7 Age of the firm.....	194
7.5.8 Size of the firm.....	195
7.5.9 Profitability.....	196
7.5.10 Asset structure.....	197
7.5.11 Business planning.....	198
7.5.12 Environment.....	199
7.5.13 Organisational performance.....	200
7.6 Conclusions.....	201

## **CHAPTER 8: CONCLUSIONS**

8.1 Introduction.....	202
8.2 Review of the results.....	202
8.2.1 Influence of owner-manager characteristics, firm characteristics, management performance and external factors.....	202
8.2.2 Impact of capital structure and its determinants on organisational performance.....	204
8.2.3 Indirect effects of ethnicity.....	204
8.2.4 Financing patterns of Malay, Chinese and Indian owner-managers.....	205
8.3 Contribution of the study.....	205
8.4 Implications and recommendations.....	207
8.4.1 Implications for owner-managers of SMEs.....	207
8.4.2 Implications for policymakers.....	208

8.4.3 Implications for financial institutions .....	211
8.5 Limitations of the study and generalisability .....	211
8.6 Future research .....	213

<b>REFERENCES.....</b>	<b>214</b>
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**APPENDICES**

Appendix A: The participant information sheet.....	269
Appendix B: Guide for individual and group interviews.....	270
Appendix C: Questionnaire for the main survey.....	272
Appendix D: Preliminary study: Capital structure.....	280
Appendix E: Determinants of capital structure.....	282
Appendix F: Summary of the data collection.....	285
Appendix G: Summary of the data analysis for the main survey.....	286



## LIST OF FIGURES

<b>Chapter 2</b>	
Figure 2.1 Preliminary framework .....	56
<b>Chapter 3</b>	
Figure 3.1 Research model.....	66
<b>Chapter 4</b>	
Figure 4.1 A timescale of data collection.....	96
Figure 4.2 Main study: An operational model of capital structure determinants.....	107
Figure 4.3 Main study: Overview of the data collection and data analysis .....	109
<b>Chapter 6</b>	
Figure 6.1 Revised conceptual framework.....	<b>Error! Bookmark not defined.</b>
<b>Chapter 7</b>	
Figure 7.1 Variables in the logistic regression analyses .....	170

## LIST OF TABLES

<b>Chapter 2</b>	
Table 2.1 Explanatory variables used in previous studies of the determinants of capital structure in SMEs.....	57
Table 2.1 Explanatory variables used in previous studies of the determinants of capital structure in large firms.....	59
<b>Chapter 3</b>	
Table 3.1 Summary of hypotheses.....	80
<b>Chapter 4</b>	
Table 4.1 Definition of SMEs based on number of full-time employees .....	91
Table 4.2 Definition of SMEs based on the annual sales turnover .....	91
Table 4.3 Main study: Sampling units and response rate.....	95
<b>Chapter 5</b>	
Table 5.1 Preliminary study: The sample firms.....	112
Table 5.2 Preliminary study: The interviewees.....	113
Table 5.3 Main study: Variables included in the factor analysis.....	113
Table 5.4 Main study: Sources of finance.....	117
Table 5.5 Main study: Demographics of the firm.....	118
Table 5.6 Main study: Frequency distributions for the sample firms.....	118
Table 5.7 Main study: Respondent demographics.....	119
Table 5.8 Main study: Frequency distributions for the respondent demographics.....	120
Table 5.9 Main study: Owner-related factors.....	121

Table 5.10 Main study: Descriptive statistics for owner-related factors.....	122
Table 5.11 Main study: Management performance .....	124
Table 5.12 Main study: Descriptive statistics for management performance.....	124
Table 5.13 Main study: Environment.....	125
Table 5.14 Main study: Descriptive statistics for business environment.....	125
Table 5.15 Main study: Descriptive statistics for performance of the firm.....	126

## **Chapter 6**

Table 6.1 Owner’s perceptions and attitudes to debt .....	135
Table 6.2 Relationships and networking .....	140
Table 6.3 Objectives and goals .....	143
Table 6.4 Business culture .....	145
Table 6.5 Business planning.....	152
Table 6.6 Business environment .....	154

## **Chapter 7**

Table 7.1: Principal component analysis of goals and planning .....	159
Table 7.2: Principal component analysis for owner-related factors.....	162
Table 7.3: Principal component analysis for cultural dimensions .....	164
Table 7.4: Principal component analysis for environmental factors .....	166
Table 7.5: Correlation matrix of variables and collinearity statistics (Dependent variable: Retained earnings) .....	169
Table 7.6 Logistic regression of the use of retained earnings .....	171
Table 7.7: Classification table for retained earnings.....	174
Table 7.8: Logistic regression of the use of PF&F .....	175
Table 7.9: Classification table for PF&F .....	177
Table 7.10: Logistic regression of the use of debt finance.....	178
Table 7.11: Classification table for debt financing .....	182
Table 7.12: Logistic regression of the use of external equity .....	183
Table 7.13: Classification table for external equity .....	186
Table 7.14: Results of multiple regression analyses .....	187

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## **DEDICATION**

*I dedicate this thesis to:*

*My parents Meriam Hassan Raza and Mat Nawi Mohamed*

*Without encouragement and support during my life, I would not be able of achieving anything today.*

*My love, Hafez Shahril Hussin, a GREAT MAN,*

*for your wholehearted love, endless prayers, sincere support and strong patience throughout the entire journey*

*My adorable daughter, Hasanah; and my heroes, Hasef and Hasib*

*May this be a source of motivation for you, to go beyond fame and fortune and experience the wonders of knowledge.*

## **DECLARATION**

I hereby declare that the materials contained in this thesis have not been previously submitted for a degree in this or any other university. I further declare that this thesis is solely based on my own research. I also declare that all information in this document has been obtained and presented in accordance with academic rules and ethical conduct.

**Hafizah Mat Nawi**

## CHAPTER 1 INTRODUCTION

### 1.1 Background to the study

This study investigates the determinants of capital structure in small and medium-sized enterprises (SMEs)<sup>1</sup> in Malaysia and their effect on firms' performance. SMEs play an important role in the global economy (Danis, Chiaburu, and Lyles, 2006; Johan, 2007) and are considered to be the engines for growth and employment in both developed and developing countries (Storey, 1994; Fritsch and Mueller, 2004; Boocock and Shariff, 2005; Watson, 2006; Psillaki and Daskalakis, 2009; Mboniyane and Ladzani, 2011). In Malaysia, 99% of businesses are SMEs, and they account for 32% of GDP and 64% of total employment (Department of Statistics Malaysia, 2011). The contribution of SMEs to Malaysia's GDP is expected to increase to around MYR120 billion by 2020 (Bank Negara Malaysia, 2013).

SMEs are valued for their potential to grow into larger, more productive units, their ability to invest in and adopt new technologies, and their ability to adapt to new economic circumstances (Berry, Rodriguez, and Sandee, 2001). Financial constraints can ruin a good business idea (Gould and Parzen, 1990), contribute to business failure (Baumback and Lawyer, 1979), or hinder growth and development (Hall, 2002; Beck, Demirgüç-Kunt, and Maksimovic, 2008). One of the most widely cited challenges they face in many countries is access to finance (Hughes and Storey, 1994; Hood, 2000; APEC, 2000; Winborg and Landstrom, 2001; SMIDEC, 2002; Salleh and Ndubisi, 2006; Reynolds and Lancaster, 2006; Hussain and Matlay, 2007; Robb and Fairlie, 2007; UNDP, 2007). A number of studies have focused on financial challenges faced by SMEs in Malaysia (Chee, 1986; APEC, 1994; Department of Statistics Malaysia, 2005; Saleh and Ndubisi, 2006; Hooi, 2006; Aris, 2007; Saleh, Caputi, and Harvie, 2008; Isa, 2008; Wahab and Buyong, 2008; Abdullah and Manan, 2010). Not surprisingly, the

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<sup>1</sup> SMEs comprise unincorporated businesses and companies. SMEs are defined as firms employing up to 50 full-time employees for service sectors and 150 full-time employees for manufacturing sectors, or those with an annual sales turnover not exceeding MYR5 million for service sectors and MYR25 million for manufacturing sectors (<http://www.smecorp.gov.my/vn2/>).

problem of access to finance for SMEs has also attracted interest from policymakers such as the SME Corporation of Malaysia and Ministry of International Trade and Industry (MITI).

Previous research shows that the capital structure of SMEs differs from that of large companies (Rivaud-Danset, Dubocage, and Salais, 1998) and suggests this is due to the limited amount of information small firms disclose (Newman, Gunessee, and Hilton, 2011) and their asset structure (Cressy and Olofsson, 1997). Compared to small firms, larger firms tend to provide more information to lenders (Rajan and Zingales, 1995; Peel and Wilson, 1996; Abor and Biekpe, 2005; Berger and Frame, 2007) because larger firms have a higher fixed to total asset ratio, lower current liabilities relative to total assets, and lower financial risks. Smaller, younger firms are more likely to face higher finance costs and demand for collateral (Berger and Udell, 1995). Consequently, owner-managers of smaller firms tend to rely on internal sources of finance such as personal savings and funds from family and friends. The Census of Establishment and Enterprises (2005) by the Department of Statistics Malaysia also revealed the similar results.

## **1.2 Research problem and rationale for the study**

The literature confirms a significant association between the availability of finance and SME growth (Cook, 2001), leading to the notion of a finance gap. The finance gap refers to ‘a situation where a firm has profitable opportunities but there are no, or insufficient, funds (either from internal or external sources) to exploit those opportunities’ (Jarvis and Schizas, 2012, p.362). According to Abdullah and Manan (2010), accessibility and sufficiency of funds is the major barrier to the growth of SMEs. Zabri (2013) suggests that financial accessibility of SMEs could be achieved through improving understanding of their financial practices. Hence, it is important to investigate the determinants of capital structure of SMEs to understand their financial practices further.



Although there are a number of studies covering capital structure in the developed nations during the last five decades (e.g. Michaelas, Chittenden, and Poutziouris, 1999; Romano, Tanewski, and Smyrnios, 2000; Hall, Hutchinson, and Michaelas, 2000; Riportella and Martinez, 2003; Cassar and Holmes, 2003; Sogorb-Mira, 2005; Johnsen and McMahon, 2005; Vos et al., 2007; Mac an Bhaird and Lucey, 2010), very few studies have focused on the developing countries like ASEAN, as argued by Deesomsak, Krishna, and Pescetto (2004). Predictably, studies in developing countries (e.g. Wiwattanakantang, 1999; Booth et al., 2001; Chen, 2004; Nguyen and Ramachandran, 2006; Abor and Biekpe, 2007; Wu, Song, and Zeng, 2008; Newman et al., 2011; Abdullah, Manan, and Khadijah, 2011) produce results that conflict with those from Western studies. Klapper, Sarria-Allende, and Zaidi (2006) assert that financial theories of capital structure, initially developed to illuminate the financing behaviour of firms in developed countries, might not be applicable in developing countries due to cultural and institutional differences. There are considerable debates over the use of the terms ‘developed’ and ‘developing country’. The International Monetary Fund (IMF) classifies developed countries as those with advanced economies, which comprise 65.8% of the global nominal gross domestic product (GDP) and 52.1% of global GDP (PPP<sup>2</sup>) in 2010. Alternatively, the World Bank (2013) defines developing countries as countries with a Gross National Income (GNI) of USD 11,905 and under, per capita, per year. Based on the list taken from the International Statistical Institution (<http://www.isi-web.org>), Malaysia is included in the latter category. By focusing on SMEs in Malaysia, this study also fills the gap highlighted by Harris and Raviv (1991) to test capital structure theory in firms of different sizes as well as various contexts.

A number of factors have been identified to have an influence on a firm’s capital structure of the SMEs. Existing theoretical frameworks from finance and strategic management set out to explain the determinants of the capital structure of SMEs. These include pecking order theory (Donaldson, 1961; Myers, 1984; Myers and Majluf; 1984), trade-off theory (Jensen and Meckling, 1976; Myers, 1977), agency theory (Jensen and Meckling, 1976; Myers, 1977), and financial growth cycle theory (Berger and Udell,

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<sup>2</sup> PPP- Purchasing Power Parity

1998) from the finance paradigm, and theoretical frameworks developed by several authors in the strategic management paradigm (see Barton and Matthews, 1989; Matthews et al., 1994; Berger and Udell, 1998; Romano et al., 2000). Although numerous empirical studies have been undertaken to examine the determinants of capital structure on the basis of these theories, there is still no agreement among economists as to which of the existing theories present the best description of the actual behaviour of firms.

In addition, while there is a broad and growing body of empirical studies investigating the influence of these factors on firms' capital structure, the findings are not always consistent in terms of direction of the association between capital structure and its determinants. Graham and Leary (2011) established that, although a lot of studies had been done in investigating capital structure of the firms, the results obtained are still unclear. They asserted that it might be due to wrong measurement of key variables, investigation on the wrong models or issues, misspecification of managerial decision process, or unresponsive of owner-managers.

The existing theoretical and field studies also show that the capital structure decision has a considerable influence on the performance of the firm (Ramadan, 2009). Practicing managers and behavioural scientists have looked more carefully at the effects of capital structure decisions on organisational performance (Forbes, 2002; Assaf, 2005; Hutchinson and Gul, 2006; Ludvigson and Ng, 2007), however, these types of studies are still few within the SME context. There is little evidence of the association between capital structure and a firm's performance. Theoretically, the optimal mix of capital structure minimises the weighted average cost of capital of a firm and maximises performance in terms of shareholders' wealth (Ramadan, 2009).

In Malaysia, previous studies concerning the financial practices of SMEs have focused especially on financing issues and the sources and uses of funds employed for the business (see Rozali et al, 2006; Saleh and Ndubisi, 2006; Hassan, 2008). Studies on capital structure were mostly on listed companies (see Booth et al., 2001; Zain, 2003;

Pandey, 2004; Deesomsak et al., 2004; Wan Mahmood and Mat Kila, 2008; Yau, Lau, and Liwan, 2008; Ahmed and Hisham, 2009; Gurcharan, 2010) and there was less investigation on the capital structure of SMEs (see Ismail and Razak, 2003; Rozali et al., 2008; Wahab and Buyong, 2008; Abdullah and Manan, 2010; Zabri, 2013). Moreover, comparative studies among ethnic groups in relation to SMEs' capital structure determinants are still rare in international research (e.g. Smallbone et al., 2003; Fairlie and Robb, 2007). Despite the importance of equality issues in Malaysia, there is no such research (i.e. focusing on ethnicity issue and financing) being conducted in Malaysia.

There are relatively few empirical studies exploring the perception of owner-managers in finance even though they actually play a vital role in SMEs' financing decisions. Alternatively, most of the prior studies in capital structure determinants obtained information from secondary sources of panel data such as Affärsdata, Datastream, Osiris database, Global Vantage database, Compustat, Center for Research in Security Prices (CRSP) database, public databases, Worldscope financial data, Social and Behavioural Instruments (SABI) database, annual reports, and others. This study, therefore, investigates empirically the financing patterns of SMEs using data gathered from SME owners. With reference to the existing studies on capital structure of SMEs in Malaysia, there does not appear to be any empirical work investigating the impact of environment, managerial attitudes, culture, and network ties on SMEs' financing in Malaysia, which has led to this current research, with the aim to fill the gap.

### **1.3 Purpose of the study**

In this thesis, the researcher will enhance understanding in the area of capital structure as this research is based on a combination of various models (e.g. Romano et al., 2000; Nguyen and Ramachandran, 2006; Mac an Bhaird and Lucey, 2006). This study adapts those models with a view to improve prediction and explanation of the components of capital structure determinants in SMEs in Malaysia. The purpose of this study is to investigate the determinants of capital structure in SMEs in Malaysia and their effects on firm's performance. The scope of the study is limited to the registered SMEs (i.e.

mixture of incorporated and unincorporated firms) in the east coast region of Malaysia which comply with the definition (i.e. definition of SMEs) given by the SME Corporation of Malaysia (<http://www.smecorp.gov.my/>). Malaysia is chosen as the institutional context for this study in order to test the external validity of western-developed theories. The specific objectives of the study are:

1. To develop a theoretical framework for the determinants of capital structure.
2. To investigate the influence of owner-manager characteristics, firm characteristics, management performance and external factors on capital structure.
3. To investigate the impact of capital structure and its determinants on organisational performance.
4. To investigate the direct and indirect effects of ethnicity<sup>3</sup> on capital structure.
5. To examine any differences in the financing patterns of Malay owner-managers and ethnic minority owner-managers (Chinese and Indian)<sup>4</sup>.

#### **1.4 Overview of the methodology**

This research design incorporates methodological triangulation (Easterby-Smith et al., 2008). The preliminary study comprised 25 semi-structured interviews with owner-managers of SMEs to gain initial understanding of the constructs and to generate their domains and measurement items. This prepared the way for a pilot survey to test the draft questionnaire. The main study took the form of a questionnaire survey to collect data from the owner-managers of 384 SMEs, the results of which were analysed statistically. In addition, 20 follow-up interviews were conducted to provide contextual and historical information and aid the interpretation of the results.

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<sup>3</sup> There are three major ethnic groups in Malaysia, namely Malay, Chinese, and Indian. They have equal rights in every aspects of life, for example in political (e.g. voting rights or right in representing the state), economic, or social activities.

<sup>4</sup> This objective is pertinent with the introduction of the ECER (East Coast Economic Region) and equality issue (i.e. 1Malaysia). The East Coast Economic Region (ECER) is one of Malaysia's Development Plans. The ECER was introduced by Malaysia's fifth Prime Minister, Y.A.B. Dato' Seri Abdullah Bin Hj. Ahmad Badawi. The region consists of four states which cover 51% of Peninsular Malaysia. On the other hand, 1Malaysia was introduced by the current Prime Minister, Dato' Seri Najib Bin Tun Razak.

## **1.5 Overview of the contribution of the research**

This study makes several important contributions to the existing studies of capital structure. The main contributions of the study are:

- i. Unlike previous studies which mainly focus on the firm characteristics, this study develops a model of capital structure determinants by integrating factors related to owner-managers, firms, culture, and environment.
- ii. This research is the first study in Malaysia that investigates the issue of capital structure among different ethnic groups.
- iii. This study incorporates methodological triangulation that may mitigate the problem of the difficulties in accessing financial data of SMEs in Malaysia.
- iv. Unlike previous studies which generally employed debt (short or long-term) as a dependent variable, this study employs sources of internal and external debt and equity as dependent variables in multivariate models.
- v. This study is the first study that investigates the direct association between determinants of capital structure and firm performance and the mediating role of the capital structure for the aforementioned associations.
- vi. This study provides meaningful insight into the financing preferences of the entrepreneurs with relevant implementations to academics and business practitioners and advisors (e.g. financial providers or policymakers).

## **1.6 Structure of the thesis**

The remainder of the thesis is structured as follows. The next chapter reviews the literature while Chapter 3 develops the theoretical framework, hypotheses and research questions. Chapter 4 describes and justifies the research design and methods for the preliminary study and the main study. Chapter 5 provides a description of the data and variables analysed in the preliminary study and the main study; it also presents descriptive statistics. Chapter 6 reports the findings of the preliminary study (semi-structured interviews). Chapter 7 presents and discusses the results of the main study (survey). The final chapter draws conclusions by discussing the results in the context of

the research questions and highlighting the contribution of the study. It also points out the limitations of the study, which leads to recommendations for future research.

## **CHAPTER 2 LITERATURE REVIEW**

### **2.1 Introduction**

This chapter is a review of the literature on the capital structure, its determinants and the theoretical relationship between the capital structure and its determinants. The chapter begins with a discussion of theoretical perspectives that support in explaining the SMEs' financing decisions. This chapter also examines other theoretical perspectives which may aid in the understanding of SMEs' capital structure. The next section identifies each determinant of capital structure by highlighting the definitions of each determinant and theories that explained each determinant. The chapter then reviews few available studies that have investigated some of the factors in the direct or indirect relationship between determinants of capital structure and capital structure with the firms' performance. The final section articulates the identified gaps in the literature and the possible directions of this research and also summarises the whole chapter.

### **2.2 Capital structure**

Capital structure refers to 'the mix of debt and equity maintained by the firm' (Gitman and Zutter, 2012, p. 508). It could be defined as a mix of sources of financing that appears in the balance sheet (Keown et al., 1985). Romano et al. (2000) categorise capital structure into four main parts: capital and retained profits, family loans, debt, and equity. Alternatively, Gibson (2002) suggests five types of source of finance, namely owner equity, related person debt, trade credit, bank loan, and other debt or equity such as credit cards, venture capital, and government loans. On the other hand, Burns (2001) classifies sources of finance into two categories: long-term finance such as equity from private investment and other people's money, bank loans, leasing, and hire purchase, and short-term finance, for instance, bank overdrafts, short-term loans, and factoring. Marlow et al. (2003) categorise it into three types: private investment (e.g. personal monies and funds from friends and families), public investment (e.g. government loans,

grants, and public equity finance) and private external finance (e.g. bank loans and overdrafts, asset finance and asset-based finance).

Frank and Goyal (2005) suggest three sources of finance accessible to firms: retained earnings, debt, and equity. In addition, Rozali et al. (2006) categorise it into self-financing, the government scheme, short-term loans from banks, medium term loans from banks, long-term loans, venture capital, and financing from non-bank financial institutions. Irwin and Scott (2010) classifies sources of finance into personal savings, personal and business bank loans, private and business credit cards, redundancy, re-mortgage family and friends, leasing, hire purchases, microfinance, grants and others.

Deakins, Whittam, and Wyper (2010) recommend two main categories of sources of finance: internal and external. An internal source of finance comprises of internal debt and internal equity. The main internal sources of finance for sole proprietors are as follows: retained earnings<sup>5</sup>, personal finance (e.g. savings, credit cards, internal equity, sale of assets or inventories, working capital, and funds from family and friends) (Titman, Keown, and Martin, 2011). Ou and Haynes (2006) assert that retained earnings are the main source of finance for SMEs. It was also considered to be the most preferred source of finance in most of the countries. Other than retained earnings, personal savings were also found to be the primary source of finance for SMEs (Fraser, 2004; Scott, 2010; UNDP, 2007). Personal savings means the owner's financial sources, whether in terms of cash, personal credit cards, personal loans, winnings, inheritance, or investment income (Scott, 2010).

In addition, funds from family and friends mean savings or assets of the family members or friends. These types of sources of finance are very important for SMEs, especially in supporting ethnic minority businesses (Smallbone et al., 2003; Robb and Fairley, 2007; Fairley and Robb, 2007) or family businesses (Romano et al., 2000). Sale of asset is a sale which generates profit or loss (Woods, 2009). This usually happens in a situation

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<sup>5</sup> Retained earnings mean a 'net profit available for distribution, less any distributions made, i.e. the amount kept within the company' (Oxford Dictionary of Finance and Banking, 2008, p. 382).



where firms are unable to get finance from any other sources. Sometimes, firms may decide to stop offering certain goods or services in order to sell the fixed assets. Moreover, working capital is ‘the capital that is used to finance the day-to-day operations of a company’ (Oxford Dictionary of Accounting, 2010, p. 437). It is also defined as current assets minus current liabilities. According to McCosker (2000), SMEs should ensure that they have adequate working capital to avoid any problem related to working capital, especially during an expansion period. This is because, if the working capital is small, it will cause a cash flow problem. The firms may fail to pay suppliers on time or be unable to claim discounts for on-time payment (Basu and Altinay, 2002).

On the other hand, external sources of finance means funds obtained from an organisation from an outside source (Oxford Dictionary of Finance and Banking, 2008). It comprises of debt and equity. Debt consists of bank loans, bank overdrafts, foreign loans, leasing<sup>6</sup> and hire purchases<sup>7</sup>, trade credits, factoring<sup>8</sup>, and loans from non-bank financial institutions. Financing with external equity is relatively expensive and may create problems of control and decision making. Most small firms were found to be averse to using this type of finance (Berger and Udell, 1998; Binks et al., 1991; Hughes, 1997). When seeking external finance, bank loans appear to represent most of the businesses’ primary choices (for example Boocock and Wahab, 1997; Romano et al., 2000; SBS, 2004; Nguyen and Ramachandran, 2006; Abdullah et al., 2011; Ibrahim and Masron, 2011). According to EOS Gallup Europe (2005), about 79% of SMEs used bank financing, followed by leasing companies. The lowest source used by these EU-based SMEs was a source from venture capital companies (2%).

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<sup>6</sup> Lease is a ‘contract between the owner of a specific asset (the lessor) and another party (the lessee), allowing the latter to hire the assets’ (Oxford Dictionary of Accounting, 2010, p.259).

<sup>7</sup> Hire purchase is ‘a method of buying goods in which the purchaser takes possession of them as soon as a deposit has been paid and obtains ownership of the goods when all the agreed number of subsequent instalments have been paid’ (Oxford Dictionary of Accounting, 2010, p.221).

<sup>8</sup> Factoring is based on ‘the buying of trade debts of a manufacturer, assuming the task of debt collection and accepting the credit risk, thus providing the manufacturer with working capital’ (Oxford Dictionary of Accounting, 2010).

### **2.3 Financial theories of capital structure**

Capital structure theory was initiated by Modigliani and Miller (1958) who hypothesised that when there are no taxes, the market will be more efficient. They indicated that the firm's value does not depend on the amount of debts taken by the firm. According to Modigliani and Miller (1958), the model depends on two keys: arbitrage and borrowing on personal account. The former is a process ensuring that two firms varying only in their capital structure must have the same performance. The latter means that an investor raises a personal loan through a share that he/she held in a levered firm. He/she can sell the share, spend the proceeds in the unlevered firm, or increase his/her income without additional costs.

In a further study, Modigliani and Miller (1963) introduced corporate taxes into the existing model and found that once this underlying assumption was relaxed, capital structure can become relevant because the value of firms increases. Modigliani and Miller (1963) affirmed that the firm's value does depend on the amount of debts employed by the firm. They considered the tax shield benefits associated with the debt used.

In addition to the tax model of Modigliani and Miller (1963), Miller (1977) introduced personal taxes into the model (i.e. previously only corporate taxes). According to Miller (1977), firms may continue to utilise debt until the marginal investor's personal tax equals the corporate tax rate. This is because additional supply of debts may increase interest rates until the tax advantages of interest deduction are equalised by higher rates.

Subsequently, DeAngelo and Masulis (1980) introduced accounting depreciation and investment tax credits by referring to Miller's (1977) personal tax theory. They stressed that non-debt tax shields may lead to the market equilibrium as firms without profit would be unable to be benefited through tax advantage.

Modigliani and Miller's theory has been expanded by Myers and Majluf (1984). They proposed that firms rely on internal funds at the beginning of the business. For those firms with less information to provide, they may use less debt capital as they encounter a problem of asymmetric information and possess high earnings, respectively. Durand et al. (1989) criticised the theory of efficient market (Modigliani and Miller, 1963). They stressed the effect of imperfectness in the market, a preference for present income over future returns, transaction costs and institutional restriction; on capital structure and the value of the firm. More recently, Ebrahim and Mathur (2007) addressed the limitations of Modigliani and Miller's (1958) model and rejected the optimal pricing parameters of debts. They stressed the same negotiating ability of individuals (who are resorting to Modigliani and Miller's arbitrages) with lenders as that available to the organisation.

### **2.3.1 Pecking order theory**

Pecking order theory was initially proposed by Donaldson (1961), who found that owner-managers prefer to finance investment using retained earnings instead of external funds, regardless of the size of the firm. Debt would be repaid if retained earnings exceeded investment needs. Alternatively, if external funds were required, external equity would be the last option chosen by the firms after the safest security and debt.

Myers (1977, 1984) then developed a hierarchical pecking order of preferred sources of firm's finance. Accordingly, retained earnings are used whenever possible. Debt financing will be used if there are insufficient retained earnings. Alternatively, equity will be used in exceptional circumstances since it involves relatively high constraints in the management of the business. The debt tax shields encourage the use of debt as opposed to equity financing (Kemsley and Nissim, 2002) as a tax shield may reduce the income tax payments.

The theory also affirms that following particular financing hierarchy will maximise the value of the firms (Myers, 1977, 1984; Myers and Majluf, 1984). The theory assumes there is no optimal debt-to-equity ratio. Firms will utilise all available internal funds

before choosing an external finance, especially external equities, in order to avoid dilution of control of the firm (Holmes and Kent, 1991). However, in reality, some companies issue equity even when other sources are not fully exhausted (Baker and Wurgler, 2002).

In terms of debt finance, banks were thought to be the most favourable external sources of finance. The main reason was because bank finance results in no loss of equity and little dilution of ownership control and, obviously, managers are concerned with independence (Read, 1998) and financial freedom (Bolton, 1971; Cressy, 1995). They do not want to lose control of their business and properties (Hamilton and Fox, 1998). This situation mostly happens in small firms as external equity is considered as being a relatively uncommon source of financing in small firms. The main reason is that few owners have the means to absolutely own their firms, and small firms are less likely to share markets; thus, debt financing is a requirement for most SMEs (Batten and Hettihewa, 1999).

Another critical issue in this theory is that of how capital structure is affected by the relationship between the capabilities to generate internal funds (i.e. retained profits) and the viewpoint of getting new investment projects. According to the theory, only companies that are expecting to generate profitable growth options will need external financing if internally generated funds are not large enough. The aforementioned arguments confirmed the findings of Hutchinson (2003) who asserted that those with a lower level of earnings will make use of external funds. According to Hutchinson (2003), it is more likely that smaller firms will need to borrow than larger firms when faced with investment opportunities. Alternatively, Shyam-Sunder and Myers (1999) stated that the debt would only be issued when there was a shortage of internal funds. This is because, logically, if there is readily available internal financing, firms will prefer to settle up the debt instead of borrowing it. However, Cowling, Liu, and Ledger, (2012) maintained that owners who are reluctant to consider external equity under any conditions will not move down the pecking order to that point.

The problem of ‘information asymmetry’<sup>9</sup> is quite inter-related with the hierarchical system of pecking order theory (Newman et al., 2011). In fact, Myers and Majluf (1984) had considered the issue of information asymmetry when developing the pecking order model. They assumed that asymmetric information problems drive the capital structure of firms. According to Myers and Majluf (1984), common stocks would be undervalued by the market since owner-managers possess more information about the firm than the investors. Leverage would increase concurrently with the level of information asymmetry when greater risk is attached to a firm. Moreover, according to Lopez-Gracia and Sanchez-Andujar (2007), businesses will start financing their project using the internal source of financing as there was no information cost. The second choice was debt or borrowing, and the final choice was external equity, which has the highest information costs.

This theory is relevant to SMEs as they are opaque and carry high information costs (Psillaki, 1995), especially those with a relatively short historical performance (Cressy and Olofsson, 1997; Cressy, 2006; Reid, 1996; Paul, Whittam, and Wyper, 2007; Mac an Bhaird and Lucey, 2011). SMEs are averse towards losing control over their firms (Berggren, Olofsson, and Silver, 2000) which leads them to prefer financing options that minimise imposition into their business activities. According to Jordan, Lowe, and Taylor (1998), the primary explanatory factor for SMEs to stick to the pecking order theory of financing is the desire of the owner-manager to maintain independence and retain control of the firm. Additionally, Cosh and Hughes (1994) and Frank and Goyal (2003) found that SMEs are likely to be affected by adverse selection and moral hazard (Jensen and Meckling, 1976). According to Stiglitz and Weiss (1981), moral hazard and adverse selection can be overcome only by providing collateral to the banks.

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<sup>9</sup> This refers to the disparity between the information available to firms and lenders (Abor and Biekpe, 2007). It refers to the situation where all relevant information is not known by the interested parties (Peirson et al., 1999) due to the concept of confidentiality of owner-managers towards outside investors.

### 2.3.2 Trade-off theory

In contrast to pecking order theory, where there is no target debt ratio, trade-off theory (Myers and Majluf, 1984), assumes the existence of optimal capital structure. According to Myers (1984), an optimal capital structure is determined by substituting equity for debt and vice versa until the value of the firm is maximised (e.g. trade-off the cost and benefits of debt). It means firms trade-off between the financial distress derived from debt (i.e. when firms are unable to meet the interest and principal payments) and tax savings (Seifert and Gonenc, 2008). Thus, most of the firms would use a fair deal of debt to take advantage of tax deductibles (Myers, 1984). However, the firms would not utilise debt excessively to avoid the problem of bankruptcy (Myers, 1984).

According to Myers (1984), firms set the target debt ratio and move towards achieving it. In contrast to pecking order theory, this theory suggests that more profitable firms have a higher target debt ratio. This is because higher profitability firms ensure lower probability of bankruptcy, higher tax savings from debt, and higher overinvestment. Scott (1976) stressed that a trade-off between bankruptcy cost and the tax advantage of borrowing determines the optimal debt ratio of a firm. However, this effect can be insignificant due to the existence of non-debt tax shields (DeAngelo and Masulis, 1980) and personal taxes (Miller, 1977). Further, Eriotis, Vasiliou, and Ventoura-Neokosmidi (2007) who examine the target debt ratio based on the one-year lag of the debt ratio, found a positive association between target debt ratio and leverage.

In addition, Fischer, Heinkel, and Zechner (1989) popularise a dynamic trade-off theory. This theory stresses the deviating debt ratio from the target, in a situation where the costs of adjusting the debt ratio are higher than the costs of maintaining sub-optimal capital structure. According to this theory, there is a negative association between profitability and leverage, since firms reflexively accumulate profits and losses and let the debt ratios deviate from the target. Similarly, according to Hovakimian, Opler, and Titman (2001), firms that were highly profitable in the past are likely to have low gearing. Although there are quite a number of studies (e.g. Bhaduri, 2002; Bancel and

Mittoo, 2004; Gaud et al., 2005; Beattie, Goodarce, and Thomson, 2006) that verified that the firms manage leverage towards a target ratio, nevertheless, the evidence is indecisive.

Empirical investigations in the SMEs' literature did not find strong evidence to support trade-off theory (Sogorb-Mira, 2005). This is because SMEs face difficulties in accessing adequate debt financing in order to get tax shields in view of the fact that they are less likely to generate a tremendous amount of profit in comparison with the larger firms (Pettit and Singer, 1985). This complements the findings of Michaelas et al. (1999). A similar finding was derived by Matsaganis and Flevotomou (2010), who affirmed that debt level was not affected by tax considerations. Indeed, previous work indicates that SME owner-managers tend to operate without targeting an optimal debt to equity ratio (e.g. Holmes and Kent, 1991).

### **2.3.3 Agency theory**

Fama and Miller (1972) initiate the work by examining the possibility of different utility functions between managers and shareholders. Building on the work of Fama and Miller and expanding from Modigliani and Miller's theory (1958), Jensen and Meckling (1976) developed an agency theory; agency theory concentrates on agency costs. Jensen and Meckling (1976) assert that agency costs rise due to a conflict of interest between shareholders or equity-holders and managers (i.e. agency cost of equity) and a conflict of interest between debt-holders and shareholders (i.e. agency costs of debt).

The problem of agency cost of equity happens since managers are motivated to invest funds in a risky business for shareholders' interest (Harris and Raviv, 1991) as they are not the single beneficiary to receive any profits from the firm. Lenders are most likely to bear the cost in a situation of investment failure since members of limited liability entities have limited liability for the debts of the business. Debt can play an important role in monitoring or reducing the conflicts between shareholders and managers (Jensen,

1986). The free cash flow of the owner-managers may reduce due to issuing additional debt since the firm is now committed to servicing the debt rendered.

Meanwhile, the problem of agency cost of debt happens when the funds obtained through debt could elicit equity-holders to invest sub-optimally. Leverage increases the incentive of equity-holders to shift wealth from bondholders to equity-holders (Fama and Miller, 1972; Jensen and Meckling, 1976). Equity-holders anticipate capturing gains from the high-returned investment while debt-holders only collect the fixed payment from the interest and principal. Having too much leverage financing may increase the likelihood of financial distress (Jensen and Meckling, 1976). The loss can be damaging if the debt-holders can correctly predict the equity-holders' intentions, as debt-holders prefer less risky projects, while equity-holders prefer the opposite.

The problem of agency cost of debt is particularly severe for SMEs due to their opaqueness that may lead to increased moral hazard and adverse selection problems (Van der Wijst, 1989; Ang, 1992, 2000). This is in line with the argument of Hand, Lloyd, and Rogow (1982) who argued that the main problem of agency in SMEs is between the internal and external contributors, not between owners and managers. Michaelas et al. (1999) considered that agency costs are greater in smaller firms, leading their owner to run higher risks and in isolation, especially in the first years when the firm's survival is at stake.

Solutions to agency problems are relatively expensive for SMEs. It may increase the transaction costs between SMEs and their creditors or shareholders (Jensen and Meckling, 1976). Monitoring could also be more difficult and costly in the case of SMEs since they are not obliged to fully disclose information to the market as usually occurs with large firms, which allow a reduction of agency costs (Vasilescu, 2010). In addition, Stiglitz and Weiss (1981) highlight the credit rationing issue. They state that the availability of capital structure of SMEs depends on the agency problems caused by asymmetric information and moral hazards. Conversely, different circumstances happen in growing industry firms, by which firms will experience higher agency costs (Titman



and Wessels, 1988). In addition, equity-controlled firms tend to invest below an optimal level to take wealth from debt-holders (Jordan et al., 1998). The above problems could be reduced or monitored using a secured debt (Jensen and Meckling, 1976).

#### **2.3.4 Life cycle theory**

Life cycle theory originates from economics literature (Penrose, 1952). The theory is generally used to describe the development of the firm through growth phases or on consumption and savings behaviour. In addition, Timmons (2004) asserts that the life cycle model has been advanced in explaining the development of financing needs and capital structure of the firm. The model assumes the firm in its early stage of development relies significantly on internal finance. As the firm develops, it is able to obtain more external finance due to less information asymmetries (resulting from the ability of outsiders to scrutinise its creditworthiness). However, firms will use less debt in the later stages of development since they use retained profits to finance investment.

This theory is relevant to SMEs as they are opaque and carry high information costs (Psillaki and Daskalakis, 2009), especially those with a relatively short historical performance. There are quite a number of previous studies supporting the applicability of the life-cycle model in explaining the financing decisions of SMEs (e.g. Petersen and Schuman, 1987; Fluck, Holtz-Eakin, and Rosen, 1998; Mac an Bhaird and Lucey, 2006).

Berger and Udell (1998) use data from several US datasets to explain how firm financing changes over time. They demonstrate that financing choices and needs change as a firm grows in size, gains more experience and becomes more transparent. However, Gregory et al. (2005) maintain that it is not possible to contain the life-cycle of SMEs in one model, as implied by Berger and Udell (1998). The model is unable to present a full scenario with reference to the relationship between firm characteristics and capital structure.

### **2.3.5 Signalling theory**

Signalling theory (Ross, 1977) is developed based on the view that capital structure of the firm may signal information of the firm to outside investors. The theory assumes that, unlike outsiders, insiders such as the owner-managers know the exact state of the firm. The owner-managers would prefer equity over debt since an excessive usage of debt may cause managers to lose their job if the firm goes into liquidation or becomes insolvent. In contrast, outsiders view outstanding debt levels in firms favourably since high-debt levels signal to outsiders that firms are of high quality.

In general, signalling theory is of little benefit to small firm sectors since SMEs are not public companies listed on a stock exchange and cannot signal information to potential investors in the capital markets. However, signalling theory still has to be considered in the case of asymmetric information, where SMEs might want to send a signal to lenders or creditors. Ross (1977) asserts that when there are information asymmetries between the firm's management and outside investors, debt will be represented as a signalling means. Asymmetric information between owner-managers and investors is a driver to signalling games where the amount of debt and the timing of new issues are viewed as a sign of the performance of the firm. This problem will also lead to moral hazard and adverse selection problems (Akerlof, 1970).

Despite comprehensive discussion on the significant impact of signalling problem on the capital structure of the firm, some studies highlighted different findings. For example, Bhaduri (2002) and Baker and Wurgler (2002) found that signalling appeared to be insignificant in determining the leverage.

### **2.3.6 Free cash flow problem**

According to Brigham and Ehrhardt (2013), free cash flow is the excess of cash required that could be used for maintaining asset base, or funding and expanding projects. Jensen (1986) states that managers with large amounts of free cash flow prefer to undertake non-optimal activities. When the operating cash flow of the organisation is more than its profitable investment opportunities, high-debt levels will increase the value of the firm. Moreover, when the organisation generates substantial free cash flow, conflicts of interest between shareholders and managers over payout policies are severe. Too much cash may encourage managers to take it easy, and expand their benefits with cash that should be paid back to shareholders. Another problem is to motivate managers to utilise the cash instead of investing it below the cost of capital.

Managers tend to allocate the firm's resources to their private benefit, especially when the firm is mainly equity financed (Jensen and Meckling, 1976). Debt, therefore, is important to limit management spending the excess cash flow in non-profitable investments. The excess cash flow will be used to repay debts where indirectly diminishing the management's control over the cash flows. According to Jensen (1986), debt can also be an effective substitute for dividend since it would tie up the owner-managers to pay out the debts for future cash flow.

### **2.3.7 Alternative theoretical perspectives on capital structure**

Although there is general agreement that financial theories have contributed to the understanding of capital structure decision-making, they conveniently ignore the role played by the firm management in determining capital structure. A whole host of factors has been shown to impact on financing decisions in SMEs other than those posited by financial theories of capital structure. Management researchers have begun to develop alternative theoretical frameworks based on paradigms as diverse as strategic management, psychology and sociology to explain how financing decisions in SMEs are made (Barton and Matthews, 1989; Matthews et al., 1994; Romano et al., 2000).

Barton and Matthews (1989) asserted that a corporate strategy perspective might be superior to a traditional finance perspective when seeking to explain the financing decisions of SMEs. They argued that the managerial choice, constrained by the availability and costs of funds, might go a long way in explaining the capital structures that firms adopt. On the basis of previous work, they developed a theoretical framework which covers a series of factors that influence the capital structure decisions of individual firms. These factors include managerial goals, risk aversion (Jensen, 1986) and internal constraints.

Matthews et al. (1994) brought together divergent perspectives in the study to develop a model for understanding financial structure in private SMEs. They moved beyond financial theories of capital structure by combining elements from the literature on decision making and strategic management. They proposed that financing decisions are determined by the owner-manager's attitudes towards debt financing as moderated by external environmental conditions. Consequently, owner-managers' attitudes towards debt financing are influenced by the characteristics of the entrepreneur, which include the need of the entrepreneur to maintain control over the business, their experience, their risk propensity, their net wealth and their social norms.

Uzzi (1999) developed and tested a theoretical model which sets out to explain how a firm's network ties enable them to gain better access to financing at a lower cost than their competitors. Using a national dataset of small firms in the US, he found that the social relationship between firms and bank officials might aid firms in accessing a more competitive price of bank financing. Moreover, Romano et al. (2000) identified numerous factors that affect the financing decisions of SMEs. They tested a model of capital structure combining insights from financial theories of capital structure with those from a broader strategic management perspective. They examined how firm level characteristics, managerial strategy, psychology and human capital influence the capital structure of family-owned SMEs. Their findings reveal that leverage is positively associated with firm size, family-ownership, business planning and business objectives, and negatively associated with profitability. Their analysis suggests that firm-level

factors as hypothesised by financial theories of capital structure do not explain comprehensively how the financing decisions of SMEs are made. Newman et al. (2011) reported almost similar findings through testing a model of capital structure combining insights from financial theories of capital structure with those from a broader strategic management perspective.

## **2.4 Determinants of capital structure**

A review of previous studies on the determinants of capital structure helped the researcher to identify some key issues. Most of the previous studies reveal that the firm characteristics are the most influenced determinants of capital structure, while relatively few studies examine the effect of managers' behaviours. In a qualitative study, Michaelas, Chittenden, and Poutziouris (1998) ascertain that owners' behaviours also determine the financial structure of the firm. The recent study by Borgia and Newman (2012) also established that the financial structure is not only influenced by firm level characteristics such as firm age, size, asset structure and profitability; rather it is also influenced by the managerial strategy, psychology and human capital.

The purpose of this section is to present empirical studies related to the capital structure; the discussion involves the viewpoints of the capital structure theories about the effect of these attributes on capital structure. The determinants of capital structure selected in this study are based on the consensus in most of the previous studies. This study examines such determinants as characteristics of the owner-manager, characteristics of the firm, management performance and external factors on four measures of capital structure (i.e. retained earnings, internal funds, debt finance and external equity).

### **2.4.1 Characteristics of the owner-manager**

Characteristics of the owner-manager were found to influence the capital structure of the firm (Cassar, 2004; Low and Mazzarol, 2006). Previous studies, by Irwin and Scott (2010) for instance, suggest that the personal characteristics of the SME owner-

managers (education, gender and ethnicity) influence their capability in raising business finance. Likewise, Mac an Bhaird and Lucey (2010) classifies it into owner's age, race, gender, education and experience, preferences, goals and motivations. Newman (2010) suggests four categories of determinants related with the owner-managers, namely managerial strategy, managerial psychology, managerial human capital and network ties. In addition, a recent study by Borgia and Newman (2012) categorises it into managerial characteristics (i.e. education, experience, and network ties) and managerial attitudes (i.e. risk-taking propensity, control aversion and growth intentions).

The following sub-sections discuss reports of earlier studies on the owner-manager's characteristics (e.g. age of the owner, human capital, ethnicity, relationship, networking, goals, perceptions and attitudes to debt, and culture), which were selected for this particular study of owner-managers' characteristics, for different sources of financing.

#### **i. Age of the owner-manager**

Age of the owner-manager appears to be an important factor determining the capital structure choice. Previous studies found that older owner-managers would be less likely to be concerned with gaining wealth. They are reluctant to invest additional finances into their firms (Vos et al., 2007; Bell and Vos, 2009). Instead, they focus more on financial independence and control (Cassar, 2004; Vos et al., 2007).

Van der Wijst (1989) established that older owner-managers are more averse than younger owner-managers in accepting outside participation (i.e. use of debt or external equity). Exceptions are older owner-managers who have a lack of successors from the family (Ward, 1987). Researchers like Scherr, Sugrue, and Ward (1993) also report a negative association between leverage and owners' age. Scherr et al. (1993) suggest that the older owner-managers are more risk averse than younger ones since they are most likely to be more educated, more experienced and wealthier than the younger owner-managers. They prefer to use more of their personal finance to finance their business operations than younger, less experienced and less educated managers.

In contrast, Carter and Rosa (1998), Wu et al. (2008) and Song et al. (2008), who found conflicting evidence, reported that the age of the owner was positively associated with the leverage of the firms. On the other hand, Romano et al. (2000), Cassar (2004) and Buferna (2005) found no significant relationship between leverage and age of the owner-manager.

## **ii. Human capital**

Hatch and Dyer (2004) define human capital as a combination of knowledge and skills possessed by the owner-managers. Knowledge and skills can be obtained through formal education or managerial experience (Scherr et al., 1993; Romano et al., 2000; Cassar, 2004). Educational attainment and managerial experience would increase the creditworthiness of the firm to the potential financiers, which indirectly reduces the adverse selection costs (Storey, 1994; Bates, 1997; Cassar, 2004; Zhang, 2008). They are expected to persuade the banks that they have a practical proposition (Scott and Irwin, 2006, 2009; Othman, Ghazali, and Sung, 2006; Wu et al., 2008). High-educated owner-managers were found to prefer using debt since they have better access to external financing (Bates, 1997; Coleman and Cohn, 2000; Cassar, 2004; Delmar and Sjoberg, 2004; Hettihewa, 2008; Bell and Vos, 2009; Irwin and Scott, 2010; Robb and Robinson, 2012). Similarly, experienced owner-managers prefer debt over equity. This is confirmed by the study of Borgia and Newman (2012) who found positive association between experience of the owner-manager and leverage.

From the lenders' perspective, they may consider the human capital of owner-managers when deciding whether or not to lend to SMEs. A better human capital may signal a better quality of firm, and thus increase accessibility to external financing (Storey, 1994; Bates, 1997; Cassar, 2004). Osei-Assibey, Bokpin, and Twerefou (2010) affirm a significant association between owner's educational achievement and firm's financing preferences. Loan repayment ability of the firm might be collateralised by education achievement, especially during business start-up. A study by Scott and Irwin (2009) also

found that educational level of the owner-managers would help the firm in raising external finance.

In addition, Cassar (2004) and Romano et al. (2000) found limited evidence of the association between human capital of the owner-manager and leverage. The human capital of the owner-manager might also influence their preferences for risk and control, and therefore affect their borrowing needs. Cassar (2004) finds that although it is easier for high educated owner-managers to access debt, they might not do so because of their tendency to be more control and risk averse.

On the other hand, some researchers (Diener and Seligman, 2004; Vos et al., 2007) assert that highly educated individuals may show more signs of financial contentment as they are wiser and better able to recognise what is valuable to them in the long term. They would be benefited through financial freedom, relationship building, and exercising caution in decision-making and consequently would make less use of debt. Other researchers such as Buferna (2005), Watson (2006), Roper and Scott (2009), Irwin and Scott (2010) and Borgia and Newman (2012) found no significant association between leverage and human capital.

Trade-off theory predicts a positive association between human capital and the use of debt. This is because more experienced and educated SME managers are more likely to recognise the tax advantages to debt better than less educated managers (Zhang, 2008; Bell and Vos, 2009). In contrast, pecking order theory postulates a negative association between leverage and human capital.

### **iii. Ethnicity of the owner-manager**

Ethnicity of the owner-manager also appears to be an important factor determining the capital structure choice. 'Ethnic minorities' is used to represent a minority population of ethnic groups in a location, region or country (Berthoud et al., 1997, cited by Hussain and Matlay, 2007). Malaysians are divided into four categories: Malays (67.4% with



other 'indigenous' groups), Chinese (24.6%), Indians (7.3%), and Others (0.7%) (Population and Housing Census, 2010). Chinese and Indians are considered to be ethnic-minorities for the Malaysian population. The ethnicity of the owner-managers has been shown to influence the financing of their business activities in several studies outside of Malaysia (McEvoy et al., 1978; Aldrich, 1980; Aldrich et al., 1981; Brooks, 1983; Jenkins, 1984; Rafiq et al., 1992; Ram and Holliday, 1993; Curran and Blackburn, 1993; Ram and Deakins, 1996; Ram, 1997; Basu and Altinay, 2002; Levent, Masurel, and Nijkamp, 2003; Deakins, Ram, and Smallbone, 2003; Smallbone et al., 2003; Hussain and Matlay, 2007; Deakin et al., 2007; Robb and Fairley, 2007; Fairley and Robb, 2007; Ram and Jones, 2008; Robb, Fairlie, and Robinson, 2009; Scott and Irwin, 2009).

Previous studies discovered that ethnic minority businesses encounter difficulty in accessing finance. For example, Curran and Blackburn (1993) establish that ethnic minority business owners experience additional barriers, compared with other business owners, particularly at start-up. Jones, McEvoy, and Barrett (1994) claim that, if compared with white business owners, ethnic minority business owners in the UK were found to encounter problems accessing bank finance at start-up. Correspondingly, Ram and Deakins (1996) report that African Caribbean business owners also face difficulties in obtaining loans from the bank. Scott and Irwin (2009) also discovers a similar pattern and concludes that the reasons for the difficulties are lack of business planning, high-failure rate, sectoral concentration of ethnic businesses and risk aversion behaviour by lenders.

Smallbone et al. (2003) find that approximately one-third of the ethnic minority businesses relied on self-financing at start-up stage; while one-third of them obtained external finance and the remaining utilised bank finance. Likewise, Hussain and Matlay (2007) report in their study that two-thirds of the ethnic minority owner-managers prefer to finance internally during the start-up stage. Significantly, the importance of trade credit, bank finance and venture capital increased over time. Moreover, Robb and Fairlie (2007), who had conducted a study in the US, reported the same pattern. Black and

white entrepreneurs were found to differ in their financing usage because of lending discrimination and differences in personal wealth. For the start-up capital, black entrepreneurs were evidenced to rely more on credit cards. They are less likely to use other external financing.

Other researchers (Cavalluzzo, Cavalluzzo, and Wolken, 2002; Blanchflower, Levine, and Zimmerman, 2003; Coleman, 2003; Blanchard, Yinger and Zhao, 2004; Mitchell and Pearce, 2004; Cavalluzzo and Wolken, 2005; Coleman, 2005) discovered that ethnic-minority business owners have to pay higher interest rates and face a higher probability of loan denial than white-owned business. This situation leads the ethnic minority entrepreneurs to prefer using internal sources of funds even if they had credit needs (Blanchflower et al., 2003). Deakins et al. (2003) report that ethnic-minority business owners do not engage with mainstream support agencies; alternatively, they rely upon their social and trusted community networks for business advice.

#### **iv. Relationship with banks and networking**

The 'relationship and networking' that SMEs form have been evidenced to influence the financing decisions of the firms in previous studies (Uzzi, 1999; Nguyen and Ramachandran, 2006; Le and Nguyen, 2009; Newman, 2010; Borgia and Newman, 2012). This factor is related to people who are involved in the business such as business owners, lenders, suppliers, and workers, as well as customers. However, when dealing with financial sources, it is more focused on the business owner and the lender/supplier (Nguyen and Ramachandran, 2006).

The wider the networking or the closer the relationship between the lender/supplier with the firm, the lower the difficulties firms will experience in raising external finances (Scott, 2006; Saleh and Ndubisi, 2006). Firms will utilise more debt if they have easy access to that particular finance, and vice versa (Nguyen and Ramachandran, 2006). As a result of a lack of publicly-available data on SMEs to outsiders, SMEs often experience a problem of agency cost and information asymmetry (Le and Nguyen, 2009). However,

this problem can be reduced through a strong relationship and network ties between SMEs and financiers (Nguyen and Ramachandran, 2006). When the relationship between firms and financiers is strong, it can indirectly reduce the agency cost problems since there will be less conflict of interest (Petersen and Rajan, 1994; Cole, 1998; Cole et al., 2004). Problems of adverse selection and moral hazard may also decrease since the financier knows the firm (Van der Wijst, 1989; Ang, 1992).

Financiers often rely on informal contacts with executives at other firms to review the creditworthiness of loan applicants or the practicality of the business proposals (Nguyen et al., 2006). Financiers could gather information through continuous contact with the firms (Petersen and Rajan, 1994; Berger and Udell, 1995). According to Krishnan and Moyer, (1996), local banks' personal relationships with clients was sometimes more important than an objective appraisal of the financial merits of the borrower. In fact, banks will use qualitative as well as quantitative information in structuring the loan contract to SMEs (Scott and Irwin, 2006). Some authors (Baas and Schrooten, 2006; Abor and Biekpe, 2007) consider that SMEs are more dependent on the relationship that they maintain with banks in comparison with large firms. The reason is that the accounting information that they produce is not of such high quality, which indirectly may be difficult for small firms to obtain bank financing.

A close relationship can also avoid the discrimination in lending (Petersen and Rajan, 1994) where it may limit the firms' access to loans or expansion (Robb and Fairlie, 2007). Irwin and Scott (2010) also concludes the same point by stating that a good relationship between business and lender is tremendously important to avoid SMEs from facing difficulties in raising external finance. Additionally, close and long-term relationships coupled with good rapport with lenders (Berger and Udell, 1998) may enhance the borrowing relationships (Han, Fraser, and Storey, 2009). A strong relationship between lenders and the firm may reduce the asymmetric information problem since it may provide a potential lender with greater information on the operating and financial situation of the firm (Le and Nguyen, 2009).

It is crucial for firms to develop active social and business networks to improve access to finance (Newman et al., 2011). A close relationship with the financier could assist firms in relaxing the liquidity constraints (Petersen and Rajan, 1994), getting greater assurance of fund availability (Nguyen and Ramachandran, 2006), and obtaining favourable rates and terms (Donnelly, Berry, and Thompson, 1985).

In addition to business relations, social relations also become a fundamental issue in business. Social relations with suppliers and customers are vital for SMEs in increasing the accessible sources of funds (Petersen and Rajan, 2002; Nguyen and Ramachandran, 2006). Network ties with suppliers and customers help spread information about the firm and its reliability and creditworthiness to other suppliers and providers of credit. This will indirectly reduce asymmetric information between the two parties (Le and Nguyen, 2009), lighten strict rules and regulations (Greif, 1993), and improve its reputation within business circles (Granovetter, 1985; Coleman, 1988). Nguyen and Ramachandran (2006) reveal that SMEs with stronger network ties with suppliers have greater debts in their capital structure than those with weaker ties (Nguyen and Ramachandran, 2006). Moreover, support from other firms assists in creating a positive image of the firm which indirectly increases the chances of obtaining credit (Uzzi, 1999).

As aforementioned, networking provides information about reliability (Nguyen and Ramachandran, 2006). Firms can learn about the reliability of their counterparts through dealing with them directly or through their network, such as family members (McMillan and Woodruff, 1999). Owner-managers' involvement in a network could lead to a positive indication to the business community (Holmlund and Tornroos, 1997). Firm can obtain funds through trade creditor short-term debts as long as they maintain strong relationships with suppliers and financiers (Nguyen and Ramachandran, 2006; Newman et al., 2011). Network ties with other firms are especially important when firms apply for bank loans.

In another perspective, this factor (relationship and networking) can be described in the form of either transaction lending or relationship lending. Brighi and Torluccio (2007)

refer transaction lending and relationship lending to transparent borrowers and opaque borrowers, respectively. Brighi and Torluccio (2007) further explain that, under transaction lending, the financial institutions relied primarily on hard information. In contrast, they relied primarily on soft information, i.e. a relationship that is built over time to tackle the problem of opacity.

**v. Owner's preference, perceptions and attitude to debt**

According to Farrelly (1980, p.15), 'since perceptions are important determinants of how individuals and firms allocate resources, perceptions are worthy of study'. Other scholars argue that people's views are more important, especially in the context of SMEs as people's views or perceptions influence the way they act (Sawyer, 1993; Sawyerr, McGee, and Peterson, 2003).

Michaelas et al. (1998) highlights that capital structure decisions will be governed by managers' preferences, perceptions and attitude towards external finance as businesses grow and need more funds. This may influence the SMEs' capital structure in a number of ways. Owner-managers may have their concerns in deciding on financial capital. Their preferences may be based on the risk perceptions and preferences (Norton, 1990), culture norm, financing attitude, or managerial motivations (Friend and Lang, 1988). Norton (1990) asserts that firms (regardless of the size) believe that management is most influential in formulating capital structure. He found in his study that small firms are averse to taking on debt due to owner-managers' preferences. Some of the SMEs develop 'safety nets' to minimise possible costs (Michaelas et al., 1998).

Weston and Brigham (1979) assert that capital structure of the firm represents the financial risk that the firm could face. The risk propensity and control aversion of the owner-managers is found to be positively associated with the amount of debt used by the firms (Barton and Matthews, 1989; Matthews et al., 1994). Analysis of interview data on small firms in the US by Barton (1989) confirms such assertions. According to Matthews et al. (1994), the risk propensity of management will become more important

if the owner-managers used personal assets as collateral for the loan (Barton and Gordon, 1987; Barton and Matthews, 1989; Matthews et al., 1994).

Berggren et al. (2000) stress that most owner-managers tend not to be interested in seeking external sources of finance, especially those that would demand a change in ownership or greater examination of financial information. Barton and Matthews (1989) establish that owner-managers of private firms typically prefer to finance from internal sources through a fear that they may lose control and flexibility in decision-making to external stakeholders such as banks and venture capitalists. Cressy (1995, p. 292) suggests that the control aversion of SMEs' owner-managers influences their financing decisions, arguing 'the desire of entrepreneurs to maintain independence is manifested in their behaviour towards banks and borrowing generally'. In this case, even if firms can access external financing, they might be reluctant to consider it through the fear of losing control over their business as it may limit the autonomous power of the owner-manager in making decisions for the firm (Harvey and Evans, 1995; Hutchinson, 1995; Berger and Udell, 1998; Pukthuanthong and Walker, 2007; Newman, 2010). The limited use of external financing is not due to the refusal of lending from banks to SMEs (Cressy, 1995).

Concerning the impact of religion in affecting the capital structure decisions of firms, Hamoudi (2007) states that Islam forbids transactions that involve the payment of interest on debt; this indirectly discourages Muslim entrepreneurs from borrowing from the bank (except when seeking short-term loan financing). However, El-Gamal (2003) maintains that there are some permissible alternatives to bank loans that carry the same function as interest-bearing loans; and investing funds in banks that pre-specify profits is allowable under Islamic law.

## **vi. Objectives and goals**

The individual goal of the SME owner-managers is playing a greater role in the firms' capital structure decisions in comparison with the individual goal of the larger firms' owner-managers (Barton and Matthews, 1989; Romano et al., 2000). The objective(s) might be single or multiple (McMahon and Stanger, 1995). According to McMahon and Stanger (1995), objectives mean the intentions of the owner-manager in operating or running the business. These should be clear, concise, and coherent (Kaisler et al., 2005) to help the owner-manager in making any important decisions for the firm. Barton and Gordon (1987) assert that most textbooks presume that the goal of shareholders' wealth maximisation is the only goal for top management. However, studies by Grabowski and Mueller (1972) and Pfeffer and Salancik (2007) state that managers might have other goals than profitability such as growth and maintaining control.

Dewhurst and Horobin (1998) proposed that small firms' owners have commercial and lifestyle goals at some stages of the firm's life cycle. The lifestyle goals are also suggested by Morrison et al. (1999, p. 13) as being that the 'owners are likely to be concerned with survival, and maintaining sufficient income to ensure that the business provides them, and their family, with a satisfactory level of funds to enable enjoyment of their chosen lifestyle'. The example of lifestyle goals can be to earn sufficient money from the business to support family (Getz and Carlsen, 2000), or to enjoy being a host, i.e. to receive some earnings from home-stay guests (Lynch, 2005). In another study, Ou and Haynes (2006) assert that the owner's objective such as career independence or wealth accumulation could also influence their way of exploring finance options.

The SME is treated as a small version of a large firm, and most SMEs are family businesses (Romano et al., 2000) and home-based (Hakim, 1989). They mostly employ a few employees (Hakim, 1989). SMEs are most likely to use internal financing since they aim to maintain control (Boyer and Roth, 1978; Curran, 1986; Holmes and Kent, 1991; Chittenden, Hall, and Hutchinson, 1996; Jordan et al., 1998; Jarvis, 2000; Nguyen and Ramachandran, 2006; Vos et al., 2007; Whittam et al., 2007; Lopez-Garcia and

Sanchez-Adujar, 2007; Moro et al., 2010) instead of seeking growth beyond their ability to maintain independence and control.

An old study by Boyer and Roth (1978) notes that many owner-managers emphasise non-financial concerns such as control, lifestyle, and job security, rather than focusing on return on investments (see also Ray and Hutchinson, 1983; Petty and Bygrave, 1993; Romano et al., 2000). Boyer and Roth (1978) found that entrepreneurs who do business as their steady employment prefer to finance using debt. On the other hand, some researchers (see Van Der Wijst, 1989; Cressy, 1995; Chaganti, DeCarolis, and Deeds, 1995; Berger and Udell, 1998; Michaelas et al., 1999) emphasise that SMEs desire growth. For example, Chaganti et al. (1995) assert that entrepreneurs who are ‘bullish’ about their business prefer equity over debt financing. Alternatively, those who aim for growth or business expansion would prefer debt finance (Van Der Wijst, 1989). Berggren et al. (2000) also found a similar pattern where those decision makers whose aim for business growth tends to be less control averse and more active in seeking external sources of finance when internally generated funds are inadequate. In contrast, profitable small firms, particularly those that aim to maximise the long-term value of their business, prefer to rely on internal funds. Other studies such as Van der Wijst (1989), Cressy (1995), Michaelas et al. (1999), and Cassar (2004) found a significant association between growth intentions and debt finance, and Storey (1994) found a significant relationship between growth intentions and external equities.

## **vii. Culture**

Culture has been evidenced to influence the financing decisions of the firms in previous studies (e.g. Sekely and Collins, 1988; Stonehill and Stitzel, 1993; Schwartz, 1994; Chui, Lloyd, and Kwok, 2002; Breuer and Salzmann, 2009; Shao, Chuck, and Guedhami, 2010; Li et al., 2011; Evans, 2013; Lucey and Dowling; 2013). Schwartz (1994) categorises culture into two dimensions: conservatism and mastery. According to Schwartz (1994), conservatism is related to employees and the owners who aim towards a harmonious relationship, preservation of public image, or uncertainty avoidance. The



items in this factor have also been recognised as a major cultural factor in other studies (see Sekely and Collin, 1988; Hirshleifer and Thakor, 1992; Chui et al., 2002; Licht, Goldschmidt, and Schwartz, 2007; Breuer and Salzman, 2009; Shao et al., 2010; Li et al., 2011). Chui et al. (2002) found that firms in conservative societies use a relatively less debt in their capital structures. The main reasons were because they place emphasis on preserving public image, social harmony, harmonious working relationship, as well as security, conformity, and tradition. Individuals would act in line with the group's interests regardless of their interest. For instance, according to Titman (1984), the liquidation costs of a firm comprise of costs on its workers, customers and suppliers. High liquidation costs on the stakeholders will lead to lower financial leverage of the firms.

As regards to public image, it is lost when a firm fails to meet any expectations of the individual (Chui et al., 2002). According to Chui et al. (2002), firms in conservative societies prefer to use less debt financing in order to minimise the probability of bankruptcy. Bankruptcy may indicate a bad signal as it is a sign of losing public image. Conservatism also cultivates security's values. Conservative societies emphasise uncertainty avoidance where they prefer certainty rather than ambiguity in business financing (Offerman and Hellman, 1997). According to Riddle (1992), societies with high uncertainty avoidance tend to be more risk averse. Enormous utilisation of debt may leave firms with financial instability, which may lead to bankruptcy. Consequently, firms would prefer to utilise equity over debt financing.

Conservative societies also emphasise conformity and tradition. Firms with high concerns over conformity and tradition prefer paternalistic management. The owner-manager would ensure their decisions would not give any harm to the employees. They would place emphasis on strengthening the firm's financial stability. Therefore, they prefer to utilise equity over debt.

On the other hand, Schwartz (1994) defines 'Mastery' as a culture value, which is related to individual success, individual actions or decisions, which aim towards

individual satisfaction. These items have been considered to represent the mastery factor in numerous studies (see Chui et al., 2002; Breuer and Salzmann, 2009; Shao et al., 2010). Schwartz (1994) affirms that mastery is related to internal locus control. Chui et al. (2002) found that firms in a country with high scores on ‘mastery’ opt to use aggressive policies. They focus on independence and individual success and avoid any investment strategies which may lead to bankruptcy. The owner-manager would prefer safer projects with less debt in order to maintain their performance (Hirshleifer and Thakor, 1992).

#### **2.4.2 Characteristics of the firm**

In this study, selecting characteristics of the firm were executed through reviews of past studies. The following sub-sections discuss factors related to firms’ characteristics.

##### **i. Age of the firm**

Firm’s age refers to the age of the firm at the time of the survey (in years). This variable has been found to follow the life cycle approach in which different capital structures are optimised at different points in the cycle (Dollinger, 1995; Gersick et al., 1997; Berger and Udell, 1998; Timmons, 2004; Wu, 2007). At start-up, SMEs mainly raise funds internally (Helwege and Liang, 1996; Berger and Udell, 1998; Avery, Bostic, and Samolyk, 1998; Fluck et al., 1998; Ampenberger et al., 2013). The main reason is that external sources are limited during that stage (Kimki, 1997). Collins and Moore (1964) assert that first-generation owners did not favour external borrowings because of discrimination and difficulties in accessing intermediate external finance (Huyghebaert, 2001). When the business grows, they then look for external capital such as debt or external equity, as the amount of capital needed becomes higher.

Another crucial issue related to firm’s age is related to the problems of information asymmetries and agency. Older firms usually have longer financial records, which indirectly reduce the agency problem and problem of information asymmetries, and,

therefore, enjoy better access to debt financing (Gregory et al., 2005; Vos et al., 2007; Abor and Biekpe, 2009; Saarani and Shahadan, 2013). The above findings complement other studies such as Ozer and Yamak (2000), Romano et al. (2000), Hutchinson (2003), and Mac an Bhaird and Lucey (2010). On the other hand, younger, smaller firms may face difficulties in accessing external financing due to high-information cost (Cassar, 2004) which indirectly discourages the use of external financing. These effects are relatively more common during start-up as new firms are more informationally opaque than existing firms (Li, Yue, and Zhao, 2009). The results are consistent with the life cycle model.

In addition, Berger and Udell (1998) also comment concerning the same issue. They state that firms tend to finance internally due to information asymmetries between the firm and potential lenders, especially in the early stage of development. In contrast, firms are most likely to utilise debt as they reach the maturity stage (Berger and Udell, 1998). Berger and Udell (1998) establish that, as firms mature, they are able to resolve the information opacity problem through improvements in the firm's private and public reputation and may secure debt using assets. This positive association supports trade-off theory since financial distress costs are lower for older firms (see Cole, 1998; Upneja and Dalbor, 2001; Cole, Lawrence, and Lawrence, 2004; Li et al., 2009; Newman, 2010). Usman (2014) who had conducted a study on 37 listed companies in Ethiopia, also reports the same association.

In contrast, some studies found a different result to the aforesaid. Some studies found inverse relationships between debt ratio and firm age as older firms have more retained profits and consequently less debt (Chittenden et al., 1996; Michaelas et al., 1999; Ripotella and Martinez, 2003; Esperança, Gama, and Gulamhussen, 2003; Hall, Hutchinson, and Nicos, 2004; Mac an Bhaird and Lucey, 2006; Klapper et al., 2006; Vos et al., 2007; Lopez-Gracia and Sanchez-Andujar, 2007; Vos et al., 2007; Garcia and Mira, 2008; Rocca, Rocca, and Cariola, 2009; Ramalho and Da Silva, 2009; Barros, Nakamura, and Forte, 2013). This pattern is consistent with pecking order theory (Myres and Majluf, 1984). Timmons (2004) asserts that younger firms favour internal funds

over external funds. Cole and Wolken (1995) conclude that as firms grow and mature, they may reinvest retained earnings in current projects. The fast growth firms were evidenced to use equity rather than debts (Stanworth and Curran, 1976). Similar patterns were found in mature firms (Cole and Wolken, 1995) whereby mature firms opt to utilise all available internal sources of finance. Berger and Udell (1998) assert that although the accessibility of young firms to external financing is quite limited, the proportion of external debt financing was relatively high due to the willingness of the firm's owners to secure debt using their personal assets.

Hussain and Nivorozhkin (1997) also found an inverse association between firm age and leverage. New firms were seen engaging in leverage more than older firms. They pointed out two main points. Firstly, the bank is unwilling to give a loan to older firms that had severe bank loans earlier, and, therefore, is more willing to give to new firms that had no such miserable experience before. Secondly, the older firms prefer to seek more equity finance rather than debt financing since they have a reputation in the stock market. Johnson and McMahon (2005) also maintain that younger firms tend to use external financing in the early stages of development before becoming more self-sufficient through reinvestment of profits. Robb (2002), Vos et al. (2007) and Serrasqueiro and Nunes (2010) also point out the same view. They claim that the older the firm is, the more it can accumulate funds (internally) and the less it will need to borrow. Alternatively, young or new firms may not have time to retain funds and may be forced to borrow. On the other hand, Romano et al. (2000) do not find any association between the firm age and leverage.

## **ii. Size of the firm**

Firm size can be measured based on (i) the natural logarithm of total asset, (ii) the natural logarithm of sales (Deesomsak et al., 2004), (iii) the logarithm of total turnover (Rajan and Zingales, 1995), (iv) the natural logarithm of employees (Ampenberger et al., 2013), and (v) a multi-criteria measure which is the result of applying factor analysis

using the principal-components factor method on the last three proxies (Arogan-Correa, 1998).

Size of the firm has been evidenced to influence the capital structure of the firm in previous studies (see Pettit and Singer, 1985; Chittenden et al., 1996; Cressy and Olofsson, 1997; Jordan et al., 1998; Romano et al., 2000; Cassar, 2004; Klapper et al., 2006; Jegers and Verschueren, 2006; Beck et al., 2008; Abor and Biekpe, 2009; Mateev, Poutziouris, and Ivanov, 2013). Rajan and Zingales (1995) affirm that large firms are more diversified than small firms since they tend to incur lower expected bankruptcy costs which enable them to take on more debts as they have easier access to the market. Gregory et al. (2005) assert that the financial options of firms will become more attractive when they become larger, older and more informationally transparent as they can access public equity financing and public long-term debt.

There is a disagreement between theories about the association of size and capital structure. Trade-off theory assumes that firms trade off the benefits of leverage (e.g. tax savings) against the costs of leverages (e.g. the costs of bankruptcy). Trade-off theory predicts a positive association between a firm's size and leverage as larger firms should accordingly employ more debt than smaller firms (e.g. Cassar, 2004; Sogorb-Mira, 2005; Huang and Song, 2006; Klapper et al., 2006). Large firms are more diversified (Rajan and Zingales, 1995), less volatile (Fama and French, 2002) and fail less often (Titman and Wessels, 1988; Nagano, 2003). They possess better reputation, more stable cash flows and fewer hazards to be liquidated, which give them relatively high chances of accessing external finance (see Marsh, 1982; Ang, 1992; Wiwattanakantang, 1999; Antoniou, Guney, and Paudyal, 2008; Bevan and Danbolt, 2002; Riportella and Martínez, 2003). In contrast, small firms borrow less since they are riskier (Cosh and Hughes, 1994; Booth et al., 2001; Joeveer, 2005) and they sometimes were discriminated against during the loan application (Abor and Biekpe, 2009). Romano et al. (2000) also found a positive association between firm size and external equity or debt, and found a negative association with funds from friends and families. Similarly,

Al-Ajmi, Hussain, and Al-Saleh (2009) who assessed the leverage of Saudi companies evidenced the same association.

Alternatively, pecking order theory predicts a negative association between a firm's size and leverage. The large-sized firms tend to disclose more information to the outsiders as compared to the smaller-sized firms which are close in nature (Watson and Wilson, 2002). Small firms may face an informational asymmetries problem (Binks and Ennew, 1997), which may hinder the accessibility to external finance (Peterson and Schulman, 1987; Ang, 1992; Berger and Udell, 1998; Gregory et al., 2005; Rozali et al., 2006). The information asymmetries are smaller in large firms (Myers and Majluf, 1984). Large firms prefer to issue equity instead of debt because of the undervaluation of equity (Berger, Klapper, and Udell, 2001). In addition, Titman and Wessels (1988) conclude that due to a high issue cost per unit, small firms become less likely to rely on external equity. Similarly, Mazur (2007), Vos et al. (2007), Ezeoha (2008) and Chakraborty (2010) validate empirically negative association between leverage and firm size.

Further, it is arguable that, due to increased complexity of the operations of larger firms, lenders incur higher assessment costs when considering the financing of large firms. Any relative gains from financing large firms over small, for a given creditworthiness, would then have to come from economies of scale. Larger firms may issue long-term debts in order to take advantage of economies of scale. However, it is unclear if the gains from economies of scale do, in fact, offset the higher assessment costs.

Agency theory expects a dual role for the relationship between a firm's size and debt level. Nguyen and Ramachandran (2006) assert SMEs are prone to face agency conflicts between owners and financiers. They discover a positive association between size and debt ratio. This parallel relationship is consistent with the idea that large firms can overcome financing constraints by trading on their reputations. In addition, Ortiz-Molina and Penas (2008) concluded that size has a positive impact on maturity. The lender restricts the length of maturity offered to small firms in order to control the risk of lending. Larger firms may be expected to have more long-term debt while smaller firms

may be expected to have more short-term debt (Titman and Wessels, 1988; Stohs and Mauer, 1996; Esperanca et al., 2003; Mac an Bhaird and Lucey, 2006; Abor and Biekpe, 2009). Esperanca et al. (2003) assert that small firms prefer to seek short-term financing due to their risk premium, lower diversification and lower liquidity of their securities.

For those reasons, most of the previous studies showed a positive association between a firm's size and leverage (Gupta, 1969; Warner, 1977; Ferri and Jones, 1979; Pettit and Singer, 1985; Titman and Wessels, 1988; Rajan and Zingales, 1995; Krishnan and Moyer, 1996; Chittenden et al., 1996; Berger and Udell, 1998; Michaelas et al., 1999; Muhammad, 1999; Romano et al., 2000; Upneja and Dalbor, 2001; Al-Sakran, 2001; Pandey, 2001; Fama and French, 2002; Bhaduri, 2002; Hutchinson, 2003; Chen and Hammes, 2003; Nagano, 2003; Barbosa and Moraes, 2003; Cassar and Holmes, 2003; Boateng, 2004; Hall et al., 2004; Cassar, 2004; Deesomsak et al., 2004; Sogorb-Mira, 2005; Gaud et al., 2005; Chen and Strange, 2005; Bhabra, Liu, and Tirtiroglu, 2008; Mac an Bhaird and Lucey, 2006; Huang and Song, 2006; Sayilgan, Karabacak, and Küçükkocaoğlu, 2006; Zou and Xiao, 2006; Lopez-Gracia and Sanchen-Andujar, 2007; Qian et al., 2007; Beck et al., 2008; Rocca et al., 2009; Psillaki and Daskalakis, 2009; Ramalho and da Silva, 2009; Degryse, De Goeij, and Kappert, 2009; Newman, 2010; Harrison, Panasian, and Seiler, 2011; Barros et al., 2013). On the contrary, Chen (2004) evidenced that a negative association exists between a firm's size and long-term debt. On the other hand, Barton and Gordon (1988), Upneja and Dalbor (2001), and Tang and Jang (2007) did not find any association between those variables.

### 2.4.3 Management performance

In this study, selecting management performance was executed through reviews of past studies. The following sub-sections review factors related to management performance (e.g. profitability, asset structure, and business planning).

#### i. Profitability

Profitability refers to the ratio of profit before tax and interest over sales turnover<sup>10</sup> (Örtqvist et al., 2006). There is considerable evidence that the profitability of a firm plays a significant role in capital structure decisions. A higher profitability firm tends to use internal financing and will raise the debt only when additional funds are necessary (Chakraborty, 2010). They are less likely to borrow since they can generate sufficient funding internally (Hovakimian, Hovakimian, and Tehranian, 2004). A profitable firm could use less debt than unprofitable firms. This is because, according to Kemsley and Nissim (2002), the financial distress cost of debt may diminish the operation value. Although in reality, if the more profitable firms ask for bank finance, they can easily access it and get a longer duration than less profitable firms (Riportella and Martinez, 2003).

Profitability has been found mainly to have an inverse impact on the debt ratio in support of pecking order theory (Zarebski and Dimovski, 2012; Usman, 2014). More profitable firms are more likely to choose external finance, and vice versa. This is in line with Esparanca et al. (2003) who discovered a negative association between profitability and debt to equity ratio. Rationally, since the owners and managers of the small firms are the same individuals, they prefer to maintain their control over their firms (Hamilton and Fox, 1998). Thus, overinvestment is unlikely to happen. They will avoid debt (Vos et al., 2007) and prefer internal financing such as retained earnings as opposed to external resources to finance firms' activity. Previous studies on both large and small

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<sup>10</sup> Interest is not included to avoid miscalculation of the earnings before interest and tax (EBIT). Almost 96% of firms in the main study did not clearly understand and know about the interest and its percentage. Thus, this study follows the definition which was suggested by Örtqvist et al. (2006).



firms confirm this negative relationship (see Titman and Wessel, 1988; Harris and Raviv, 1990; Van der Wijst and Thurik, 1993; Rajan and Zingales, 1995; Chittenden et al., 1996; Jordan et al., 1998; Wiwattanakantang, 1999; Michaelas et al., 1999; Booth et al., 2001; Ozkan, 2001; Pandey, 2001; Cassar, 2001; Booth et al., 2001; Antoniou, Guney, and Paudyal, 2002; Fama and French, 2002; Bevan and Danbolt, 2002; Swinnen et al., 2002; Cassar and Holmes, 2003; Chen, 2004; Joeveer, 2005; Chen and Strange, 2005; Gaud et al., 2005; Sogorb-Mira, 2005; Huang and Song, 2006; Klapper et al., 2006; Vos et al., 2007; Lopez-Gracia and Sanchez-Andujar, 2007; Jordan et al., 1998; Degryse et al., 2009; Psillaki and Daskalakis, 2009; Abor and Biekpe, 2009; Rocca et al., 2009; Karadeniz et al., 2009; Chikolwa, 2009; Smith, 2010; Chakraborty, 2010; Sheikh and Wang, 2011; Harrison et al., 2011; Newman et al., 2011; Zarebski and Dimovski, 2012; Barros et al., 2013; Saarani and Shahadan, 2013; Ayed and Zouari, 2014).

In contrast, trade-off theory expects a positive association between profitability and leverage by considering the effect of debt tax deductibility of interest payment and low-bankruptcy risk (Ooi, 1999). Rajan and Zingales (1995) assert that debt suppliers would be reluctant to lend to less profitable firms than profitable firms. Bhaduri (2002) also indicates a positive association between long-term debt and profitability, but a negative association with short-term borrowing. The findings of Bhaduri (2002) are relatively similar to Ozkan (2001) who shows a negative effect that is consistent with pecking-order theory. However, he finds that the lagged profits have a positive and significant effect with leverage, which supports the trade-off model. Meanwhile, Panno (2003) reports a negative effect, and his study also reveals some evidence of positive effects consistent with the trade-off model. Hadlock and James (2002), Tong and Green (2005), Abor and Biekpe (2007), Al-Ajmi et al. (2009) and Ibrahim and Masron (2011) also discover a significantly positive relationship. Further, previous studies (see Myers, 1984; Myers and Majluf, 1984; Um, 2001; Frank and Goyal, 2003; Klapper et al., 2006; Abor, 2007; Qian et al., 2009; Degryse et al., 2009) also affirm that profitable firms face low cost of distress (i.e. bankruptcy) and place more value on tax deduction of interest

payments than less profitable firms. This situation provides incentives for profitable firms to utilise extra debt to benefit from the tax shield.

Hovakimian et al. (2004) discuss a different view by contending that consistent with the dynamic trade-off theory, an inverse relationship between profitability and leverage is not because of the influence of profitability on the target leverage; rather, it is because it affects the deviation from the target. They conclude that the negative relationship of profitability should not hold for firms that offset the deviation from the target by resetting their capital structure.

On the other hand, free cash flow theory (Jensen, 1986) expects a positive association between profitability and leverage. Debt could be a discipline device for a profitable firm (Williamson, 1988). Relatively high profitability should result in higher debt because high debt can control management discretion; this approach was used by Frydenberg (2001). Noticeably, the above rationales are expected to hold for relatively large firms. Nevertheless, this agency problem of free cash flow is non-existent in SMEs since they do not have public equity.

In addition, profitability is inversely associated with short-term debts such as trade credit (Hall et al., 2000). This is because debt introduces an agency cost argument. Management will avoid consuming excessive perquisites and building their empires since large sums of money must be paid to creditors each year. In the case of bank financing, even though small firms can obtain loans from a commercial bank, the loan rate may be higher. Small firms may have to provide a higher premium to commercial banks in comparison with larger firms (Fu, Ke, and Huang, 2002). This will lower the profitability a small firm can earn from an investment. Reliance on debt finance might also reduce the investment opportunities available for small firms. However, if less profit has been retained in the past because of lower profitability, small firms must rely more on debt financing. When a small firm relies heavily on debt as a financing source, the profitability could be lower since the debt is costly.

In relation to external equity, profitable small firms would avoid using it in order to maintain control over their firms and avoid dilution of ownership (Deesomsak et al., 2004), which leads to a negative relationship between profitability and external equities. Nevertheless, despite a broad discussion on the positive and negative association of debt and profitability, Krishnan and Moyer (1997), Fattouh, Harris, and Scaramozzino (2005) and Nguyen and Ramachandran (2006) could not confirm that profitability is a significant factor in the leverage decision.

## **ii. Asset structure**

Access to tangible assets is asymmetrical across sectors. For example, manufacturing sectors are primarily composed of tangible assets, while services sectors are mostly composed of intangible assets. More tangible assets would increase the accessibility of the firm to the external financing; tangible assets have less asset specificity. Accordingly, this feature maximises its benefit as collateralisation for debt which also increases the lenders' guarantee. On the other hand, assets' specificity for intangible assets creates difficulties in finding credit because they are non-collateralisable. As a result, this will also suggest a positive relationship between collateral of assets and debt level. Collateral is also needed to overcome information asymmetry with respect to the adverse selection and moral hazard problem (Di Patti and Dell'Araccia, 2004). The lending is mainly granted depending on the value of underlying assets, which can be determined by outsiders (Berger and Udell, 2006), not based on the creditworthiness of the firm.

Collateral of assets is essentially necessary for SMEs to enable them to borrow (Han et al., 2009) as small firms are not as informationally transparent as large firms as they do not have to disclose audited financial statements or do not issue traded securities (Myers, 1984). Collateral may also block any gaps that exist between lender and borrower (Stiglitz and Weiss, 1981; Batten and Hettihewa, 1999; Hanley and Crook, 2005). The collateralised assets would be seized upon failing to pay the debt. Firms that have fixed assets can borrow at lower rates because of their ability to provide assets as

collateral (Jensen and Meckling, 1976). Thus, a positive relationship is expected to exist between leverage and fixed assets (see Scott, 1977; Harris and Raviv, 1990; Van der Wijst and Thurik, 1993; Rajan and Zingales, 1995; Chittenden et al., 1996; Krishnan and Moyer, 1997; Jordan et al., 1998; Michaelas et al., 1999; Wald, 1999; Wiwattanakantang, 1999; Romano et al., 2000; Hall et al., 2000; Nuri, 2000; Um, 2001; Booth et al., 2001; Colombo, 2001; Devic and Krstic, 2001; Chui et al., 2002; Howorth, 2001; Gibson, 2001; Hutchinson, 2003; Chen, 2004; Gaud et al., 2005; Sogorb-Mira, 2005; Nguyen and Ramachandran, 2006; Ortqvist et al., 2006; Huang and Song, 2006; Shah and Khan, 2007; Psillaki and Daskalakis, 2008; Rocca et al., 2009; Degryse et al., 2009; Zekohini and Ventura, 2009; Frank and Goyal, 2009; Chakraborty, 2010; Bany-Ariffin, Mat Nor, and McGowan Jr, 2010; Newman et al., 2011; Ayed and Zouari, 2014).

In addition, the financial distress cost would depend on the type of assets that a firm possesses. A firm that relies more on investment in tangible assets rather than intangible assets would have a smaller cost of financial distress. SMEs are more likely to incur a higher cost of financing as banks and other financing institutions feel hesitant to provide the capital to SMEs. SMEs may have a higher probability of insolvency in comparison with larger firms (Berryman, 1993). SMEs with lesser collateral prefer to use internal funds instead of debt finance (Van der Wijst and Thurik, 1993; Michaelas, 1999; Hall et al., 2004; Sogorb-Mira, 2005). SMEs may use their personal assets instead of business assets for collateral purposes (Cosh and Hughes, 1994).

From a theoretical perspective, especially when considering the maturity, pecking order theory suggests that tangibility is negatively related to short-term debt financing and positively related to long-term debt financing (Feidakis and Rovolis, 2007; Qian et al., 2009; Barros et al., 2013). The pecking-order hypothesis assumes that firms prefer debt over equity because debt is considered more secure and has fewer agency costs. The demand of debt will be covered with collateral assets. The more the tangibility of assets, the more the secured debt, and a positive relationship is expected. In contrast, DeAngelo

and Masulis (1980) state that firms with high levels of depreciation will be anticipated to have low levels of debt.

Agency theory suggests that collateralised assets can be used as a monitoring instrument to control managers and prevent threats of transferring wealth from debt-holders to shareholders. Therefore, a positive relationship is expected between assets structure (tangibility) and debt level. Transaction cost economics by Williamson (1988) demonstrated that when assets become more re-deployable, firms prefer debt over equity in financing decisions.

Trade-off theory assumes that firms with tangible assets are stronger when facing financial distress, and these assets make debt more secure. Tangibility of assets increases the liquidation value of the firm and decreases the hazards of mispricing and the difficulties of financial loss in the case of bankruptcy. Firms with mostly intangible assets should borrow less as they are unable to provide collateral in comparison with those possessing relatively high tangible assets (Jordan et al., 1998). Trade-off theory also predicts that firms with greater collateral value favour to choose higher debt since they recognise a lower potential cost of financial distress (Myers, 1977; Myers and Majluf, 1984; Harris and Raviv, 1991; Thornhill, Gellatly, and Riding, 2004). Nonetheless, Booth et al. (2001) who had conducted a study in ten developing countries, Huang and Song (2002) in China, and Karadeniz et al. (2009) in Turkey, did not support trade-off theory and found tangibility to be negatively related with leverage.

Ferri and Jones (1979) and Balakrishnan and Fox (1993) strongly confirm a negative relationship with a debt level due to the use of intangible assets (e.g. R&D expenditures). This pattern supports the fact that intangible assets are not re-deployable, and this limits the borrowing capacity of the firm. Similarly, Titman and Wessels (1988) affirm that firms with specialised or unique products face more costs in terms of liquidation and are more likely to be less levered. These results have been supported by Harris and Raviv (1991), Ghosh and Cai (2000), Bhaduri (2002), and Delcoure (2007) and Al-Ajmi et al. (2009).

On the other hand, Cassar and Holmes (2003) and Bevan and Danbolt (2002) report contradicting results (i.e. positive) depending on the debt measures used. Panno (2003) also had a contradictory result justifying that if a company has more fixed assets, this can be an indication of less current assets or liquid assets, and that might lead to a negative relationship with extra debt. In contrast to the above findings, Deesomsak et al. (2004) found an insignificant relationship for Asian countries (except Australia) due to two reasons: the concentrated ownership structure and a close relationship between firms and lenders which minimises the need for collateral. In contrast, a recent study by Newman et al. (2011) reports that there is no evidence of a significant relationship between assets structures with total or short-term leverage. The findings are against the expectations of both static trade-off and pecking-order theories.

### **iii. Business planning**

Romano et al. (2000) defined business planning as a combination of three variables, which are a business plan, a formal strategic long-term plan, and formal management structure. Management structure can be shown in a chart showing the position and task schedule of each person who is involved in the business (Romano et al., 2000). Business planning is highly related to the problem of information asymmetry. It involves the secrecy concept of the firm and outsiders such as bankers or investors (Romano et al., 2000). For instance, in the case of business start-up capital, especially when firms want to apply for external funding, they are encouraged to prepare a business plan (Berger and Udell, 1998). Low-business planning will indirectly increase the level of information opacity, which may hinder the accessibility to external finance (Petersen and Schulman, 1987; Ang, 1992; Harvey and Evans, 1995; Berger and Udell, 1998; Orser, Hogarth-Scott, and Riding, 2000; Romano et al., 2000; Gregory et al., 2005; Rozali et al., 2006; Nguyen and Ramachandran, 2006; Klapper et al., 2006; Bell and Vos, 2009; Rocca et al., 2009).

SMEs face tremendous difficulties in accessing external financing as they do not provide track records and their information is not transparent. Empirical work on data

from 628 enterprises in the late 1990s by Gregory, Tenev, and Wagle (2000) indicates that the life cycle model might provide an adequate explanation for the capital structure of private enterprises in China. The findings reveal that as firms grow and age, they become less opaque with an established track record, which indirectly gives them better access to external financing.

SMEs also face the problem of informational asymmetries in their dealings with lenders or creditors (Ennew and Binks, 1994). The information asymmetry problem is quite high in SMEs since they do not have to disclose firms' information to outsiders (Berger and Udell, 1998; Hall et al., 2000). Thus, this makes outsiders such as investors, venture capital institutions and banks become reluctant to lend to SMEs since it is difficult for the outsiders to identify the best-returned firms, i.e. potential profitable firms (Beck et al., 2008). The opacity<sup>11</sup> of information can be reduced if the firm provides regular and accurate financial reports and statements regardless of formal or informal statements, documents the performance of the business, and prepares good financial forecasts (Coleman and Carsky, 1999). SMEs will have higher failure rates due to a lack of credit history or no track record, which indirectly make them more risky than large firms (see Harris and Raviv, 1991; Cavalluzzo et al., 2002; Al-Kharusi, 2003). A firm without a proper financial track record will have higher information opacity than those with a proper record, which may prevent the firm from obtaining external finance (Batten and Hettihewa, 1999).

Certainly, business planning is necessary for the firms in obtaining external financing, especially during the start-up stage. According to Berger and Udell (1998), firms at the start-up stage prefer to finance internally because it is difficult for them to obtain external financing as they could not provide a proper business plan, strategic plan, or management structure. Similar findings were found by Haron and Shanmugam (1994). They found that the loan application process in Malaysia is extremely tedious and lengthy, which includes a preliminary interview, a second interview, a pre-decision visit,

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<sup>11</sup> Opacity means that information is asymmetric between small firms and their (potential) lenders.

a loan decision, loan documentation, and loan disbursement. They affirmed that the reasons for the rejection of a loan application are because of no sound business plan and a lack of knowledge of capital management and business management.

#### **2.4.4 External factor**

##### **Environment**

Environment can be categorised into stable, benign (Naman and Slevin, 1993; Covin, Green, and Slevin, 2006), and external environment. A country's macroeconomic data such as GDP growth, the inflation rate and interest rate have implications for the debt available to SMEs (e.g. Lee et al., 2010). Michaelas et al. (1999) briefly mentioned the effect of environmental factor on capital structure in their study. This factor is mostly studied in the developed countries. Although this factor has been examined recently, there is no conclusive evidence on the effect of macroeconomic variables on capital structure choice. Gulati, Nohria, and Zaheer (1997), Booth et al. (2001), and Hatzinikolaou, Katsimbris, and Noulas (2002) strongly confirm an inverse association between inflation rates and leverage. On the other hand, Sener (1989), Taggart (1995) and Bas et al.'s (2009) reports contradict results depending on the debt measures used. Klapper et al. (2006) report inverse association between environments with greater asymmetric information and debt. A study by Mutenheri and Green (2002) reports no association.

As regards to the effect of economic situation, Michaelas et al. (1999) find that during an economic recession in the UK, firms rely more on short-term debt in response to liquidity problems. This problem needs to be re-addressed in the ASEAN context. According to Deesomsak et al. (2004), the 1997 economic crisis affected the financing preferences of the owner-managers. Similar finding is also being found by the European Commission (2011) regarding the effect of severe economic crises on the financing preference and practices in Europe.



Instead of economic factors, Rajan and Zingales (1995) assert that the institutional characteristics such as ownership pattern, tax code and law of bankruptcy also affect capital structure choice. Further, La Porta et al. (1998) emphasise that the law enforcement of the countries appeared to be among the determinants of capital structure. They emphasise that countries with common law systems offer investors (outsiders) better protection than those with civil law. Another important issue is concerned with corruption (La Porta et al., 1998). Firms will use more debt when the legal system has less integrity (high levels of corruption). The arguments are in conformity with the study of Gleason, Mathur, and Mathur (2000). They reported that the capital structure of a firm may be influenced by the economic system, the legal environment, the tax environment, and the technological capabilities. Korajczyk and Levy (2003) establish that both firm-specific factors and macroeconomic conditions influence the capital structure of the firm. Further, De Jong, Kabir, and Nguyen (2008) confirm the influence of institutional and legal environment as well as economic development on firm's capital structure.

## **2.5 Effect of capital structure on performance**

A study of a firm's capital structure and a firm's performance is widely discussed in most of the capital structure theories. The agency theory for free cash flows by Jensen (1986) assumes that the free cash flow available to managers can be reduced through the utilisation of debt (Ramadan et al., 2012) and consequently will act in the interest of shareholders. However, this theory is not applicable in the case of SMEs as the owner and manager of the firm is the same individual.

The asymmetric information model (Myers, 1984; Myers and Majluf, 1984) assumes that owner-managers usually have better information about their firms than outside investors. Due to limited information received by the outsiders, they tend to look at the debt level of the firms. High level of debt indicates that owner-managers are certain about the future of the firm. On the other hand, high level of equity indicates the poor performance of the firms as the earnings will fall in the future (Ramadan et al., 2012).

Ramadan et al. (2012) also stress that debt mediates the association between determinants of capital structure and firm's performance.

In addition, Miller (1977) asserts that the firms will trade-off between benefit and cost of debt until it reaches the optimal level of debt. An appropriate capital structure mix may minimise the cost of capital of the firm. This situation will maximise the net returns for the firm that indirectly improve the firm's performance.

Based on the literature search, it was found that there are three different situations for the associations between capital structure and firm's performance: no significant association, positive association and negative association. Those who found no significant association support Modigliani and Miller's (1958) theory and the argument of Miller's (1977) model about the optimal capital structure. Alternatively, those who found a negative association between debt level and performance support Myers and Majluf's (1984) argument which stated that highly levered firms may forego positive net present value (NPV) projects which may affect performance adversely.

Among studies that found no significant association between capital structure and performance are Krishnan and Moyer (1996) who conducted a study for hotels in Hong Kong, Malaysia, Singapore and Korea, and Phillips and Sipahioglu (2004) on hotels in the UK. Similar findings were found by Berger and Bonaccorsi (2006). They used profit efficiency as the performance measure.

In contrast, Abor (2008) reports a significant and negative association between capital structure and firm performance (ROA) in the case of Ghana. Singh and Faircloth (2005)<sup>12</sup> report that more debt leads to lower long-term capital investments and that in turn leads to lower corporate performance. Forbes (2002) also finds an inverse relationship between debt ratios and net income growth. Similarly, Gleason et al. (2000) indicate a significant and negative association between capital structure and

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<sup>12</sup> They measured performance based on the growth rate of earnings per share, net profit margin, operating cash flow and future growth opportunities.

performance (i.e. ROA, profit margin and sales growth). The inverse relationship suggests that lower performance may be due to the agency issues which lead to high utilisation of debt. Interestingly, research evidence by Kinsman and Newman (1998) recommends three measures of debts: current short-term debt, long-term debt, and total debts. They find that earnings are negatively and positively associated with current short-term debt and long-term debt, respectively. However, overall results demonstrate an inverse relationship between debt and firm performances.

Chang Aik Leng (2004) studied the effect of corporate governance practices on a firm's performance and found that borrowing ratio has a negative effect on earnings performance using return on equity (ROE). Dessi and Robertson (2003), who used Tobin's Q as a performance measure for UK firms for the period 1967 to 1989 unbalanced panel data, found that the debt has a significant positive effect on an expected performance. Thompson, Wright, and Robbie (1992) found a positive and significant effect in explaining the excess returns to equity investors. The finding is also consistent with Ebaid (2009) when short-term and total debts had impacted negatively on a firm's performance measured by Return on Assets (ROA). Interestingly, Campello (2006) discovered mixed effects; he found that debt increases sales performance up to a certain point and then additional debt leads to sales underperformance, as well as affecting the product market performance negatively. Kamran, Khan, and Sharif (2014) who investigate on the sugar industry in Karachi Stock Exchange Pakistan found a weak positive association between capital structure and financial performance.

In summary, SMEs are most like to finance internally, which sometimes may restrict them to survive and grow (Carpenter and Petersen, 2002). However, rigorous competition in globalisation trends, shorter product cycles, innovation requirements, and rapid technological development has demanded SMEs to accelerate their performance. Therefore, SMEs need capital from both internal and external sources (Pretorius and Shaw, 2004) in order to increase the performance.

## **2.6 Other influences on the firm's performance**

Shergill and Sarkaria (1999) investigated the influence of firm characteristics and industry on the firm's financial performance, finding that capital intensity is positively related to the financial performance. They use two sets of measures to reflect the financial performance: ROE and ROA to measure profitability; and growth in sales, dividends, and net total assets as indicators for growth. Chen (2004) discovered that debt ratio is negatively related to ROA.

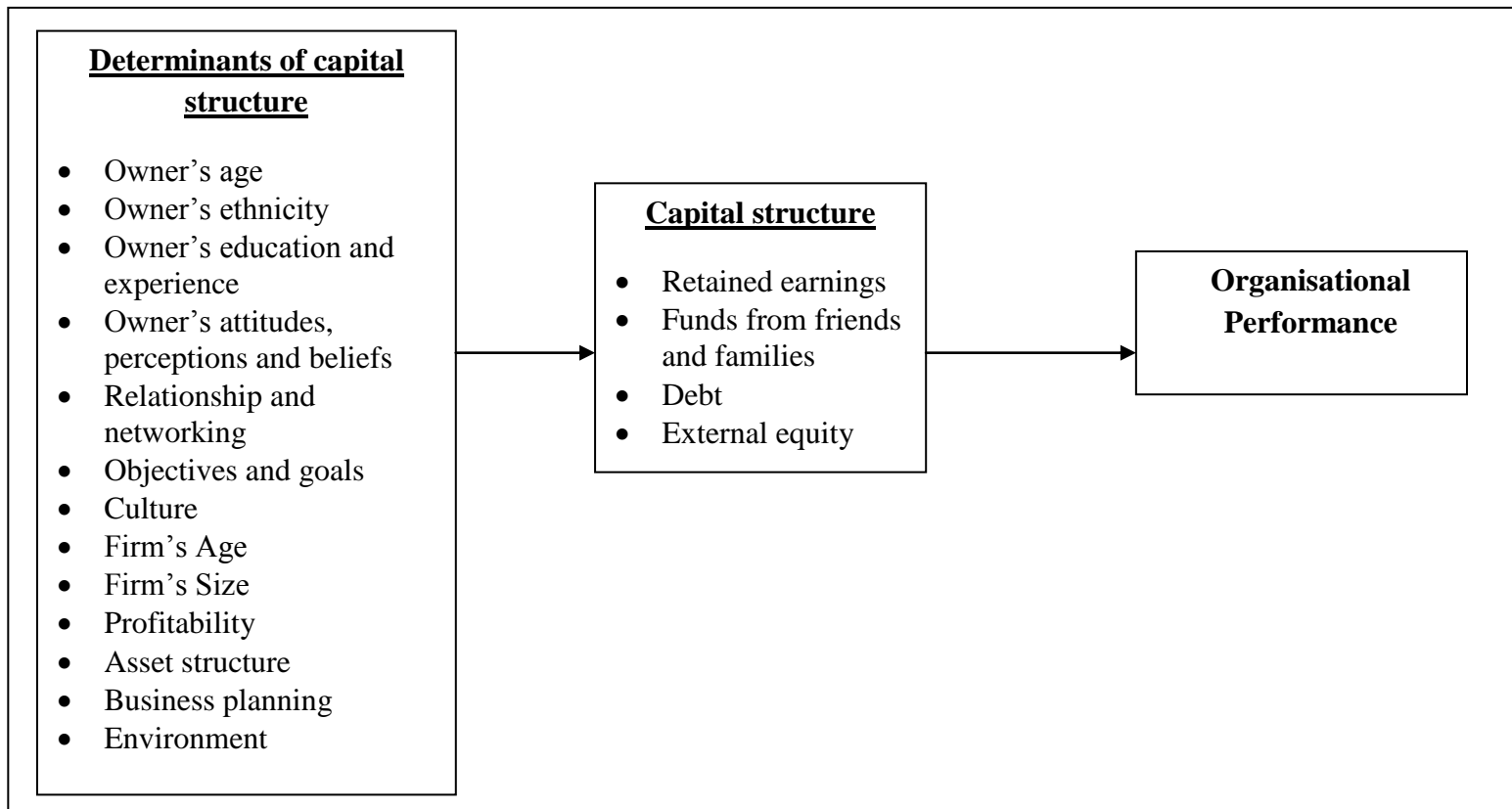
In fact, many studies investigate the relationship between size and performance. Goodman, Peavy, and Cox (1986), using Standard and Poor's 400 firms and stock returns to reflect financial performance, discover an inverse association between size and performance. Similarly, Forbes (2002) and Jermias (2008) find a similar association. Alternatively, studies such as Shergill and Sarkaria (1999) for Indian firms and Orser et al. (2000) for Canadian firms, found a positive association between size and performance. They measure performance in terms of diversification, new technology, and economies of scale production. Gleason et al. (2000) and Zeitun and Tian (2007) affirm this parallel relationship. However, Moen (1999), who studied Norwegian companies, finds that export performance is not subject to the size of the firm (employment). He asserts that the primary competitive advantages are the products and technology of the firm, not the size of the firm.

In the light of the free cash flows hypothesis, Brush, Bromiley, and Hendrickx, (2000) ascertain a strong positive relationship between sales growth and a firm's performance in terms of stockholders' returns and return on assets. Hutchinson and Gul (2006), who studied the top 500 Australian companies, found that high-investment opportunities are positively associated with ROE and negatively associated with agency costs. Further, Amidu (2007), by using ROE and ROA for Ghana, found support for the fact that growing firms have the potential of generating more returns for the firms.

Moreover, numerous studies investigate the relationship between risk and performance. There are others who confirm the positive relationship between a firm's risk and financial performance, for example, Wing and Yiu (1997), Shergill and Sarkaria (1999), Orser et al. (2000), and Tsai and Wang (2005), Loudon (2006) and Dewan, Shi, and Gurbaxani (2007). Other studies that use excess stock market returns also found a positive relationship. The studies include Girard, Rahman, and Zaher (2001), using nine Asian capital markets and the US, Tang and Shum (2004) for the Singapore stock market, Assaf (2005) for the Canadian stock exchange, Bali and Peng (2006) for the S&P 500 index, Tang and Wai (2006) for the Hong Kong stock market, and Ludvigson and Ng (2007) using large data sets in different US markets.

The following figure shows the preliminary framework for the study which was based on the gaps the literature.

**Figure 2.1 Preliminary framework**



The following tables summarise some studies on the determinants of capital structure in SMEs and large firms.

**Table 2.1 Explanatory variables used in previous studies of the determinants of capital structure in SMEs**

Authors	Explanatory variables used*							Other variables used
	P	S	AT	G	A	NDTS	L	
Michaelas et al. (1998)	✓	✓	✓	✓	-	-	-	<ul style="list-style-type: none"> <li>• Owner characteristics: need for control, knowledge, experience, risk propensity, perception and beliefs about external finance</li> <li>• Cash flow</li> <li>• Ownership</li> <li>• External factors: state of economy, market condition, availability of funds, industry, government policy</li> </ul>
Romano et al. (2000)	-	✓	-	-	✓	-	-	<ul style="list-style-type: none"> <li>• Business planning</li> <li>• Owner's attitude for family control</li> <li>• Objectives of family business</li> <li>• Industry type</li> </ul>
Esparanca et al. (2003)	✓	✓	✓	✓	✓	✓	-	Economic risk=Sales variation coefficient (Pearson)
Riportella and Martinez (2003)	✓	✓	✓	✓	✓	-	-	<ul style="list-style-type: none"> <li>• Business sector</li> <li>• Financial distress</li> <li>• Return on assets as a proxy of economic performance.</li> <li>• The temporal structure of interest rates.</li> <li>• Volatility of the interest rate.</li> </ul>
Hall et al. (2004)	✓	✓	✓	✓	✓	-	-	-

Cassar (2004)	-	✓	✓	✓	-	-	-	<ul style="list-style-type: none"> <li>• Legal organisation</li> <li>• Owner's education</li> <li>• Owner's experience</li> <li>• Gender</li> </ul>
Mac an Bhaird and Lucey (2006)	-	✓	✓	✓	✓	-	-	<ul style="list-style-type: none"> <li>• Ownership</li> <li>• Internal collateral</li> <li>• Owner's collateral</li> </ul>
Ortqvist et al. (2006)	✓	✓	✓	✓	✓	-	-	-
Nguyen and Ramachandran (2006)	✓	✓	✓	✓	-	-	-	<ul style="list-style-type: none"> <li>• Business risk</li> <li>• Relationships with banks</li> <li>• Networking</li> </ul>
Abor and Biekpe (2007)	✓	✓	✓	✓	✓	-	-	Macroeconomic variables (inflation and interest rates) as determinants of bank finance.
Psillaki and Daskalakis (2007)	✓	✓	✓	✓	-	-	-	Risk = Squared deviation of each year's earnings before taxes from the period average.
López-García and Sánchez-Andújar (2007)	✓	✓	-	✓	✓	✓	-	<ul style="list-style-type: none"> <li>• Effective tax rate</li> <li>• Financial distress costs</li> <li>• Operating cash flow</li> <li>• Borrowing requirement</li> </ul>
Zhang (2008)	-	✓	-	-	-	-	-	<ul style="list-style-type: none"> <li>• Political or bureaucratic connections</li> <li>• Whether or not a native of Chengdu</li> <li>• Owner's education</li> <li>• Native status</li> <li>• Credit rating status</li> <li>• Business experience</li> <li>• Respondent's age category</li> </ul>
Abor and Biekpe (2009)	✓	✓	✓	✓	✓	-	-	Risk= Standard deviation of the difference between the firm's profitability in time and the mean profitability
Bell and Vos (2009)	✓	✓	-	-	-	-	-	<ul style="list-style-type: none"> <li>• Owner's age</li> </ul>



								<ul style="list-style-type: none"> <li>• Reported financing access obstacles denial of loan</li> <li>• Education</li> <li>• Information asymmetry</li> </ul>
Borgia and Newman (2012)	✓	✓	✓	-	-	-	-	<ul style="list-style-type: none"> <li>• Managerial strategy</li> <li>• Psychology</li> <li>• Human capital</li> <li>• Managerial network ties</li> <li>• Managerial attitudes (managerial aversion to external control, risk-taking propensity and growth intentions)</li> </ul>

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

**Table 2.2 Explanatory variables used in previous studies of the determinants of capital structure in large firms**

Authors	Explanatory variables used*							Other variables used
	P	S	AT	G	A	NDTS	L	
Titman and Wessels (1988)	✓	✓	✓	✓	-	✓	-	<ul style="list-style-type: none"> <li>• Uniqueness</li> <li>• Industry</li> <li>• Earning volatility</li> </ul>
Harris and Raviv (1991)	✓	✓	✓	✓	-	✓	-	<ul style="list-style-type: none"> <li>• Volatility</li> <li>• Bankruptcy</li> <li>• Advertising</li> <li>• R&amp;D expenditures</li> <li>• Free cash flow</li> <li>• Uniqueness</li> </ul>
Chui et al. (2002)	✓	✓	✓	-	-	-	-	<ul style="list-style-type: none"> <li>• Cultural dimension- conservatism / mystery</li> <li>• Agency</li> </ul>
Bevan and Danbolt (2002)	✓	✓	✓	-	-	-	-	<ul style="list-style-type: none"> <li>• Market-to-book ratio</li> </ul>

Frank and Goyal (2003)	✓	✓	✓	-	-	-	-	<ul style="list-style-type: none"> <li>• Dividend</li> <li>• Intangibles</li> <li>• Market-to-book ratio</li> <li>• Macroeconomic</li> </ul>
Deesomsak et al. (2004)	✓	✓	✓	✓	-	✓	✓	<ul style="list-style-type: none"> <li>• Earning volatility</li> <li>• Share price performance</li> </ul>
Huang and Song (2006)	✓	✓	✓	✓	-	✓	-	<ul style="list-style-type: none"> <li>• Tax</li> <li>• Volatility</li> <li>• Managerial shareholding</li> <li>• Industry</li> <li>• Region</li> </ul>
Shah and Khan (2007)	✓	✓	✓	✓	-	✓	-	<ul style="list-style-type: none"> <li>• Earning volatility</li> </ul>
Fan et al. (2012)	✓	✓	✓	-	-	-	-	<ul style="list-style-type: none"> <li>• Market-to-book ratio</li> <li>• Economic development</li> <li>• Inflation</li> <li>• Common law</li> <li>• Corruption index</li> <li>• Tax system (dividend)</li> <li>• Life insurance penetration</li> </ul>

Based on the above tables, it is clear that the factors selected in this study were among the factors that were mostly included in the previous studies of the capital structure. Firm size, profitability, and asset structure were predominantly used as variables in most of the previous studies. For example, size of the firm 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 enterprises. Other factors such as firm age, growth, liquidity and non-debt tax shields were also included in the previous studies. Previous studies also integrate managerial characteristics and external factors to be one of the variables influencing the capital structure of the firm.

## **2.7 Conclusions**

This chapter presents a clear view of the capital structure determinants and shows that the literature lacks agreement regarding its determinants, and the concept is poorly defined. Despite the fact that capital structure theory has attempted to explain a great deal of the capital structure of firms, in general, there is no consensus about which factors have an impact on capital structure decisions. A review of the literature discovers a number of gaps and reveals directions for further research.

Some important variables like owners' attitudes towards debts and cultural factors are not widely examined in previous studies' models. Most studies also ignored the importance of macroeconomic factors such as the inflation rate and interest rate, in affecting capital structure of SMEs. The present study stresses that refocusing on the owner, firm, culture and external environment is an important step towards understanding the capital structure determinants of the firms. Based on the foregoing discussions, it is anticipated that owner-related factors and firm-related factors will be significant determinants of capital structure of SMEs. It is also anticipated that management performance and environment will influence the capital structure of SMEs. By integrating the owner-manager characteristics, firm characteristics, management performance and external factor (i.e. environment), it may be possible to develop a more viable model of SMEs' capital structure determinants.

None of the identified theories best explain capital structure practices. The literature shows that some studies support the pecking order hypothesis; others provide support to the trade-off theory, and some show mixed evidence. These findings would suggest neither of the two theories independently provides sufficient descriptions for the process of how firms chose their debt to equity levels. In addition, based on a significant influence of agency issues, the firm's country origin and life-cycle, on the capital structure decisions; hence, this present study considers the other theories. Instead of two main theories (pecking order and trade-off theories), this study also considers agency cost theory, life-cycle model, signalling theory, free cash flow model, and Schwartz's cultural model, as a foundation for the theoretical model.

Moreover, although previous empirical studies have been conducted worldwide, the results are still mixed. In fact, most studies have been conducted in developed countries. Limited numbers of studies have been carried out in developing countries, specifically in the SMEs of the developing country like Malaysia. To ensure the generalisability and applicability of the theory in different contexts, Steenkamp (2005) suggests that empirical research should be expanded to cover other countries.

The reviews lead to the selection of seven owner-managers' characteristics (age, education and experience, ethnicity, relationship and networking, objectives and goals, owner's preference, perceptions, and attitudes and culture); two firms' characteristics (age, and size); three management performance characteristics (profitability, asset structure, and business planning); and external factors (environment) to be used in determining those factors influencing SMEs' financing choices for different sources of finance (retained earnings, internal equity, debt, and external equity) available to SMEs in Malaysia. The reviews also point to further examinations on the impacts of capital structure on the organisational performance, and the financing pattern of three main ethnic groups and their similarities and differences in determining their capital structure decisions.

Consequently, based on the review of the literature, the current study addressed the following questions:

1. What are the factors that influence the capital structure of SMEs in Malaysia?
2. Do owner-managers' characteristics, firms' characteristics, management performance, and external factors influence the capital structure of SMEs?
3. What are the impacts of capital structure and its determinants on the organisational performance?
4. Does ethnicity affect the relationship between capital structure and its determinants?
5. Are there any differences in the financing preferences of minority-owned and non-minority-owned businesses?

The following chapter presents the research framework and hypotheses of the study, which were formulated on the basis of research questions. Each hypothesis relates each construct to the aforementioned theories.

## **CHAPTER 3 CONCEPTUAL FRAMEWORK AND HYPOTHESES DEVELOPMENT**

### **3.1 Introduction**

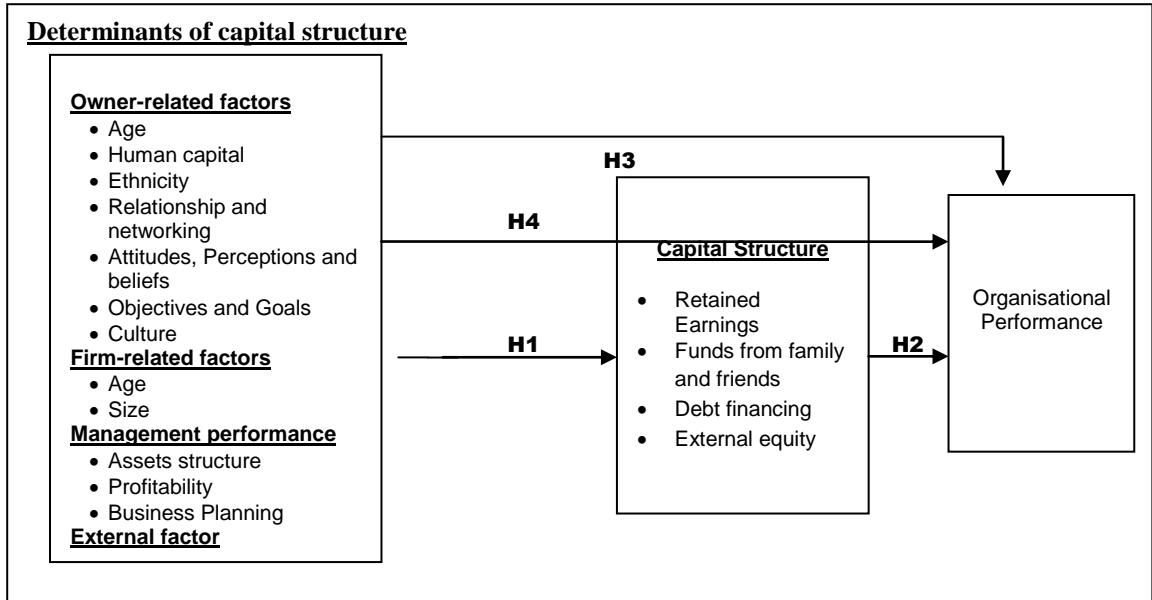
Chapter 2 introduced capital structure theories which extensively discuss the factors determining the capital structure and the effects of capital structure and other influences on performance. A review of the literature reveals that the life-cycle model together with pecking order, trade-off, and agency theories can contribute to developing a better understanding of the factors that influence SMEs' financing decisions. This chapter summarises all the constructs reviewed into a broad conceptual framework and develops hypotheses to be tested in the data analysis. The following determinants of capital structure have been considered in this study: owner's age, owner's education, owner's ethnicity, relationship, networking, owner's preference and attitude to debt, lifestyle goals, commercial goals, conservatism, mastery, firm age, firm size, profitability, asset structure, business planning, and the environment. It is followed by the development of hypotheses based on previous theoretical and empirical literature. The hypotheses development section discusses the theoretical background as a base to build up the research hypotheses. The final section presents a summary of the chapter.

### **3.2 Conceptual framework**

The conceptual framework for this study is developed based upon the gaps identified in the literature, specifically those related to capital structure determinants among SMEs. The framework also considers the view of Dodd and Patra (2002, p. 131) who assert that 'findings from Western context cannot be grafted onto other context without considerable prior empirical verification'. Specifically, this research proposes a model of capital structure determinants inspired by Romano et al. (2000), Nguyen and Ramachandran (2006), and Mac an Bhaird and Lucey (2006), to predict and explain the determinants of capital structure and the consequences of the capital structure to the firm's performance in Malaysia.

Hypotheses were developed in a reflection of the research problem and based on the developed theoretical model. This study tests the association between determinants of capital structure and four types of capital structure (i.e. retained earnings, funds from family and friends, debt, and external equity) combining all variables affecting the determination of capital structure. Five relationships have been tested in this study. In the first relationship, capital structure represents the dependent variable, and the determinants of capital structure are the independent variables. Although the previous studies had investigated the determinants of capital structure, it is worthwhile to assure that this relationship is still valid especially in the present study sample for the period selected. The second relationship examines the relationship between capital structures as independent variables and firm's performance as a dependent variable. The third relationship examines the relationship between determinants of capital structure as independent variables and firm's performance as a dependent variable. The fourth relationship investigates the effect of inclusion of capital structure as a mediating variable. The fifth relationship investigates the relationship between determinants of capital structure and capital structure, but it is mediated by ethnicity of the owner-manager. For each set, there is more than one sub-set. The hypothesised model designed for this research is shown in Figure 3.1 below.

**Figure 3.1 Research model**



### 3.3 Hypotheses development for determinants of capital structure

#### 3.3.1 Age of the owner-manager

Theoretically, neither the pecking order nor the trade-off theories predict any relationship between owners' ages and leverage. Empirical works in developed economies show a negative relationship (Van der Wijst, 1989; Scherr et al., 1993; Bell and Vos, 2009) or no relationship (Romano et al., 2000; Cassar, 2004; Buferna, 2005) between the age of the owner-manager and the SMEs' reliance on external sources of finance. Older owner-managers prefer to focus on financial independence (Van der Wijst, 1989; Vos et al., 2007) and are less likely to focus on gaining wealth. Unlike younger entrepreneurs, the older entrepreneurs are more reluctant to utilise debt financing (Van der Wijst, 1989). Accordingly, the hypotheses are as follows:

H1.1a: There is a positive association between owner's age and retained earnings.

H1.1b: There is a positive association between owner's age and personal monies and funds from friends and families (PF&F).

H1.1c: There is a negative association between owner's age and debt.

H1.1d: There is a negative association between owner's age and external equity.



### **3.3.2 Human capital**

Theoretically, good human capital, which comprises of high educational achievements and experience of the owner-manager, should improve their accessibility to external financing (Storey, 1994; Bates, 1997; Scott and Irwin, 2009). Empirically, the overall results reveal that education of the owner is positively associated with debt (see Bates, 1997; Cassar, 2004; Delmar and Sjoberg, 2004; Hettihewa, 2008; Robb and Robinson, 2009; Bell and Vos, 2009). In contrast, some researchers assert that more educated entrepreneurs utilise less debt as they are aware of the benefits of each source of financing, especially for the long-term business operation. Educated entrepreneurs tend to have high levels of financial freedom and exercise prudence in decision-making. They would prefer to use retained profits (see Diener and Seligman, 2004; Vos et al., 2007) or other equities (Gellatly, Thornhill, and Riding, 2003; Thornhill et al., 2004).

In addition, previous empirical works reveal no (Coleman and Cohn, 2000) or a negative (Scherr et al., 1993) relationship between the managerial experience of the owner-manager and firm leverage. Cassar (2004) finds a negative relationship, but the result does not strongly indicate a significant relationship. He states that owner-managers with greater experience tend to be risk and control averse.

Accordingly, based on the overall previous findings, the following hypotheses are proposed:

H1.2a: There is a positive association between human capital and retained earnings.

H1.2b: There is a positive association between human capital and PF&F.

H1.2c: There is a negative association between human capital and debt.

H1.2d: There is a negative association between human capital and external equities.

### **3.3.3 Ethnicity of the owner**

Previous findings confirm that ethnic minority businesses are less likely to use business support agencies, for instance, business links or enterprise agencies (Fadahusi, Smallbone, and Supri, 2000; Ram and Smallbone, 2001). Small firms are most likely to doubt the relevance of what was offered. They have a lack of trust in those delivering support and have little ability to access such support (Jones et al., 1994; Fadahusi et al., 2000; Ram and Smallbone, 2001).

Previous studies (Smallbone et al., 2003; Fairlie and Robb, 2007; Robb and Fairlie, 2007; Ram and Jones, 2008) also highlighted that ethnic-minority owned SMEs face additional barriers to other SMEs, especially at start-up. They prefer to maintain their financing sources by using internal sources of finance (Deakin et al., 2007). This finding complements the findings of Hussain and Matlay (2007) who found that two-thirds of the ethnic-minority owner-managers rated internal sources of finance to be the most important sources of funding during the start-up stage.

Therefore, based on the above arguments and literature, this research assumes that there is an association between ethnicity and capital structure. The current study also expects the mediating effect of ethnicity on the relationship between determinants of capital structure and capital structure. The above discussion suggests the following hypotheses:

H1.3a: There is a positive association between ethnic-minority owner-manager and retained earnings.

H1.3b: There is a positive association between ethnic-minority owner-manager and PF&F.

H1.3c: There is a negative association between ethnic-minority owner-manager and debt.

H1.3d: There is a negative association between ethnic-minority owner-manager and external equities.

### 3.3.4 Relationship and networking

Limited work has been done as to whether the factor such as ‘relationship and networking’ of an SME influences their financing decisions. Research studies in other developing economies suggest that the ‘relationship and networking’ of owner-managers possessed with financiers and owner-managers at other firms influences the firm’s capital structure (Nguyen and Ramachandran, 2006; Le and Nguyen, 2009; Newman, 2010; Borgia and Newman, 2012).

Nguyen and Ramachandran (2006) assert that the accessibility to external financing of SMEs will increase due to their close relationships with financiers, especially for short-term debt. Networking either with suppliers or government officers may also lead firms to favour utilising external finance (Le and Nguyen, 2009). Empirical work in the US context also demonstrates that firms can gain better access to bank financing at a more competitive price when their transactions with financiers are embedded in social relationships (Uzzi, 1999). These findings, along with the findings from the previous chapter, indicate that the ‘relationship and networking’ of the owner-managers are an important determinant of capital structure for SMEs. In Malaysia, it might be expected that firms with a stronger relationship and comprehensive networking have better access to external sources of finance leading to the following hypotheses:

H1.4a: A good relationship between firm and lender will reduce the usage of retained earnings.

H1.4b: A good relationship between firm and lender will reduce the usage of PF&F.

H1.4c: A good relationship between firm and lender will increase the level of debt of the firm.

H1.4d: A good relationship between firm and lender will increase the level of external equity of the firm.

H1.5a: Comprehensive networking will reduce the usage of retained earnings.

H1.5b: Comprehensive networking will reduce the usage of PF&F.

H1.5c: Comprehensive networking will increase the level of debt financing of the firm.

H1.5d: Comprehensive networking will increase the level of external equity of the firm.

### **3.3.5 Owner's preference, perceptions and attitude to debt**

Limited work has been done as to whether the owners' preference, perceptions and attitudes influence their financing decisions. For example, although Michaelas et al. (1998) pointed out the importance of the owner's preferences, however, they merely mentioned it in the suggestions part. Some other studies such as Barton and Matthews (1989), Barton (1989), Norton (1990), Matthews et al. (1994), Cressy (1995), Berggren et al. (2000), Hamoudi (2007), Pukthuanthong and Walker (2007), and Newman (2010) highlight the influence of management preference in formulating capital structure. Management preference could be in terms of risk propensity, control aversion, culture norm, financing attitude, or managerial motivations. Based on these inconclusive evidences, the following hypotheses are proposed:

H1.6a: There is a positive association between owner's attitudes (risk averse) and retained earnings.

H1.6b: There is a positive association between owner's attitudes and PF&F.

H1.6c: There is a negative association between owner's attitudes and debt.

H1.6d: There is a negative association between owner's attitudes and external equities.

### 3.3.6 Objectives and goals

Firms will have goals, regardless of commercial (Barton and Gordon, 1988) or lifestyle goals at some stage of the life-cycle (Dewhurst and Horobin, 1998). Empirically, overall results reveal that there is no definite relationship between commercial and lifestyle goals with the capital structure. Previous studies demonstrate a positive association between intention for business expansion and external equity. Owner-managers who are 'bullish' about their businesses prefer equity over debt financing (Chaganti et al., 1995). Alternatively, firms that aim to maximise business values in the long-term, tend to seek internal funds rather than external funds.

SMEs might also aim to maintain control (Chittenden et al., 1996; Jordan et al., 1998; Lopez-Garcia and Sanchez-Adujar, 2007). Most SMEs will aim to maintain independence and rely less on debt finance (Friend and Lang, 1988; Vos et al., 2007; Moro et al., 2010). For example, Friend and Lang (1988) found that the debt ratio is inversely related to management shareholding. In contrast, those who prefer to use business for steady employment were found to rely on debt finance (Romano et al., 2000).

In light of these inconclusive evidences, the following hypotheses are proposed:

H1.7a&b: SMEs, which focus on lifestyle and social welfare goals, are associated positively with retained earnings and PF&F, respectively.

H1.7c&d: SMEs, which focus on lifestyle and social welfare goals, are associated negatively with debt and external equity, respectively.

H1.8a&b: SMEs, which focus on commercial goals, are associated positively with retained earnings and PF&F, respectively.

H1.8c&d: SMEs, which focus on commercial goals, are associated negatively with debt and external equity, respectively.

### 3.3.7 Culture

There are relatively few studies that emphasise the influence of culture on the financial structure (for instance, Sekely and Collins, 1988; Stonehill and Stitzel, 1993; Chui et al., 2002; Li et al., 2011). None of the studies employs specific cultural factors in explaining the firm's financial structure. This study follows Schwartz's (1994) measurements of cultural dimensions which have been used to test the theoretical influence of culture on capital structure decisions by Chui et al. (2002).

Clugston, Howell, and Dorfman, (2000) suggest using individualised measures when considering culture as an independent variable, within one country. Using Schwartz's (1994) two contended cultural dimensions, this study hypothesises how cultural values of mastery and conservatism affect firm financing decisions. This study hypothesises that firms (owners) with high scores on conservatism are less likely to utilise debt as in their capital structures. This study also hypothesises that owner-managers with high scores on mastery are less likely to use debt in their capital structure as they place greater importance on control and individual success. Hypotheses are, therefore, formulated as follows:

H1.9a: There is a positive association between owner's level of conservatism and retained earnings.

H1.9b: There is a positive association between owner's level of conservatism and PF&F.

H1.9c: There is a negative association between owner's level of conservatism and debt.

H1.9d: There is a negative association between owner's level of conservatism and external equities.

H1.10a: There is a positive association between owner's level of mastery and retained earnings.

H1.10b: There is a positive association between owner's level of mastery and PF&F.

H1.10c: There is a negative association between owner's level of mastery and debt.

H1.10d: There is a negative association between owner's level of mastery and external equities.

### **3.3.8 Age of the firm**

There are a relatively large number of studies emphasising the influence of firms' age on the capital structure. Empirical studies conducted on SMEs in developed economies produce conflicting results. For example, Ramalho and Da Silva (2009) report an inverse association between firm age and leverage, and Hall et al. (2000) report negative and positive associations between firm age and short-term debt and long-term debt, respectively. Esperanca et al. (2003) find an inverse association between firm age and both short-term and long-term debt. Nevertheless, Romano et al. (2000) do not find any significant relationship between the age of the firm and total leverage.

In the developing economy context, Abor and Biekpe (2009) report a positive relationship between firm age and access to bank financing. Their results suggest that older SMEs in Ghana tend to have good track records and better relationships with their lenders than younger enterprises, which indirectly makes them prefer to borrow. Similarly, Li et al. (2011) evidence a positive relationship between firm age and leverage. A study of Polish enterprises by Klapper et al. (2006) produces conflicting evidence by demonstrating an inverse relationship between firm age and both short-term and long-term leverage.

In the Malaysia context, a number of studies have examined the relationship between firm age and leverage; for instance Saarani and Shahadan (2013), who also found a positive association between firm age and leverage. Thus, this study hypothesised that there will be a positive association between firm age and leverage for Malaysian SMEs for the following reasons. Firstly, entrepreneurs who have been running their business for a long period are more likely to have good connections with politicians, bank officials and other firms enabling them to get better access to credit. Secondly, older firms are more likely to have an established track record that will enable them to better access external sources of finance than firms without a track record. Accordingly, the following hypotheses are proposed:

H1.11a: There is a positive association between firm age and retained earnings.

H1.11b: There is a negative association between firm age and PF&F.

H1.11c: There is a positive association between firm age and debt.

H1.11d: There is a positive association between firm age and equity.

### **3.3.9 Size of the firm**

Several studies confirm a positive significant impact of firm's size and leverage (e.g. Romano et al., 2000; Cassar, 2004; Sogorb-Mira, 2005; Huang and Song, 2006; Klapper et al., 2006; Nguyen and Ramachandran, 2006; Abor and Biekpe, 2009; Li et al., 2009). However, there are a number of studies finding a significantly negative relationship between size and short-term leverage (e.g. Michaelas et al., 1999; Hall et al., 2000; Chen, 2004). Although the empirical evidence on SME financing in developed economies points towards a positive relationship between firm size and both total and long-term leverage and an inverse association between firm size and short-term leverage, the situation was different for developing countries. In the context of developing economies, empirical work has confirmed a positive association between firm size and both short and long-term leverage. Accordingly, based on the overall previous findings, the following hypotheses are proposed:

H1.12a: There is a positive association between size and retained earnings.

H1.12b: There is a negative association between size and PF&F.

H1.12c: There is a positive association between size and debt.

H1.12d: There is a positive association between size and equity.



### **3.3.10 Profitability**

Theoretically and empirically, the overall results reveal that profitability has strong negative influence on leverage that in turn provides strong support to the pecking order hypothesis but contradicts trade-off theory. The results suggest that high profitability firms are less likely to borrow since they will utilise internally-generated funds before seeking debt.

The majority of empirical studies in developed economies find evidence for the negative association (Chittenden et al., 1996; Michaelas et al., 1999; Cassar, 2004; Sogorb-Mira, 2005; Rocca et al., 2009; Degryse et al., 2009; Psillaki and Daskalakis, 2009). Similarly, studies in developing economies evidence the same pattern (Wiwattanakantang, 1999; Chen, 2004; Chen and Strange, 2005; Huang and Song, 2006; Klapper et al., 2006; Li et al., 2009; Newman et al., 2011; Saarani and Shahadan, 2013). However, Ibrahim and Masron (2011) report contradicting results and Nguyen and Ramachandran (2006) find no significant relationship. The inconclusive evidence leads to the following hypotheses:

H1.13a: There is a positive association between profitability and retained earnings.

H1.13b: There is a positive association between profitability and PF&F.

H1.13c: There is a negative association between profitability and debts.

H1.13d: There is a negative association between profitability and external equities.

### **3.3.11 Asset structure (tangibility)**

Previous studies have evidenced the importance of assets structure in influencing capital structure of the firm. Empirically, the overall direction supports positive and negative associations of asset structure with long-term leverage and short-term leverage, respectively (see Chittenden et al., 1996; Wiwattanakantang, 1999; Romano et al., 2000; Hall et al., 2004; Booth et al., 2001; Bevan and Danbolt, 2002; Cassar and Holmes, 2003; Chen, 2004; Sogorb-Mira, 2005; Fattouh et al., 2005; Ortqvist et al., 2006; Klapper et al., 2006; Zou and Xiao, 2006; Vos et al., 2007; Frank and Goyal, 2009; Bany-Ariffin et al., 2010). On the other hand, some studies have found a negative

association between leverage and tangibility (Nguyen and Ramachandran, 2006; Sayilgan et al., 2006; Qian et al., 2007; Li et al., 2009; Karadeniz et al., 2009).

Based on literature findings, the following hypotheses have been formulated:

H1.14a: There is a negative association between tangibility and retained earnings.

H1.14b: There is a negative association between tangibility and PF&F.

H1.14c: There is a positive association between tangibility and debts.

H1.14d: There is a negative association between tangibility and external equities.

### **3.3.12 Business planning**

Business planning is highly interrelated with the issue of information asymmetry. This information problem is mostly related to the quality of data provided by small firms. A low level of business planning will indirectly increase the level of information opacity. A high level of information opacity will diminish the accessibility of the firm to external finance (Berger and Udell, 1998, Rozali et al., 2006; Nguyen and Ramachandran, 2006). The opacity of information can be reduced through documenting the firm's performance and preparing accurate financial reports and financial forecasts regularly (Harris and Raviv, 1991; Coleman and Carsky, 1999). Based on these inconclusive evidences, the following hypotheses are proposed.

H1.15a: SMEs that have written business planning are associated positively with retained earnings.

H1.15b: SMEs that have written business planning are associated positively with funds from family and friends.

H1.15c: SMEs that have written business planning are associated positively with debt.

H1.15d: SMEs that have written business planning are associated positively with external equity.

### 3.3.13 Environment

Capital structure theories have very little to say about inter-country differences in corporate financing patterns. No existing theory explains how country-specific factors affect a firm's capital structure. However, empirical studies, in particular cross-country studies (see Rajan and Zingales, 1995; Booth et al., 2001; Giannetti, 2003; Hall et al., 2004; De Jong et al., 2008; Fan, Titman, and Twite, 2012; Venanzi et al., 2014), demonstrate that the inter-country variation in corporate leverage depends on institutional differences. Moreover, De Jong et al. (2008) report that institutional and legal environment and economic development affect not only the level of corporate leverage, but also firm-level determinants of leverage. In addition, prior studies are concerned slightly with the law (Rajan and Zingales, 1995; La Porta et al., 2001). Another important issue is concerned with corruption. Prior studies show that firms prefer to use debt over equity when the legal system has less integrity or the corruption level is high (La Porta et al., 2001).

Therefore, based on the above arguments and literature, this research expects to have a relationship between the environment and capital structure. Thus, the hypotheses for this factor are as follows:

H1.16a: There is a positive association between stable environment and retained earnings.

H1.16b: There is a positive association between stable environment and PF&F.

H1.16c: There is a negative association between stable environment and debts.

H1.16d: There is a negative association between stable environment and external equity.

H1.17a: There is a positive association between the external environment and retained earnings.

H1.17b: There is a positive association between the external environment and PF&F.

H1.17c: There is a negative association between external environment and debts.

H1.17d: There is a negative association between the external environment and external equity.

### **3.4 Capital structure and firm's performance**

There are relatively few studies emphasising the influence of capital structure and performance of the firm. Firms that wish to maintain appropriate capital structure tend to minimise financing costs and maximise firm performance (Brigham and Gapenski, 1996; Ahmad, Abdullah, and Roslan., 2012). Alternatively, firms may underestimate the costs of bankruptcy that indirectly increase the level of debt. Higher levels of debt may result in lower performance.

In addition, theoretically, there is inconclusive evidence on the association between debt level and firm performance. Modigliani and Miller (1958) expect no association between the debt level and performance. Modigliani and Miller (1963) and trade-off theory predict positive association between the variables. In contrast, agency theory expects a negative association between debt level and firm's performance. Despite inconclusive evidence on the issue, this current study assumes that the right capital structure choice may lead to good performance of the firm.

Accordingly, based on these inconclusive evidences, this study proposes the following hypothesis:

H2: The debt ratio is negatively associated with the firm's performance.

### **3.5 Determinants of capital structure and firm's performance**

The trade-off theory suggests an optimal capital structure mix for a firm to achieve the minimum cost of capital of financing. Theoretically, the expected minimum cost of capital should reflect the maximum financial performance and maximum welfare of shareholders. In addition to Shergill and Sarkaria (1999), there are no studies testing the asset structure and its relationship with performance. Trade-off theory assumes that firms with high tangible assets are less likely to face financial distress; this is because of their liquidation value. The assets are considered as productive resources, which will increase the production process, and improve the quality of the product, which indirectly

improve the financial performance. Firms that have tangible assets have an excellent reputation in getting funds since tangible assets are used as a guarantee for external debt. These funds are mostly used in profitable projects that result in higher performance.

Trade-off theory also assumes that large firms are more diversified and more likely to use economies of scale production. They have greater access to new technology and cheaper sources of funds. In addition, investors believe that large firms are less risky, which suggests a positive relationship between size and performance. In contrast, there is an argument supported by many studies that a firm's size does not reflect its performance and small firms are more productive than large firms. Moreover, many studies find no relationship to support the proposition that the competitive advantages among firms are their products and technology, and not the size of the firm.

Accordingly, this research assumes that some determinants of capital structure influence the performance of the firm as represented in the following main hypothesis:

H3: There is an association between determinants of capital structure and the firm's performance.

### **3.6 The mediating role of debt level**

This study assumes three significant associations in testing the mediating role of debt. First, the relationship between the independent variables (determinants of capital structure) and mediating variable (debt) should be significant. Second, the relationship between the mediating variable (debt) and the dependent variable (firm's performance) should be significant. Third, the direct relationship between the independent variables (determinants of capital structure) and the dependent variable (firm's performance) should also be significant. This mediating role of debt level is expressed by the following hypothesis:

H4: Debt mediates the association between determinants of capital structure and a firm's financial performance.

### 3.7 Conclusions

A theoretical model was proposed in this chapter. The model provides insights into the potential associations between the selected determinants of capital structure and capital structure and associations between capital structure and firm's performance. Accordingly, in this chapter, the hypotheses are developed in the context of the unique institutional characteristics of Malaysia. Table 3.1 summarises the hypotheses.

**Table 3.1 Summary of hypotheses**

<b>Hypothesis</b>	<b>Description</b>
H1.1	There is an association between age of the owner-manager and capital structure.
H1.2	There is an association between human capital and capital structure.
H1.3	There is an association between ethnicity of the owner-manager and capital structure.
H1.4	There is an association between relationship between firm and lender and capital structure.
H1.5	There is an association between comprehensive networking and capital structure.
H1.6	There is an association between owner's attitudes to debt and capital structure.
H1.7	There is an association between lifestyle goals and capital structure.
H1.8	There is an association between commercial goals and capital structure.
H1.9	There is an association between owner's level of conservatism and capital structure.
H1.10	There is an association between owner's level of mastery and capital structure.
H1.11	There is an association between age of the firm and capital structure.
H1.12	There is an association between size of the firm and capital structure.
H1.13	There is an association between profitability of the firm and capital structure.
H1.14	There is an association between firm's asset structure and capital structure.
H1.15	There is an association between business planning and capital structure.
H1.16	There is an association between stable environment and capital structure.
H1.17	There is an association between external environment and capital structure.
H2	There is an association between debt ratio and firm's performance.
H3	There is an association between determinants of capital structure and the firm's performance.
H4	Debt mediates the association between determinants of capital structure and a firm's financial performance.

In reporting on research hypotheses, it has been found that the majority of previous studies have ignored the causes of the association between capital structure and performance. There are also inconsistency findings, particularly in relation to the associations between external variables (i.e. the environmental factors) and the capital structure. The next chapter elaborates on the research methodology and method

employed to test hypotheses and indirectly answer the research questions. Research design, data collection and analysis will be explained. The findings and the discussion of the analysis results will then be presented in the subsequent chapters.

## **CHAPTER 4 METHODOLOGY**

### **4.1 Introduction**

This study seeks to enlighten the factors that influence capital structure from the SME owners' point of view. The study also aims to explain the consequences of the capital structure decisions on the firms' performance. This chapter describes and justifies the methodology used to address the overarching research question addressed by the study: "What are the factors that influence the capital structure of SMEs in Malaysia?"

The chapter starts by discussing the research approach and the research design. It then moves on to describe and justify the specific research methods used. These are divided into those used for the preliminary study and the main study. These two sections incorporate information about how the data was collected and a justification of the statistical tests used. The final section draws conclusions.

### **4.2 Research designs**

#### **4.2.1 Approach to the research**

The research is designed under a broadly positivist paradigm. Collis and Hussey (2009) state that a positivist researcher is likely to be concerned with ensuring that any concept's use can be operationalised; that is, described in such a way that they can be measured. A positivist study takes a deductive approach. In line with most previous studies on capital structure (for example, Graham and Harvey, 2001; Tucker and Lean, 2003; Bancel and Mittoo, 2004; Brounen, De Jong, and Koedijk, 2006; Vasioliou and Daskalakis, 2009; Saarani and Shahadan, 2013), this study adopts a positivist paradigm for the following reasons:

- The ontological assumptions of objectivism better match the researcher's assumptions about the nature of reality.



- The epistemological assumptions match the assumptions of the researcher regarding what constitutes knowledge and how knowledge can be expanded.
- As there are a number of relevant theories and models in the literature (e.g. pecking order theory, trade-off theory, agency theory, and life-cycle model), deductive study that allows the researcher to develop hypotheses and test them using empirical data is appropriate, as recommended by Saunders, Lewis, and Thornhill (2009). If the empirical data is drawn from a sufficiently large random sample, the statistical results of a positivist study can be generalised from the sample to the population under study. The results are likely to be high in reliability, which means that if the study is replicated by another researcher the same results are likely to be achieved (Collis and Hussey, 2009).

The study employs a mixed-method approach. Since the validity of the results from a positivist study may be low, some methods traditionally associated with a qualitative approach have been incorporated in the research design. Thus, this current study used the methodological triangulation as recommended by Neuman (2005), Easterby-Smith et al. (2008) and Collis and Hussey (2009). The main purpose of triangulation is that ‘it can detect potential problems with data and confirm the validity of findings’ (Baker, 1994, p. 284-285). Validity is ‘the extent to which the research findings accurately reflect the phenomena under study’ (Collis and Hussey, 2009, p. 64). The validity of research can be tested under face validity, construct validity, content validity, or discriminant validity (Netemeyer, Bearden, and Sharma, 2003; Sekaran, 2009; Collis and Hussey, 2009).

#### **4.2.2 Main features**

This predictive study takes the form of a survey study. The main features are:

- The development of a questionnaire is based on the conceptual framework (see Chapter 3) and a pilot study in the UK with British and Malaysian owner-managers of SMEs to assess the face validity of the questions and test whether

subsequent analysis of the data would permit the research questions to be answered.

- A preliminary study in Malaysia based on semi-structured interviews with owner-managers of SMEs to explore the issues and finalise the questionnaire.
- An extensive questionnaire survey in Malaysia with the owner-managers of SMEs to collect primary research data for subsequent statistical analysis.

### **4.3 Ethical issues**

According to Collis and Hussey (2009), the central ethical issues are related to voluntary participation and anonymity and confidentiality. This study followed the Code of Research Ethics of Brunel University, which requires certain forms to be submitted to the Business School's Research Ethics Committee for approval prior to the fieldwork. The main form is the research ethics form, to which the interview schedule and the final version of the questionnaire were attached. Since the study involves human participants, a participant information sheet was also presented (see Appendix A). It showed the title of the research, the researcher's details, the purpose of the research, what it involved and the voluntary nature of participation and confidentiality. Background information helps respondents to understand questions and encourage them to give meaningful responses. All the forms were approved in advance of the data collection.

### **4.4 Preliminary study**

The purpose of the preliminary study was to explore the issues and develop the questionnaire by obtaining relevant information regarding the new factors which were not included in the conceptual framework derived from the literature. It allowed new factors to be identified as well as ensuring that the meaning of the factors in the conceptual framework was perceived similarly in Malaysia's culture.

#### **4.4.1 Sample selection**

The sample for the preliminary study was selected from the SMEs operating in the east coast region of Malaysia. The study adopted non-probability sampling techniques: convenience sampling and snowball sampling. It implies ‘some units in the population are more likely to be selected than others’ (Bryman and Bell, 2007, p. 182), but this was not considered to be problematic as generalisation was not a fundamental objective of this part of the research. According to Sekaran (2009), the convenience sampling method is the preeminent and fastest way of obtaining essential information because the interviewees are known to the researcher. The researcher was able to identify 13 interviewees using this method.

The researcher also used snowball sampling techniques in obtaining information on the research topic. The researcher gained the list of target participants from suggestions given by the interviewees. According to Bryman and Bell (2007), a snowball sample is used to contact potential participant(s) for whom there is no sampling frame. The researcher was able to access a group of owner-managers who are difficult to get in touch with. Based on the names given by the interviewees, the researcher made an appointment to meet the suggested individuals. The process continued until the researcher obtained a sufficient sample; in this case, it was 25 interviewees. Previous studies that have used interviews to examine capital structure and related issues in SMEs have used similarly small samples; for example, Michaelas et al. (1998) interviewed 30 owner-managers and Glansey et al. (1998) interviewed 20 entrepreneurs.

#### **4.4.2 Data collection**

The data collection method for the preliminary study was a combination of individual and group semi-structured interviews. The main reason for conducting some group interviews was because this is a convenient and efficient way of collecting data. It can also generate more ideas as interviewees may be stimulated by the views of others and discuss issues in more depth.

The draft interview guide contained an outline of topics with associated questions and was based on the conceptual framework developed from the literature. These questions are designed to help ascertain the main factors that impact on the financing of SMEs. The questions were tested with five owner-managers of SMEs in the UK (two British, one Malay, one Malaysian Chinese, and one Malaysian Indian) in July 2009. The SMEs were selected from the lists taken from the Brunel Career and Placement Centre, the Hillingdon Directory, and the Malaysian Student Department in London. The questions were revised following their suggestions and the final interview guide (see Appendix B) was tested with the sample of 25 owner-managers in Malaysia. It comprised a number of open-questions eliciting details on financial decision-making and sources of finance used, management personal characteristics, business background, firms' financing preferences and attitudes towards external finance, business performance, and a number of direct questions regarding the determinants of capital structure.

The researcher used open questions to allow respondents to express their opinions in their terms. Even though the researcher has a list of themes (identified from the literature) and questions to be covered, however, these may vary from interview to interview. The orders of questions may also be varied depending on the flow of the conversation. The interviewer might add additional questions to obtain more detailed information about a specific answer or to find out new, but relevant, issues that arise from a particular response as suggested by Collis and Hussey (2009).

The interview guide and participant information form was emailed to each interviewee two days before the agreed date of the interview to ensure that the principles of research ethics were followed (see Section 4.3). The individual interviews took place at the business premises of the interviewees, and the group interviews were held in the office of one of the interviewees in the group. The individual interviews were conducted in the interviewee's mother tongue (in Malay for the Malay and Indian interviewees, in Mandarin for some of the Chinese interviewees). The group interviews were conducted in English and Malay. Each interview took approximately one hour and, with the permission of the interviewee(s), it was tape-recorded and subsequently transcribed. The

researcher then translated the Malay and Mandarin transcripts into English, and the bilingual speakers verified the translations to ensure their accuracy.

During the interview, the researcher summarised the main points from time to time to ensure the accuracy of the information taken and to encourage further explanation of those points. Interviewees were shown the list of variables generated from the literature, and they gave comments regarding the list of existing variables shown. Interviewees were informed that they would be contacted again if further clarification were needed during the process of data analysis. After the transcribing process, the transcripts of interviews were sent to the participants for validation (i.e. to examine the content validity).

Interviews offer the advantage that they can provide evidence about non-financial and behavioural factors that a structured survey questionnaire cannot (Michaelas et al., 1998). Unlike unstructured interviews, semi-structured interviews can avoid the problem of time constraint and problems concerning 'recording the questions and answers, controlling the range of topics and analysing the data' (Collis and Hussey, 2009, p.144). Instead of closed questions, open questions were used to allow free responses and to explore and gather broad information.

Nevertheless, interviews are time-consuming and travel to interviews may be expensive. Another problem was that the male interviewees tended to be friendlier and more cooperative than female interviewees. In addition, Chinese interviewees tended to be more reserved than the other ethnic groups. However, they then gave full cooperation once the researcher mentioned her job title at the University Malaysia Kelantan and spoke to them in their mother tongue, Mandarin.

There were also some difficulties in getting information from Indian interviewees as most of them are not sufficiently fluent to communicate effectively in either Malay or English language. Lim (2001) also faced similar problems in recruiting non-indigenous participants in his investigation on work-related values among Malaysian communities.

The researcher had tried to solve the problem by searching for and interviewing the selected Indian owners (using the snowball sampling technique) who can understand either Malay or English.

#### **4.4.3 Data analysis**

This section explains how the analysis of the interview data was undertaken. According to Collis and Hussey (2009), there are two approaches to the analysis of qualitative data: quantifying methods and non-quantifying methods. For the purposes of the preliminary study, a non-quantifying method was adopted based on a thematic analysis of the data. Lemke (2012) asserts that thematic analysis focuses on the meaning, which provides a discursive interpretation. It may include opinions and facts that are not necessarily relevant to the study. Themes in thematic analysis seek to summarise the data (Braun and Clarke, 2006). Initially, the researcher examined the data collected from various interviewees. The researcher identified themes and labelled them as codes as recommended by Ryan and Bernard (2003). The researcher then grouped the data together as the same themes continue to emerge. Unlike content analysis, the codes are not predetermined.

Specifically, the coding of the interview data began during the process of data collection (i.e. began from the first set of interview transcripts that had been translated into English). The use of coding enabled quantification as to how often particular themes was addressed in the interviews (Rubin and Rubin, 2011). In this study, the interview data was coded by hand. The decision was made not to code using computer programs as coding by hand allowed better understanding and a close examination of the interview data. A limited number of respondents also made the coding of the interview data by hand relatively easier than may have been the case with a larger amount of data.

## **4.5 Main study**

As mentioned in Section 4.2, this current study used the triangulation of methods. The main reason was to look at something from several angles. It is in line with the statement of Neuman (2003) who stated that nothing in this world has all the answers, neither common sense nor scientific law. For this main study, it aimed to test the hypotheses and to generalise the results to the population. Thus, this main study took the form of a questionnaire survey. According to Collis and Hussey (2009, p. 76), a survey is ‘a methodology designed to collect primary or secondary data from a sample, with a view to generalising the results to a population’. A questionnaire survey was chosen since this approach is widely used in previous studies of the capital structure of small firms (for example Norton, 1990; Cressy and Olofsson, 1997; Romano et al., 2000; Graham and Harvey, 2001; Beck et al., 2008; Bhaird and Lucey, 2010; Newman, 2010; Saarani and Shahadan, 2013). Unlike an interview, this questionnaire survey incurs low costs, and the questionnaires can be distributed and returned quickly (Bryman, 2008). In addition, according to Van der Stede, Young, and Chen (2005), if surveys are constructed and administered appropriately, they can be a reliable source of large-scale and high-quality data.

### **4.5.1 Research location**

The empirical works for this research were undertaken in Malaysia. The selection (Malaysia as a research context) followed the suggestion of Thong (1999) who stated that there are many differences between developing countries like Malaysia and developed countries. Hence, it would be interesting to compare the findings of one part of the world to those of other parts.

### **4.5.2 Sample selection**

According to Collis and Hussey (2009) ‘the larger the sample, the better it will represent the population’ (p. 210). This study follows the classification of Krejcie and Morgan

(1970), cited by Collis and Hussey (2009), in determining the minimum sample size for generalisation of the results. Since the population of SMEs in the context is approximately 100,000, thus, this study assumes that a sample of 384 firms is considered adequate. The study allowed a permissible error rate of less than 5% at 95% confidence level as recommended by Fowler (2014).

Probability sampling is most commonly associated with survey-based research strategies (Saunders et. al., 2009). This study adopts a stratified random. The sample comprises of micro, small, and medium-sized firms. The description of the SMEs is based on the definition of the Bank Negara Malaysia (2013) (see Table 4.1 and 4.2). The sample includes SMEs in all sectors: manufacturing, service, and agriculture-based businesses in the states of Kelantan, Terengganu, and Pahang, which are in the east coast region of Malaysia. Respondents were invited from all sectors to ensure broad representation in terms of financing patterns tapped. The study covers only those three states because they are included in the East Coast Economic Region (ECER), which is one of the main economic plans in the 9<sup>th</sup> Malaysian Plan. It is important as this particular region becomes one of the four economic regions of Malaysia, and little study has been conducted in this region since most previous studies on SMEs have focused on the north and west regions of Malaysia. In addition, the proximity of the states within the ECER is convenient in terms of reducing costs and travelling time.

The sampling frame was derived from several directories, namely, the Small and Medium-Sized Industry (SMI) Directory, directories obtained from the SME Info Portal (2010), directories published by SME Corporation of Malaysia, Malay Chamber of Commerce, Chinese Chamber of Commerce, Indian Chamber of Commerce, SME Bank, East Coast Economic Region (ECER) office, Tourism Malaysia, and Institute Small and Medium Enterprise (ISME). The samples were divided equally among Malay, Chinese and Indian respondents. The main reason is to find out the similarities and differences of financing patterns among these three ethnic groups (research objective 5).



The following tables present the definitions of SMEs based on the number of full-time employees and annual sales turnover.

**Table 4.1 Definition of SMEs based on number of full-time employees**

	<i>Manufacturing, Manufacturing-Related Service and Agro-Based Industries</i>	<i>Services Sector, Primary Agriculture and Information Communication Technology</i>
<i>Micro</i>	Fewer than 5 employees	Fewer than 5 employees
<i>Small</i>	5-50 employees	5-19 employees
<i>Medium</i>	51-150 employees	20-50 employees

**Table 4.2 Definition of SMEs based on the annual sales turnover**

	<i>Manufacturing, Manufacturing-Related Service and Agro-Based Industries</i>	<i>Services Sector, Primary Agriculture and Information Communication Technology</i>
<i>Micro</i>	Less than RM250,000	Less than RM200,000
<i>Small</i>	RM250,000-10 million	RM200,000-1 million
<i>Medium</i>	RM10 million-25 million	RM1 million-5 million

Source: Bank Negara Malaysia (2013)

### 4.5.3 Data collection

#### a. Questionnaire development and design

At the preliminary stage of the questionnaire development, the researcher referred to the findings from interviews and reviewed several questionnaires that were previously used in the capital structure determinants' research in large firms as well as in SMEs studies. Poorly designed questionnaires are usually associated with misleading conclusions drawn (Sreejesh et al., 2014). Alternatively, a well-designed questionnaire can reduce errors and make the tasks of both participants and researchers easier (Sreejesh et al., 2014).

This research follows the questionnaire design which was suggested by Sekaran (2009). Sekaran (2009) asserted that a good questionnaire design should focus on three principles. Firstly, the principle of wording which is concerned with the contents and

purposes of the question, wording and language (e.g. English, Malay and Chinese languages), type and form of questions (e.g. open questions and closed questions, short and precise questions), sequencing, and classification data (e.g. demographic questions). The second principle is a measurement in terms of categorisation, coding, scales and scaling, and reliability and validity. The third principle pertains to the introduction to the respondents, instructions for completion, general appearance and length of the questionnaire.

The survey questionnaire for this study was prepared in the form of the booklet. The questionnaires were designed in three languages: Malay, Mandarin and English. For this study, the researcher used a back-translation technique as recommended by Brislin (1993). Specifically, this study applied the following translation procedures. First, the researcher translated the English version of the questionnaire into Malay and Chinese languages (one-way translation). Second, the translated Malay and Chinese questionnaires were then given to two professional bi-lingual translators (back translations) to be translated back into English. Finally, both versions of the translated questionnaires were compared, revised, and re-produced into English, Malay and Chinese versions of the questionnaires by four language lecturers from the Universiti Malaya (i.e. Malay-English, English-Malay, Mandarin-English and English-Mandarin). The objectives of the back-translation were to avoid translation-related problems and to make sure the meanings of each question were consistent with the English version questionnaire, which is the original version.

The full questionnaire was only seven pages long (including covers). According to Saunders et al. (2009), a longer questionnaire will reduce response rates relative to a shorter questionnaire; thus, the general rule is to keep questionnaires as short as possible. The questionnaire was accompanied by background information and an explanatory cover letter which can assure the confidentiality of responses as suggested by Smith and Dainty (1991). Each questionnaire was numbered to facilitate follow-up procedures. A clear instruction was provided for each questionnaire and definitions of key terms used in the questionnaire were provided as a footnote. This complements the

statement of Pallant (2010) who states that the instructions of the questions are paramount for the respondents to answer the questionnaire accurately.

In total, the questionnaire comprised of six parts:

Section A Business financing

Section B Business environment

Section C Business cultural orientation

Section D Information on the owner-manager

Section E Information on the firm

Section F Business performance

## **b. Techniques and procedures**

In the next step, the questionnaire was pilot tested in January and February 2010 with 25 owner-managers of SMEs in the east coast region of Malaysia<sup>13</sup> in which the research was to be carried out. The purpose was to determine the appropriateness, relevance and clarity of the questions and to make sure that the respondents understand the questionnaire. It allowed any potential problems to be identified and corrected prior to the main distribution of the survey instrument as suggested by Saunders et al. (2009). In addition, the face validity and content validity tests were conducted through experts'<sup>14</sup> judgements as suggested by Bryman and Bell (2007) and Sekaran (2009).

None of the items were omitted since most of them were taken from the preliminary study except for minor corrections in terms of wording especially for the Malay and Chinese versions. More appropriate wordings relevant to the context of Malaysia were identified with the assistance of professional bi-lingual translators. It was important as the terminology used should be familiar to the respondents and the style of asking questions should be suited to the way of life of the researched community (Arthur and Nazaroo, 2003). After considering various opinions expressed by the respondents (e.g.

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<sup>13</sup>They are different respondents as for preliminary study.

<sup>14</sup> Research supervisors, academic experts in SME research (lecturers from the public universities in Malaysia), and SME experts from SME Bank of Malaysia.

excessive length of the survey<sup>15</sup>) and experts, the questionnaire was revised. The researcher also checked the typos and errors prior to the questionnaire distribution. The revised questionnaire (seven pages) had been prepared in three languages, namely Malay, English and Mandarin.

The process of data collection for the main study began with a drop-off survey method (in May 2010). The researcher returned on the same day or the next day to collect the completed questionnaires. The objective was to gain the prospective respondents' cooperation. In addition, the researcher wished to cover a large number of respondent groups and in diverse geographical locations in a single day with an initial drop-off and later collection as recommended by Elanain (2003). However, out of 100 questionnaires that were distributed, only 26 of them were completed by the respondents. There were several reasons given by the non-respondents, such as they had no time, forgot, felt too lazy to fill out the form, etc.

The researcher then changed the data collection technique to maximise the response rate and to diminish the above-mentioned problems. Questionnaires were distributed in person to the respondents, starting on 15<sup>th</sup> June until 25<sup>th</sup> September 2010. There are two reasons for using this technique. Firstly, the postal services are not robust enough to send postal questionnaires to all sectors of the economy in the research context, and secondly, to improve the response rate. A covering letter was attached to each questionnaire to emphasise the importance of the survey, assured anonymity and stated the official sponsors of the study (Brunel University London and University Malaysia Kelantan). It can also indirectly improve the response rate to the questionnaire as suggested by Bailey (2008).

Specifically, the booklet of the questionnaire was distributed on a particular appointed day and time. Respondents were given time to complete the questionnaire and submit it to the researcher on the spot. Several crucial constraints of this study, such as the unavailability and inaccessibility of information required in constructing a sampling

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<sup>15</sup>The average time taken to complete the survey was approximately 30 minutes.

frame such as information on profitability and financial performance of the firms could be overcome using the personally administered survey approach. This approach became the preferable approach to ensure the participants answered it and truly understood the questions since they could ask the researcher during the session. These efforts resulted in a further 330 completed questionnaires being received and brought the total of usable questionnaires to 356.

However, the sample still did not meet the target sample of 384. In order to overcome the insufficient number of completed questionnaires during fieldwork studies, the researcher carried out surveys by telephoning and emailing the target respondents starting from the end of September until the end of November 2011. At this stage, 60 questionnaires had been emailed to the target respondents and 20 phone calls had been made, but only 28 respondents completed the questionnaire. Altogether, out of 510 questionnaires distributed, 384 samples had been completed by the respondents and used by the researcher for this study. The response rate for the surveys was 75%. It was higher since the researcher conducted a survey study mostly face-to-face, and she was present during most of the data collecting process. The following table shows the sampling units and the response rate for the study.

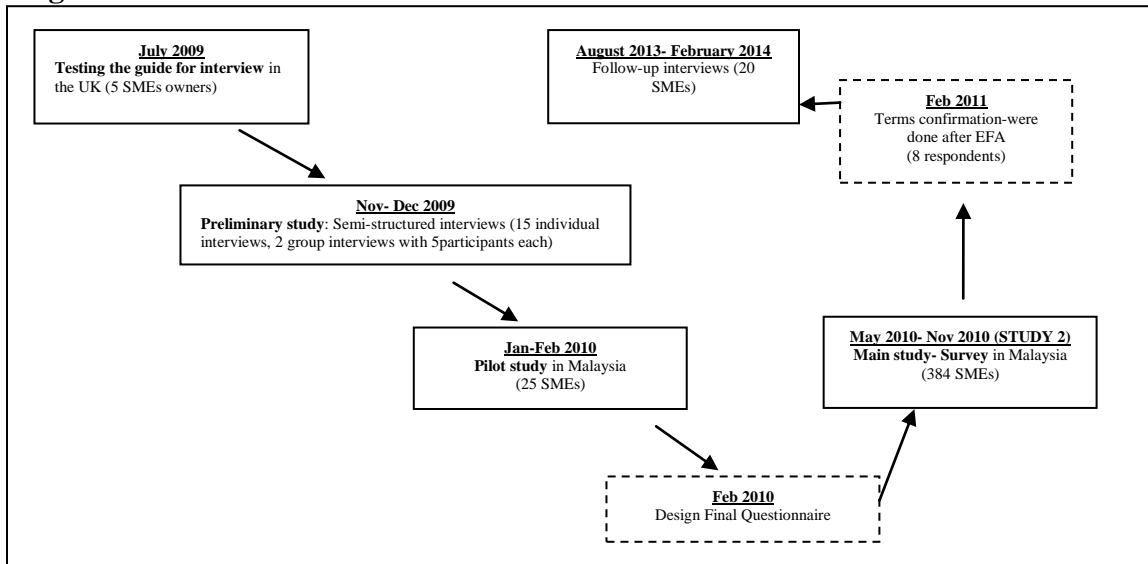
**Table 4.3 Main study: Sampling units and response rate**

<b>Data collection method</b>	<b>Sampling units</b>	<b>Number of respondents</b>	<b>Response rate</b>
Personally administered (wait and collect on the spot)	330	330	
Drop-off	100	26	
Online survey	60	17	
Telephone survey	20	11	
<b>Total</b>	510	384	75%

In February 2011, the respondents had been contacted for ‘terms’ confirmation purposes. The process was done after the exploratory factor analysis stage. There were eight respondents (different from the main survey’s respondents): five from Malaysia (three SME owners and two academics) and three from the UK (two SME owners and

one academic). After obtaining clear clarification regarding the terms used for each factor, the researcher then proceeded to analyse the data by using logistic and multiple regression analyses. Figure 4.1 presents the timescale of data collection for the current study.

**Figure 4.1 A timescale of data collection**



#### 4.6 Methods of analysis

The primary purpose of the data analysis is to build predictive models to answer the main research questions. Before deciding on suitable statistical tests (parametric or non-parametric statistical tests), data gathered from the questionnaires was coded and followed by data entry using the SPSS 18.0 software package. According to Field (2009), parametric statistics can only be used when the population data are normally distributed, the level of measurement of the data reflects metric data, there is homogeneity of variance, or data from different cases are independent. Alternatively, a non-parametric test is appropriate when the distribution of population data measured on the metric scale is not normal. Variables are measured on a non-metric scale, or bivariate or multivariate analysis is being conducted that incorporates both metric and non-metric independent variables (Field, 2009).

The study proceeds with non-parametric statistical tests, as none of the data met was normally distributed. This study performed the following non-parametric tests:

- Descriptive statistics
- Exploratory factor analysis
- Reliability analysis
- Spearman correlation and multicollinearity
- Logistic regression analysis
- Multiple regression analysis

Specifically, after screening the data using descriptive statistical analysis, this study proceeds with two-stage analysis: exploratory factor analysis and regression analysis. The data screening provided information regarding missing values, outliers, the distribution of the data and invalid data. Invalid data were excluded from the analysis. Since the main analysis of this main study was a logistic regression, the study did not examine the normality, linearity, and homogeneity of variance for the independent variables as recommended by Long (1997) and Field (2009). In addition, unlike ordinary regression, which assumes the dependent variable had a linear relationship with the independent variable, a logistic regression does not assume a linear relationship between these two variables. The main reason is that the dependent variable is categorical, and this indirectly violated the assumption of linearity.

The study then purifies the measurement by using principal component analysis in exploratory factor analysis. The exploratory factor analysis had been employed to validate the latent and associated manifest variables, which had been taken from extent models, before fitting the deduced model to the data. It was performed to identify groups of variables with which to evaluate construct validity.

In the next stage, the study tests hypotheses 1 and 5 (the dependent variables are categorical variables) using logistic regression analysis, and multiple regression analyses were used for testing the hypotheses 2, 3 and 4 (the dependent variables are continuous variables).

#### **4.6.1 Data screening**

##### ***Missing data***

This study assessed missing data by tabulating cases for each variable with missing data as recommended by Hair et al. (2010). According to Hair et al. (2010), missing data under 10% for an individual case can be ignored. In addition, this study assessed the patterns of missing data by performing a Little Missing Completely at Random (MCAR) test (Little, 1998). The result is considered as no systematic error in the data, and it is significant if the p-value is greater than 0.05. The mean substitution technique was used to impute missing values (Tabachnick and Fidell, 2007; Hair et al., 2010) since it is suitable for relatively lower levels of missing data (Hair et al., 2010). No variables were deleted at this stage as the level of missing data was less than 6%, which was considered too low according to the rule of thumb of Hair et al. (2010). This was followed by diagnosing the randomness of the missing data by performing Little's MCAR test. The result showed that a dataset was missing completely at random (Chi square= 3225, df=3197, sig.= 0.566, p>0.05). It means that there is no systematic error in the data.

##### ***Outliers***

This study tested both univariate and multivariate outliers. The former have been tested through transforming the data into standardised scores as suggested by Hair et al. (2010). Alternatively, the latter were tested through exploring the Mahalanobis D<sup>2</sup> and resulting Chi-square value (p<0.001) for the dataset. Results showed that the data contained a few univariate as well as multivariate outliers. It is acceptable (as suggested by Tabachnick and Fidell, 2007) since the sample for this study comprises of firms of different sizes and from different sectors. At this stage, no variables were deleted. This is in agreement with the suggestion of Hair et al. (2010). They suggest that outliers should be retained unless there is proof that they truly deviate from the norm and are not representative of any observation of the population.



#### 4.6.2 Exploratory factor analysis

Unlike confirmatory factor analysis, exploratory factor analysis is suitable when the dimensionality of the variables is not known based on previous researches (Hair et al., 2010). Exploratory factor analysis is a technique ‘used during the initial stage of scale development’ (Netemeyer et al., 2003, p. 156) to examine the dimensionality of variables. It is a data reduction method (Hair et al., 2010). The variables are grouped based on their theoretical concept, and a small number of factors (latent variables<sup>16</sup>) were produced from a large number of variables. The reduced factors are used for further analysis.

Before running the factor analysis, this study considered the underlying assumptions of the sample size (see Section 4.5.2), the sampling adequacy (Hair et al., 2010), and the inter-correlation among the variables as suggested by Pallant (2010). In addition, according to Tabachnick and Fidell (2001), the correlation coefficient is considered as reliable if the research has adequate sample size. The significance values of any variable were scanned to see whether the majority of values are greater than 0.05.

As suggested by Field (2009, p. 645), ‘the reliability of factor analysis is also dependent on sample size’. This analysis began by dividing the variables into four groups. Variables were divided into groups to make sure that the number of observations per variable for each analysis was at least 5:1<sup>17</sup> as recommended by Cavusgil and Zou (1994) and Hair et al. (2010). This is in agreement with the recommendation of Menon et al. (1996) who suggested that in order to obtain more reliable results for many factors, it is better to assess fewer measurement models. It means the study should have at least five participants per variable. Theoretically related constructs were grouped together.

The study proceeds by scanning for the inter-correlation (Field, 2009; Hair et al., 2010) between variables in the correlation matrix (R-matrix). This study considers the

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<sup>16</sup> Business goals and planning, owner-related factors, culture and external factors

<sup>17</sup> Group 1: 15x5=75; Group 2: 18x5=90; Group 3: 10x5=50; Group 4: 9x5=45.

correlation values from 0.3 to 0.8 as recommended by Field (2009) and Hair et al. (2010). Any correlation above 0.9 or below 0.3 were considered as multicollinearity (Hair et al., 2010) and too low correlation (Field, 2009), respectively.

Next, the study examined Kaiser-Meyer-Olkin and Bartlett's test (Norusis, 1992) to test the factorability of the data. The former measures sampling adequacy while the latter is a test of sphericity (Hair et al., 2010). Kaiser (1974), cited by Vaus (2002), suggested that if a Kaiser-Meyer-Olkin measures 0.90+, then sample adequacy is considered 'marvellous'. If 0.80-0.89, then the sample is 'meritorious'; if 0.70-0.79, then the sample is 'middling'; if 0.60-0.69, then the sample is 'mediocre'; if 0.50-0.59, then the sample is 'miserable'; and if less than 0.50, the sample is 'unacceptable'. The Kaiser-Meyer-Olkin test shows whether or not each factor predicts enough variables. On the other hand, Bartlett's test of sphericity should be significant when  $p \leq 0.05$  (Vaus, 2002). The study also considered the value of the determinant of the correlation matrix. The determinant value should be more than 0.00001 (Field, 2009). If it is close to zero, the collinearity is considered to be too high. In contrast, if it is zero, there is no solution possible.

The study then proceeds with principle component analysis to get the minimum number of factors required in order to represent the original set of data (Netemeyer et al., 2003; Hair et al., 2010). This study follows the suggestions of Hair et al. (2010) where principal component analysis with an Eigenvalue<sup>18</sup> greater than 1.0 is regarded as significant and it can be used to determine the factors to extract. In addition, according to Field (2009), there is no need to worry about multicollinearity if the study had conducted the principal component analysis.

Varimax (orthogonal) factor rotation was used to ensure that each factor is independent of others as suggested by Hair et al. (2010). According to Field (2009), varimax rotation can improve the interpretation of the analysis as it maximises the tendency of each

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<sup>18</sup> An Eigenvalue is a statistic that relates to a factor which indicates the amount of variance in the pool of initial items which that particular factor explains (Vaus, 2002).

variable too highly on one factor. It was applied to 'initially-extracted factors due to hypothesised inherent correlations among variables' (Long-Tolbert, 2000, p. 170). The rotated solution then revealed the presence of the factors with a number of strong loadings<sup>19</sup>. According to Vaus (2002), standard loading of at least 0.3 is considered significant for the variable to belong to a certain factor. On the other hand, Hair et al. (2010) suggest a cut-off point of 0.50 for loadings. This study follows the suggestion of Hair et al. (2010). The variables must load highly on one factor (i.e. 0.50) or must not split on another factor above 0.35 as suggested by Gorsuch (1974). In addition, an inspection of the Scree plot can also reveal a clear break of the factors (Tabachnik and Fidell, 2007).

Communality represents the relation between the variable and all other variables (Hair et al., 2010). It measures correlations among variables to be factor analysed. The higher the correlations among the variables, indicates the higher would be their communalities. If the sample is small, communalities of above 0.6 are recommendable; if samples are between 100 and 200, 0.5 are recommendable (MacCallum et al., 2001). This study follows the suggestion of Hair et al. (2010) where the communalities of each variable must not be less than 0.50 or else it will be deleted.

In sum, a set of variables was subsequently reduced or deleted according to the below criteria:

- i. Bartlett's test of sphericity is not significant ( $p \leq 0.05$ ); KMO less than 0.60
- ii. Multiple loadings or cross loading (more than one loading for each variable)
- iii. Low factor loadings ( $< 0.50$ )
- iv. Low communality ( $< 0.50$ )
- v. Determinant of the correlation matrix less than 0.00001
- vi. Cronbach's alpha less than 0.50; corrected item-to-total correlation less than 0.35.

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<sup>19</sup> Factor loading is a correlation coefficient showing how much weight is assigned to that factor.

### **4.6.3 Reliability analysis**

Reliability is used to indicate ‘the extent to which the different items, measures, or assessments are consistent with one another’ and ‘the extent to which each measure is free from measurement error’ (Leech, Barrett, and Morgan, 2005, p. 63). The primary purpose of reliability analysis is to analyse the internal consistency and reliability of each factor. The coefficient alpha and item-to-total correlation for each dimension had been assessed to evaluate the internal consistency of all manifest variables (items). The standard estimation of alpha coefficient is 0.70 (Hair et al., 2010). Nevertheless, Nunnally and Bernstein (1994) suggest that alpha coefficient of 0.50 or greater is adequate to conclude internal consistency. This study considered the alpha coefficient of 0.5 or greater as suggested by Nunnally and Bernstein (1994) and a corrected item-to-total correlation of above 0.35 as recommended by Hair et al. (2010).

### **4.6.4 Multicollinearity and Spearman’s correlation**

Multicollinearity is a potential problem which also needs to be examined in logistic regression analysis (Bewick, Cheek, and Ball, 2005). It exists when there is a high correlation of two or more independent variables in the model (Field, 2009). Multicollinearity can reduce the predictive power of any independent variable by the extent to which it is associated with other independent variables (Hair et al., 2010). The individual variables in the model need to be examined before applying statistical techniques to test the hypotheses of this study. High multicollinearity potentially leads to a large variance and covariance, large confidence intervals, insignificant significance coefficients, and it may contribute to directional inconsistencies (Hair et al., 2010).

A Spearman’s bivariate correlation test was employed to diagnose the potential problem of collinearity and determine the relationship between the non-parametric variables. The coefficient of 1 (either positive or negative) represents a perfect linear association, and 0 represents no linear association. All variables that were included in the regression models were included in this correlation analysis. Bivariate analysis was conducted

between each independent variable with each of the dependent variable to assess initial significant predictors. Scatter diagrams were screened to look for inter-relationships. The interpretation of the scatter diagrams was confirmed by constructing a correlation matrix of the variables. A correlation coefficient of 0.7 means that a substantial portion of the predictive power may be shared and a correlation coefficient of greater than 0.9 were taken as an indication of singularity in the data (Field, 2009; Hair et al., 2010).

The present study also examines the Tolerance and Variable Inflation Factor (VIF) for the independent variables in each regression, to ensure that multicollinearity was not present. Tolerance examines the seriousness of multiple correlations between an explanatory variable and the other explanatory variables. Alternatively, VIF indicates the value of coefficient variance that had been inflated by multicollinearity (Pryce, 2005).

#### **4.6.5 Logistic regression analysis**

Logistic regressions were used to address the main research questions and test hypotheses 1 and 5 (see Figure 3.1). The results of the logistic regression seek to investigate statistically significant associations between determinants of capital structure (i.e. owner-managers' characteristics, firms' characteristics, management performance and external factors) and preferences for different sources of financing. H1 represents the relationship between determinants of capital structure and capital structure; while H5 investigates the direct association between determinants of capital structure and a firm's performance.

The use of logistic regression analysis for testing the hypotheses in this study is mainly because of three reasons. First, logistic regression is likely to be the most appropriate method since the dependent variable is a dichotomous categorical variable (Field, 2009; Sreejesh et al., 2014). Second, instead of continuous independent variables, this study also contains categorical independent variables and includes non-linear association between dependent variables and independent variables. Hence, a logistic regression is

suitable as it allows the admission of both continuous and categorical variables into the regression model (Norusis, 1994). It does not require the normal distribution of independent variables (Janzen and Stern, 1998) or the assumptions like linearity or homoscedasticity as in a multiple regression model (Bewick et al., 2005). In addition, the predicted values in a multiple regression analysis cannot be interpreted as probabilities whereas in the logistic regression, the predicted probability can be estimated directly (Norusis, 1994; Field, 2009).

Third, conceptually, Structural Equation Modelling (SEM) can be conducted as an alternative analysis. However, SEM is difficult to use in dealing with the categorical variables (Kupek, 2005). The first reason is that the basic assumption of the maximum likelihood estimation method of SEM is the normality of data collected. Even though SEM also provides any other estimation methods for non-normal or asymptotic-distribution-free (ADF), they will require a very large sample size, which is not available for this study.

Before beginning with the logistic regression analysis, the independent variables, which were dichotomous or nominal, were re-coded. Dummy variables were used to contrast the different categories. A baseline (reference) category has been chosen for each variable. The first group from each variable serves as the reference group. Principally, if the exploratory variable has three variables, then it will have two dummy variables; if the exploratory variable has four variables, then it will have three dummy variables, etc.

This study used ‘factor score’ for each continuous independent variable. An ‘Anderson-Rubin method’ is used instead of ‘regression<sup>20</sup> method’ in estimating factor score coefficients. The Anderson-Rubin method is a modification of the ‘Bartlett method’. It aims to confirm orthogonality of the estimated factors (Field, 2009). The scores will have a mean of 0, a standard deviation of 1, and are uncorrelated.

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<sup>20</sup> The scores will have a mean of 0 and a variance equals to the squared multiple correlations (SMC) between the estimated factor scores and the true factor values. The scores are correlated even when factors are orthogonal.

This study runs two sub-categories for each dependent variable (Category 1 and Category 2). The first category includes two models of logistic regression (model 1 and model 2) that test for the main effect of the variables. The nominal predictor variables (ethnicity, owner's age, education, firm's age, and firm's size) were entered in model 1. In model 2, all continuous predictor variables (perceptions and attitude to debt, business planning, relationship, networking, commercial goals, lifestyle goals, asset structure, profitability, conservatism, mastery, stable environment, and external environment) were added into the model together with the significant variables of model 1. Model 1 served as the base model for Category 1.

The second category covers logistic regression model 3, which was used to examine the moderating effect of ethnicity and independent variables. In model 3, interactions (two-way) of ethnicity and independent variables were put into the equation. This model 3 became the final model for the regression as it included all significant variables: both main effects and interaction effects. The same steps of regression were applied to all (four) types of dependent variables. In this category, significant variables from the first category were used as the base model since it included all main effects of independent variables on the capital structure decision for this study. A forward stepwise method had been used in ensuring all candidate variables were fitted to the model.

This study tested the goodness of fit by looking at the -2Log likelihood (-2LL) of the model, as well as the value of Chi-square. The model is better in prediction as the lower value of -2LL shows that the model is predicting the outcome variable more accurately. It is important to mention that, if large value of -2LL, model fits poorly; while, the value is small when the model fits well. This is because the larger its value, the more variance that remains to be accounted for.

Another indicator for goodness of fit is Chi-square<sup>21</sup>. The value of Chi-square should be equal to the value of -2LL in the current model and constant model. The model Chi-

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<sup>21</sup> It is simply the difference between the -2LL for the model with only a constant, and that of the model currently being examined.

square works in the same way as the multivariate F test in linear regression. It is a test of the null hypothesis and seeks to determine whether there is a relationship between the independent and dependent variables (in which acceptable significance levels vary). The most commonly used are the 10% (0.1), 5% (0.05) and 1% (0.01) levels. A model will be acceptable in this study if the significance is less than or equal to 10% or whether no relationship exists (in which case it should be accepted).

The study also tested the goodness of fit by looking at the value of Hosmer and Lemeshow R Squared. Hosmer and Lemeshow R Squared was used instead of Pseudo R Squared because data in a logistic regression does not form a line as R Squared in linear regression (Field, 2009).

In addition, this study looks into the classification table to see how well a logistic model performs. According to Afifi and Clark (1984), the prior probabilities indicate the probability of a case being correctly classified into one of the two groups before the model is applied to the data. The latter probabilities express the probability for each case of belonging to a particular group as determined by the chosen model (Afifi and Clark, 1984).

#### **4.6.6 Multiple regression analysis**

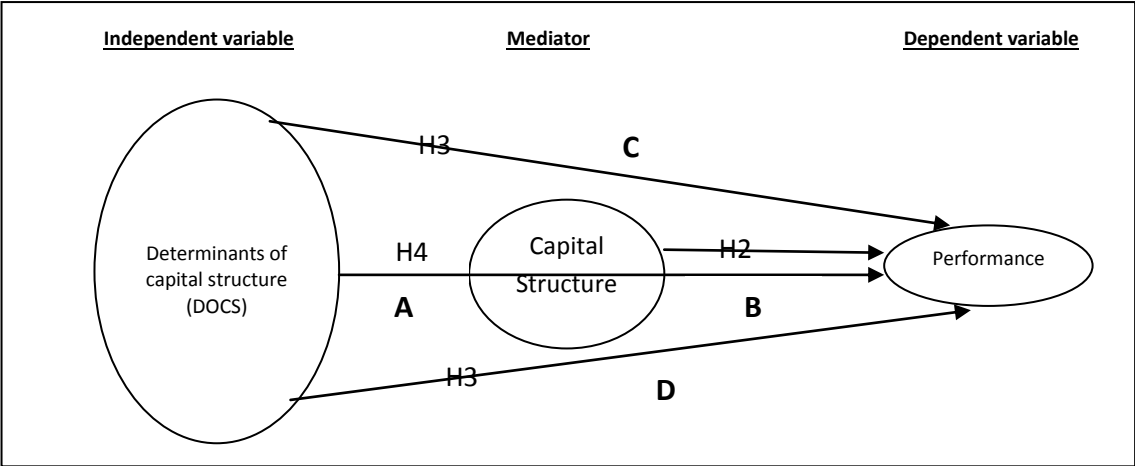
A multiple regression analysis was used to test hypotheses 2, 3, and 4 (see Figure 4.2). H2 tests the relationship between capital structure as an independent variable and a firm's performance as a dependent variable. H3 investigates the direct effect of determinants of capital structure (independent variables) and a firm's performance (dependent variable). H4 investigates the mediating role of capital structure for the relationship between determinants of capital structure (independent variables) and a firm's performance (dependent variable).

The employment of multiple regression analysis instead of other multivariate analysis is because of three reasons. First, multiple regression is likely to be the most appropriate



method since the values of independent variables are known to predict a dependent variable (Hair et al., 2010). Secondly because of the basic requirement of structural equation modelling (SEM) disallowed the researcher to use it. Third, multiple regression analysis becomes the most appropriate multivariate analysis after SEM for investigating the association between dependent and independent variables by considering its well-developed underlying statistical theory (Hair et al., 2010).

**Figure 4.2 Main study: An operational model of capital structure determinants**



This study followed Baron and Kenny’s (1986) procedures in testing the mediating effects or indirect paths. It started with the regression between independent variable and performance, but is mediated by capital structure (A). It is followed by the regressions between mediating variable and the dependent variable (B). Label C represents the regressions between the dependent variable and performance, without controlling the mediator. Finally, the dependent variable was regressed on independent variable while the mediator was controlled (D).

According to Miles and Shevlin (2001), a variable is considered to be fully mediated if the independent variable first has an effect on the mediator variable, and this sequentially influences the dependent variable. A variable is considered to be partially mediated in a relationship between independent and dependent variable if independent

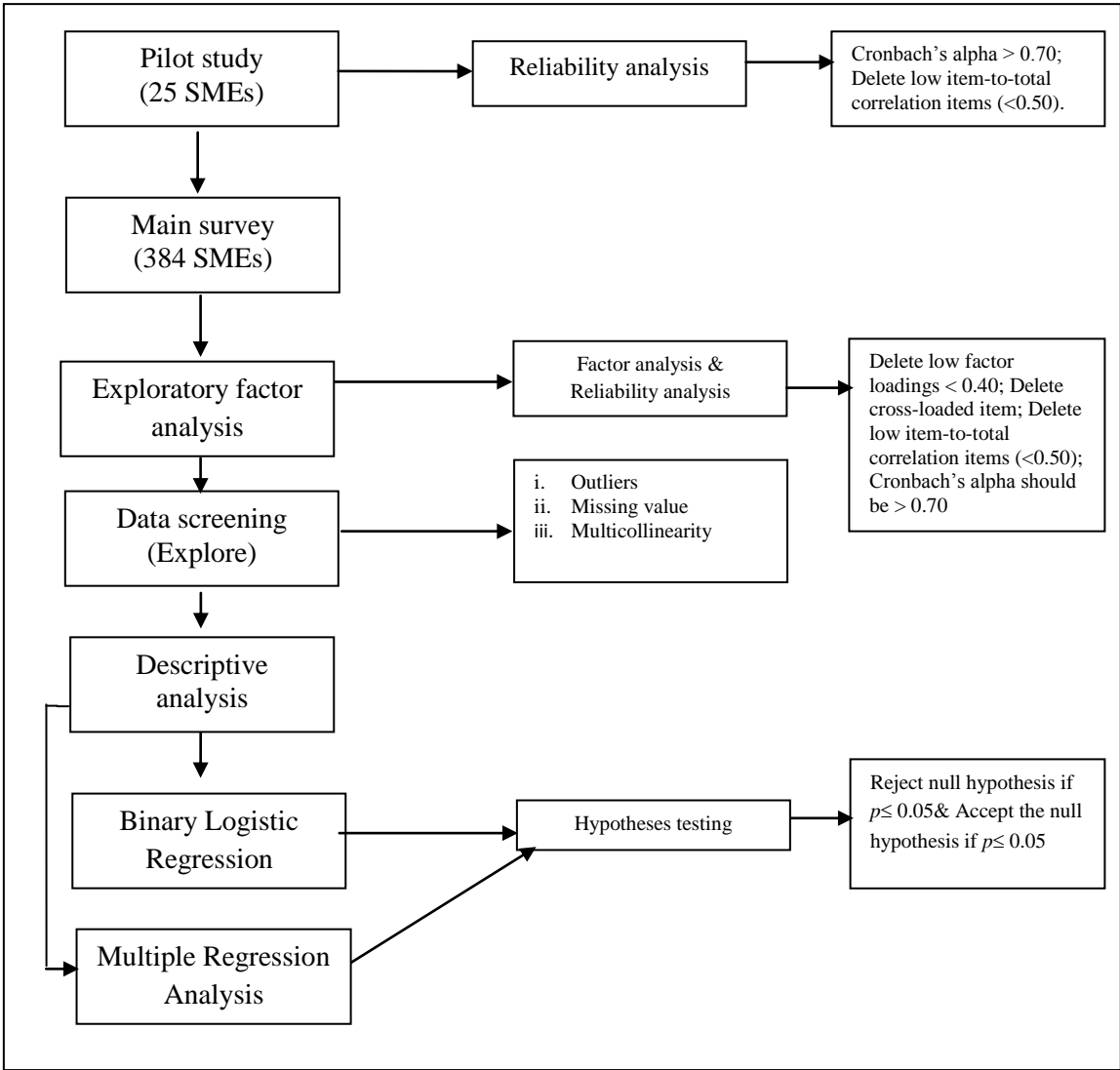
variable exerts some of its influence through a mediating variable or directly (Miles and Shevlin, 2001).

#### **4.6.7 Validity**

As mentioned in Section 4.2.1, validity is ‘the extent to which the research findings accurately reflect the phenomena under study’ (Collis and Hussey, 2009, p. 64). It is different from reliability, where reliability implies that similar results will be obtained by researchers on different occasions (Easterby-Smith et al., 2008), and the concern is with how replicable the research study is (Remenyi et al., 1998).

The researcher used a mixture of methods to collect and analyse the data (interviews and questionnaires survey) as the triangulation would increase confidence in the accuracy of observations (Hair et al., 2009). By using personal contacts and networks, good quality access to knowledge was secured. In addition, interview transcripts or survey questionnaires were fed back to respondents for verification. The research evidence was collected in an easily retrievable form and a log cataloguing research design decisions and justifications for these were kept so that others were able to investigate it. In addition, 20 follow-up interviews (ten new participants and the remaining are those who had responded to the survey) had been conducted to achieve the cross-validation of data and better explanations of potentially statistically unconfirmed hypothetical relations. Thus, the researcher is confident that the validity for the current study has been secured. The following figure presents the flow of data analysis for the main study.

**Figure 4.3 Main study: Overview of the data collection and data analysis**



## **4.7 Conclusions**

This chapter has described the study's methodology through discussing why certain data was collected, who the sample are, how the samples were chosen, what data was collected, when, from where, and how it was collected and analysed. The research design incorporates methodological triangulation by using more than one method in collecting and analysing the data. The study adopts a survey methodology combined with semi-structured interviews. The main survey was preceded by a number of interviews and a pilot survey to explore the issues and test the questionnaire. The following chapter provides a description of the variables analysed in the preliminary study and the main study. Detailed discussions on the findings of the preliminary study and the results of the main study are discussed in Chapters 6 and 7 respectively.

## **CHAPTER 5 DATA DESCRIPTION**

### **5.1 Introduction**

The first part of this chapter describes the variables analysed in the preliminary study, the results of which are reported in Chapter 6. The second part describes the variables analysed in the main survey, the results of which are reported in Chapter 7.

### **5.2 The preliminary study**

#### **5.2.1 The sample firms**

A total of 25 firms took part in the preliminary study, of which the majority were sole proprietorships and only firms L and Q were partnerships. Approximately one-third were in the manufacturing sector and the remainder were in the service sector. This broadly reflects the SME population in Malaysia where 90% are in the service sector, 6% are in the manufacturing sector and the remainder operate in the agriculture, construction, mining and quarrying sectors (Department of Statistics Malaysia, 2011). The number of employees varied from one business sector to another, ranging from 2 to 25 with a mode of 3 employees. The highest number of employees is in textile and clothes firm, followed by catering service and restaurant, and wholesale and retail. In specific, the number of full-time employees depends on the size and needs of the firm at a specific time. The age of the firms varied from 2 to 38 years, with an average of just over 10.5 years since start-up. Table 5.1 provides further details.

**Table 5.1 Preliminary study: The sample firms**

<b>ID</b>	<b>Main activities</b>	<b>Number of employees</b>	<b>Age of firm (years)</b>
A	Bakery and cake	6	30
B	Bakery and cake	13	16
C	Bakery and cake	3	17
D	Hardware and painting	6	13
E	Handbag designer	8	9
F	Construction	16	7
G	Computer related services	2	15
H	Public relation consulting	4	5
I	Air conditioner service	2	2
J	Cosmetics producer	5	5
K	Hardware and painting	3	4
L	Wholesale and retail	4	33
M	Wholesale and retail	18	7
N	Textile and clothes producer	3	3
O	Business consulting	3	5
P	Ice cube producer	4	2
Q	Textile and clothes producer	32	7
R	Transportation and logistics service	3	9
S	Tailoring and dry cleaning	2	22
T	Car trading and insurance services	2	10
U	Optometry service	2	16
V	Printing service	3	9
W	Steel trading and retail	2	4
X	Printing service	3	8
Y	Catering service & restaurant	27	7
Maximum		32	33
Minimum		2	2
Mode		3	7
Median		3	8
Mean		5	10.6
SD		4.56	18.73

### 5.2.2 The interviewees

The majority of the owner-managers interviewed (68%) were male and only 32% were female, which reflects the wider population of SMEs in Malaysia where 37% are owned by women (UNDP Malaysia, 2007). As shown in Table 5.2, 10 of the interviewees were

Malay, 8 were Chinese and 7 were Indian. The owners' age at the time of the interviews ranged from 22 to 62, with a mode of 35 years.

**Table 5.2 Preliminary study: The interviewees**

<b>Interviewee</b>	<b>Gender</b>	<b>Ethnicity</b>	<b>Age in 2009</b>
A	Male	Malay	50
B	Male	Indian	43
C	Female	Indian	42
D	Male	Chinese	41
E	Male	Malay	35
F	Male	Malay	36
G	Female	Indian	45
H	Male	Malay	45
I	Female	Chinese	40
J	Female	Indian	44
K	Male	Indian	33
L	Male	Chinese	62
M	Female	Chinese	30
N	Male	Malay	33
O	Male	Chinese	47
P	Female	Malay	23
Q	Female	Chinese	42
R	Male	Chinese	35
S	Male	Malay	41
T	Male	Indian	35
U	Male	Chinese	44
V	Male	Indian	28
W	Female	Malay	22
X	Male	Malay	38
Y	Male	Malay	29
Maximum			62
Minimum			23
Mode			35
Median			40
Mean			39
SD			8.78

### 5.3 The main study

This part of the chapter describes the data relating to variables analysed in the main study. It is organised into subsections with themes that relates to the Chapter 7. The first subsection describes the variables used in the factor analysis and the second section describes the variables used in the subsequent analysis of the determinants of capital structure.

#### 5.3.1 Variables in the factor analysis

This subsection provides information about the variables which were used in the factor analysis. The Table 5.3 presents variables that were included in the factor analysis. There were 52 continuous variables included in this initial stage of analysis. It is measured on an ordinal scale of 1 to 5. Details explanation concerning the measurement would be presented in the later subsection.

**Table 5.3 Main study: Variables included in the factor analysis**

##### **Business goals**

- Increase business value
- Accumulate wealth
- Improve owner's lifestyle
- Like the challenge
- Maintain control
- Fit around family commitments
- Develop hobbies/skills
- Repay borrowing
- Pass onto next generation (family tradition)
- Expand the firm
- Provide jobs for family and friends

##### **Business planning**

- Formal business plan
- Formal strategic plan
- Formal management structure
- Business performance appraisal



**Relationship**

- Close relationship with lender/supplier
- Duration of relationship with lender/supplier
- Review relationship with lender/supplier on a regular basis
- Review procedures in getting credits
- Send report to lender/supplier on a regular basis
- Provide data to lender/supplier when requested
- Consider hobbies of lender/supplier
- Review services of lender/supplier on regular basis

**Networking**

- Be a regular client
- Pay on time
- Invite lender/supplier to visit firm
- Visit lender/supplier regularly
- Offer personal greetings to lender/suppliers
- Lenders/suppliers are managed by family members or friends

**Perceptions and attitude to debt**

- Culture norms/social norms
- Religious beliefs
- Way of life (personal net worth)
- Attitude to debt (averse to debt)

**Culture**

- Regulations inform employees what is expected from them
- Standard operating procedures are helpful to employees on job
- Harmonious working relationships are important for the company
- Instructions for operations are important for employees on job
- Details of job requirements and instructions are important
- Preserving public image is one of the main policies for the company
- Owner's success is more important than the employee's success
- An aggressive financing policy is important for the firm
- Owner's interest is more important than the employee's interests
- Achievement of owner's goals is more important for the company

**External factors**

- It is very easy to keep afloat in this industry
- There is little threat to the survival and well-being of my business
- There are rich investments and marketing opportunities
- My business must frequently change its marketing practices
- One wrong decision could easily threaten the viability of my business
- The failure rate of businesses in this industry is high
- Social pressure could affect my business
- Strict government rules and regulation could hinder the viability of my business
- The survival of my business is highly dependent on the country's economy

**5.3.2 Variables in the subsequent analysis**

This subsection describes the variables used in the subsequent analysis of the determinants of capital structure. The variables include both dependent and independent (categorical and continuous) variables.

**Dependent variables: Sources of finance**

Sources of finance were measured by four variables: retained earnings (RE), personal monies and funds from friends and families (PF&F), debt financing (DEBT), and external equity (EE). Table 5.4 presents the descriptions of dependent variables used in this study. Respondents were asked to state the choices of finance used by the firms. All the above variables are dichotomous variable. Each variable is coded 1 if the firm used the particular sources of finance and 0 otherwise. Table shows that majority of the firms preferred to use retained earnings as their source of financing, followed by owner's own contributions or funds from friends and families and debt finance. External equity being the least preferred sources of financing where only 34 firms use it as their sources of finance.

**Table 5.4 Main study: Sources of finance**

<b>Variable</b>	<b>Description</b>	<b>Data</b>	<b>N</b>	<b>Min</b>	<b>Max</b>
RE	Whether they use retained earnings	Nominal	352	0	1
PF&F	Whether they use personal savings, funds from friends and family, sale of assets, or informal funds	Nominal	334	0	1
DEBT	Whether they use short term bank loans, bank overdraft, trade credits, factoring, invoice finance, leasing, hire purchase, or long term debts	Nominal	304	0	1
EE	Whether they use venture capital, business angels, private investors, government grants, or other external equity	Nominal	34	0	1

**Independent variables: Categorical variables**

**a. The sample firms**

A total of 384 SMEs took part in the main study, which took the form of a survey. The majority were sole proprietorships (67%); 13% were partnerships and 20% were limited liability companies. Approximately 75% were in the service sector and the remainder were in the manufacturing sector. Table below provides further details.

**Table 5.5 Main study: Demographics of the firm**

<b>Variable</b>	<b>Definition</b>	<b>Hypothesis</b>	<b>Expected sign</b>
AGEBIZ	Year of incorporated minus 2010 (1 = < 1 year, 2 = 1–3 years, 3 = 4–10 years, 4 = > 10 years)	H1.11	-
SIZE	Size of the firm (1 = micro [< 5 employees], 2 = small [manufacturing = 5-50 employees; Service= 5-19 employees], 3 = medium [manufacturing = 51-150 employees; service = 20-50 employees])	H1.12	+

**Table 5.6 Main study: Frequency distributions for the sample firms**

Variable	<i>Number coded</i>	<i>Number coded</i>	<i>Number coded</i>	<i>Number coded</i>
	<i>1</i>	<i>2</i>	<i>3</i>	<i>4</i>
<i>AGE</i>	14	34	85	251
<i>SIZE</i>	175	140	69	-

Table 5.6 presents the frequency distribution for the demographic variables for the 384 sample firms that took part in the main survey. The table illustrates that approximately 65% of them have operated for more than 10 years and relatively few were less than 1 year (3.6%), between 1 to 3 years (9%) or between 4 to 10 years (22%). The table shows that more than one-third of the samples are small-sized firms, 45.6% of them are micro-sized firms, and the remaining are medium-sized firms.

**b. Respondent demographics**

This section provides the background information about the respondents. Table 5.7 shows the demographic variables that relate to the respondents, for instance age, ethnicity, education and experience.

**Table 5.7 Main study: Respondent demographics**

<b>Variable</b>	<b>Definition</b>	<b>Hypothesis</b>	<b>Expected sign</b>
AGEOWN	Age of owner (1 = 24 or under, 2 = 25-34, 3 = 35-44, 4 = 45 and over)	H1.1	-
ETHNIC	Ethnicity of owner (1 = Malay, 2 = Chinese, 3 = Indian)	H1.2 H5	- +
EDU	Educational background of the owner (1 = No academic qualification, 2 = Professional qualification, 3 = Undergraduate degree or diploma, 4 = Postgraduate degree or doctorate, 5 = On-the-job-training)	H1.3.1	+
EXP	Experience before starting the current business (1 = 2 years or under, 2 = 3-5 years, 3 = 6-10 years, 4 = More than 10 years)	H1.3.2	+

**Table 5.8 Main study: Frequency distributions for the respondent demographics**

<i>Variable</i>	<i>Number coded 1</i>	<i>Number coded 2</i>	<i>Number coded 3</i>	<i>Number coded 4</i>	<i>Number coded 5</i>
AGEOWN	27	87	92	178	-
ETHNIC	128	128	128	-	-
EDU	203	24	98	47	12
EXP	70	120	155	39	-

*N* = 384

Table 5.8 presents the frequency distribution for the respondent demographics. The table shows that nearly half (46.4%) of the respondents were aged 45 and over; while relatively few were 24 years old (7%). One-fifth of the respondents were from the age group of 25 to 34 years and approximately a quarter of them were from the age group of 35 to 44 years. The percentage of each ethnic group is equal, where it comprised of 128 respondents from each ethnic group. The main reason is because one of the objectives of this study is to highlight similarities and differences of financing patterns among these ethnic groups (research objective no.5).

The table also shows that respondents have relatively low level of academic qualification where more than half of them do not have any academic qualification. A quarter of them possessed bachelor degrees or diplomas, 12% are postgraduate, and less than 10% of the respondents possessed professional qualification or had gone through on-the-job training. Regarding the owners' experience (i.e. experience related to the current business) before starting the business, nearly three quarters of them had experience between 3 to 10 years; with 40.4% has experience between 6 to 10 years and 31% had experience between 3 to 5 years. These respondents could be regarded as serial entrepreneurs, who are entrepreneurs with some prior start-up experiences (Westhead and Wright, 1998). Only 18.2% of the respondents had less than 3 years experience prior to the business start-up who could be called as "novice" entrepreneurs; who have no experience (Westhead and Wright, 1998).

## Independent variables: Continuous Variables

This section provides the information about the continuous variables which were used in the subsequent analysis of the determinants of capital structure. The variables include owner-related factors, management performance and external factors.

### a. Owner-related factors

Owner-related factors consist of networking, relationship, perceptions and attitude to debt, commercial goals, lifestyle goals, conservatism, and mastery.

**Table 5.9 Main study: Owner-related factors**

Variable	Definition	Hypothesis	Expected sign
<i>NETWORK</i>	Importance level that <i>networking</i> influence the capital structure (5 = very important, 1 = not important at all)	H1.4	+
<i>RELATION</i>	Importance level that <i>relationship</i> influence the capital structure (5 = very important, 1 = not important at all)	H1.5	+
<i>ATTITUDE</i>	Importance level that <i>owner's perceptions and attitude to debt</i> influence the capital structure (5 = very important, 1 = not important at all)	H1.6	-
<i>COMGOAL</i>	Importance level that <i>commercial goals</i> influence the capital structure (5 = very important, 1 = not important at all)	H1.7	-
<i>LIFEGOAL</i>	Importance level that <i>lifestyle goals</i> influence the capital structure (5 = very important, 1 = not important at all)	H1.8	-

<i>CONSERV</i>	Extent of agreement that <i>conservatism</i> was a factor that influence the capital structure (5 = strongly agree and 1 = strongly disagree)	H1.9	-
<i>MASTERY</i>	Extent of agreement that <i>mastery</i> was a factor that influence the capital structure (5 = strongly agree and 1 = strongly disagree)	H1.10	-

**Table 5.10 Main study: Descriptive statistics for owner-related factors**

Label	Description	Min	Max	Mean	SD
RELATION1	Close relationship with lenders/suppliers	1	5	3.86	.765
RELATION2	Duration of relationship with lender/supplier	1	5	3.67	.780
RELATION3	Review relationship with lender/supplier on regular basis	1	5	3.52	1.085
RELATION5	Regular review of procedures in getting credits	1	5	3.49	.881
NETWORK1	Be regular clients	1	5	4.04	.754
NETWORK2	Offer personal greetings to lender/suppliers	1	5	3.61	.842
ATTI1	Culture norms (e.g. greedy attitude must be avoided according to Chinese culture )	1	5	3.64	.693
ATTI2	Religious beliefs (e.g. Muslims would not borrow money from banks because of <i>riba</i> ' )	1	5	3.58	.825
ATTI3	Way of life (e.g. do not borrow because do not want to be burdened by debt/ wish to manage company in own way)	1	5	3.64	.765
ATTI4	Attitudes to debt (e.g. risk aversion attitude)	1	5	3.29	.941
LIFEGOAL1	To accumulate wealth	1	5	4.10	.413
LIFEGOAL2	To improve lifestyle	1	5	3.48	1.036
LIFEGOAL3	To develop hobbies or skills	1	5	3.33	1.050
COMGOAL1	To maintain control	1	5	3.54	1.091
COMGOAL2	To expand the firms	1	5	3.88	.698
COMGOAL3	To increase firm's value	1	5	4.03	.241



COMGOAL4	To repay borrowing	1	5	3.50	.790
MASTERY2	Owner's success is more important than employees' success.	1	5	3.75	.837
MASTERY3	An aggressive financing policy is important for the firm.	1	5	3.35	1.043
MASTERY4	Owner's interest is more important than employees' interests.	1	5	3.78	.931
MASTERY5	Achievement of owner's goals is more important for the company.	1	5	4.12	.499
CONSERV1	Rules and regulations are important to inform employees what the organisation expects from them.	1	5	3.43	1.332
CONSERV2	Standard operating procedures are helpful to employees on job.	1	5	4.23	.701
CONSERV3	Harmonious working relationship and social harmony are important for the company.	1	5	3.64	.693
CONSERV4	Instructions for operations are important for employees on job.	1	5	3.58	.825
CONSERV5	Preserving public image is one of the main policies for the company.	1	5	3.64	.765

Table 5.10 presents the descriptive statistics for latent variables of owner-related factors. Upon inspection of the calculated mean results, it was notable to observe that all indicators were high in their scoring since all means are above mid-point of three.

#### **b. Management performance**

This section provides the information about the continuous variables which are related to the management performance. Table below presents the variables in the analysis of capital structure determinants that are related to the management performance. The variables are profitability, asset structure, and business planning.

**Table 5.11 Main study: Management performance**

<b>Variable</b>	<b>Definition</b>	<b>Hypothesis</b>	<b>Expected sign</b>
<i>PROFIT</i>	Extent of agreement that the <i>profitability</i> will increase/ decrease the debt ratio of the firm (5=Strongly increase, 3= No change, 1= Strongly decrease)	H1.13	-
<i>ASSET</i>	Extent of agreement that the tangibility will increase/ decrease the debt ratio of the firm (5=Strongly increase, 3= No change, 1= Strongly decrease)	H1.14	+
<i>PLANNING</i>	Importance level that <i>business planning</i> influence the capital structure (5 = very important, 1 = not important at all)	H1.15	+

**Table 5.12 Main study: Descriptive statistics for management performance**

<b>Label</b>	<b>Description</b>	<b>Min</b>	<b>Max</b>	<b>Mean</b>	<b>SD</b>
PROFIT	Profitability of the firm– profit before interests and taxes ( <i>EBIT</i> )	1	5	2.14	.971
ASSET	Asset structure– focused on tangible assets	2	5	3.84	1.048
PLANNING1	Formal business plan	1	5	3.58	1.033
PLANNING2	Formal strategic plan (long-term or short-term plan)	1	5	3.48	1.036
PLANNING3	Formal management structure	1	5	3.33	1.050
PLANNING4	Business performance appraisal	1	5	3.54	1.091

Table 5.12 shows the variables relating to management performance which comprise of profitability, asset structure and business planning. It was remarkable to observe that mean score for profitability was low as the mean are below mid-point of three. In contrast, the mean score for asset tangibility was quite high (above mid-point of three). All items in the ‘business planning’ exhibited mean score more than the mid-point of 3 with a percentage of more than 50 percent for every item.

### c. Environment

This section provides the information about the continuous variables which are related to the external factors. Table 5.13 presents the variables in the analysis of capital structure determinants that are related to the external factors. The variables are stable environment and external environment.

**Table 5.13 Main study: Environment**

Variable	Definition	Hypothesis	Expected sign
<i>STABLE ENVIRONMENT</i>	Extent of agreement that <i>stable environment</i> was a factor that influence the capital structure (5 = very untrue and 1 = very true)	H1.16	+
<i>EXTERNAL ENVIRONMENT</i>	Extent of agreement that <i>external environment</i> was a factor that influence the capital structure (5 = very untrue and 1 = very true)	H1.17	-

**Table 5.14 Main study: Descriptive statistics for business environment**

Label	Description	Mean	SD
STABLENVT1	It is very hard to keep afloat in this industry.	3.59	.959
STABLENVT2	There is little threat to the well being of my business.	3.52	.963
STABLENVT3	There are rich investment and marketing opportunities.	3.38	.900
STABLENVT4	My business must regularly change its marketing practices.	3.41	.915
EXENVT1	High social pressure from the society could affect my business.	3.98	.130
EXENVT2	Strict government's rules and regulation could hinder the viability of my business.	4.31	.463
EXENVT3	The survival of my business is highly dependent on the economic situation of the country.	4.18	.389

Table 5.14 shows the variables relating to the external factors. The external factors comprise of stable (STABLENVT) and external (EXENVT) environment. All items

exhibited mean score more than the mid-point of 3 with a percentage of more than 50 percent for every item.

#### d. Performance of firm

This section presents the variables measuring the performance of the firm. Table 5.15 describes the variables in the analysis of capital structure, where firm performance (the dependent variable) captures whether the use of debt influence the performance of the firm. A firm's performance which is indicated by NPM, ROA, ROE and CF, was revealed as having an upward movement in the three years (2008-2010), as more than 55 per cent of the respondents show an increase of their firm NPM, ROA, ROE and CF.

**Table 5.15 Main study: Descriptive statistics for performance of the firm**

<b>Label</b>	<b>Description</b>	<b>Min</b>	<b>Max</b>	<b>Mean</b>	<b>SD</b>
<i>NPM</i>	<i>Net profit margin</i> for the year 2008-2010 (5 = increased more than 15%, 3 = No change, 1 = Decreased more than 15%)	1	5	3.19	1.144
<i>ROA</i>	<i>Return on asset</i> for the year 2008-2010 (5 = increased more than 15%, 3 = No change, 1 = Decreased more than 15%)	1	5	3.33	1.132
<i>ROE</i>	<i>Return on equity</i> for the year 2008-2010 (5 = increased more than 15%, 3 = No change, 1 = Decreased more than 15%)	1	5	3.36	.981
<i>CF</i>	<i>Cash flow</i> for the year 2008-2010 (5 = increased more than 15%, 3 = No change, 1 = Decreased more than 15%)	1	5	3.07	1.033

## **5.4 Conclusions**

This chapter provides an understanding on the respondents, the firms and environment that are included in the current study's sample. An understanding of this background set the stage for further analysis of the sample, particularly for exploring the determinants of capital structure in Malaysia's SMEs. Overall, the characteristics of the respondents reflect a wide representation of business owners in terms of age, ethnicity, educational level experience, perception and attitudes, objectives and goals, and culture. Characteristics of the firm comprise of age and size of firm; while management performance consist of profitability, asset structure and business planning. The external factors focus mainly on the environment. Most measures of determinants of capital structure observed a wide range of response. The details analyses parts are discussed in the following chapters. Chapter 6 discusses the findings of the preliminary study, whilst Chapter 7 focuses on the results of the main study.

## **CHAPTER 6 FINDINGS OF THE PRELIMINARY STUDY**

### **6.1 Introduction**

As described in Chapter 4, the preliminary study took the form of interviews with the owner-managers of 25 SMEs. The purpose of the study was to address the research question: What are the factors that influence the capital structure of SMEs in Malaysia? This study is conducted to validate a priori conceptual framework and identify additional relevant constructs that might not be identified in the literature.

The chapter is structured according to the main themes identified in the literature review in Chapter 2. The first section analyses the characteristics of the owners and firms and the subsequent sections present the findings relating to management performance and external factors that influence the capital structure of the firm. Appendix D presents results of the preliminary study on the financing choices of the firms at start-up, growth, and maturity stages. The chapter concludes by commenting on the contribution of the preliminary study in developing the model that was used as the basis for the main study.

### **6.2 Characteristics of the firm**

This section discusses the interview findings relating to the influence of the age and size of the firm on the capital structure of the business.

#### **6.2.1 Age of the firm**

Owner-managers A,C,E,G,J,N,O,R,T,W and X stated that when the business grows and the amount of capital needed becomes larger, they look for external capital such as debt finance or external equity. This can be explained by pecking order theory and trade-off theory, which suggest a link between the age of the firm and its capital structure (Myres and Majluf, 1984). Younger firms tend to utilise internal funds such as retained

earnings, personal savings, and informal investment (Timmons, 2004). As firms grow and mature, they may reinvest retained earnings in the current projects.

Some previous studies (Romano et al., 2000; Cassar, 2002; Cole et al., 2004; Gregory et al., 2005) relate the firm's age with the problem of information asymmetries. Older firms usually have longer financial records and are more likely to have developed close relationships with banks. These situations will indirectly reduce the problem of information asymmetry (Cole, 1998; Cole et al., 2004) and older firms are likely to have better access to debt finance. This is confirmed by owner-managers A,H,N,O,Q and T as illustrated by T's comment:

*“At the first stage of my business, I just used internal funds because it was very difficult for me to apply for an external financing. However, when I was in the third year of my business, there were various capital structure available for me, such as bank loan, trade credit, venture capital and etc. I did borrow from bank and until today, I still finance my business using external financing.”* [Owner-manager T, Car Trading and Insurance services]

As the firm grows and matures, its relationship with its suppliers may become stronger as trust develops (Petersen and Rajan, 1994; Cole et al., 2004) and this helps the firm to buy on credit (Nguyen and Ramachandran, 2006; Newman et al., 2011). As one of the interviewees pointed out:

*“As time goes by, I've been able to buy on credit. This happened when we are long in business. Besides, the suppliers felt confidence with us since we always kept our promises and did not make any problem. For example, we make payments on time.”* [Owner-manager Q, Textile and Clothes]

In contrast, some interviewees established that mature firms are less likely to use debt than younger firms because the former prefer to utilise all available internal sources of finance, which confirm findings of previous studies (Cole and Wolken, 1995; Robb, 2002; Hall et al., 2004; Lu, 2007; Vos et al., 2007; Serrasqueiro and Nunes, 2010). However, a new firm may not have time to retain funds and may be forced to borrow

(Hussain and Nivorozhkin, 1997; Hamilton and Fox, 1998). Petersen and Rajan (1994) and Rocca et al. (2009) also found that leverage decreases with the age of the firm. Interviews with owner-managers B, L and U confirm this. The following quotation provides an example.

*“I borrowed money from the bank when I first started this business. However, as time goes by, I manage to retain profits of the firm and consequently financing by using internal funds only.”* [Owner-manager B, Bakery and Cake]

The majority of the interviewees (all except owner-managers F,R, and Y) held the view that the age of the firm is an important influence on its capital structure. However, others disagreed, as one interviewee said:

*“My capital structure did not dependent on which stage I’m in, but it depends on my financing needs at that time. Regardless of the age of the business, whenever I think I need to buy an asset (which is bus or lorry), I will then try to use whatever sources of finance that I have or I can apply for, at that particular time.”* [Owner-manager R, Transportation and Logistics service]

Based on the majority of opinions, it can be concluded that, the capital structure of the business is associated with the age of the business. These findings are consistent with some of the previous studies (see Chittenden et al., 1996; Michaelas et al., 1999; Romano et al., 2000; Gibson, 2002; Riportella and Martinez, 2003; Hutchinson, 2003; Hall et al., 2004; Mac an Bhaird and Lucey, 2006; Klapper et al., 2006; Lopez-Gracia and Sanchez-Andujar, 2007; Bell and Vos, 2009; Ramalho and da Silva , 2009; Rocca et al., 2009; Serrasqueiro and Nunes, 2010).

### **6.2.2 Size of the firm**

The findings revealed that the capital structure of the firm is also related to the size of the firm. Existing theory is contradictory about the effect of size on a firm’s capital structure. Pecking order theory predicts a negative association between the firm size and leverage, while the trade-off theory proposes a positive association. Although the



interviewees generally perceived firm's size to have no effect on the capital structure, four owner-managers (B,F,M, and Y) recognise the importance of the firm's size in influencing their firms' capital structure.

Some interviewees stated that as the firm grows, they use more debt, not necessarily because they choose to, but because they do not have sufficient retained earnings to fund the growth of their firms. Another argument was concerning the accessibility of external funds. In general, larger firms possess a better reputation, more stable cash flows, fewer hazards to be liquidated and their chances of bankruptcy are less as compared to small firms; and this stability, therefore, allows them to take advantage of leverage (Marsh, 1982; Ang, 1992; Homaifar, Zietz, and Benkato, 1994; Wiwattanakantang, 1999; Antoniou et al., 2002; Bevan and Danbolt, 2002). On the other hand, smaller firms borrow less since they are riskier. This lower borrowing indirectly predisposes smaller firms to having less outside financing or lower debt (Cosh and Hughes, 1994). This point is confirmed by the following quotation.

*“As the size of the firm becomes bigger, suppliers become confident to give me credit terms and there is also a government grant available. During my sixth year of operation, I have decided to share the firm. For the same reason (i.e. size), the investor felt confident enough to invest their money into this business.”* [Owner-manager Y, Catering service and restaurant]

In contrast to the above points, some studies have found that firms may prefer to use internal funds as the firm grows (Mazur, 2007; Ezeoha, 2008; Chakraborty, 2010). This was the case for owner-manager B:

*“I used government loan during start-up stage. I then just maintain my financing through internal funds and retained profits.”* [Owner-manager B, Bakery and Cakes]

The overall findings demonstrated that there is no relationship between the firm's size and the capital structure, which is consistent with the market efficiency hypothesis

(Modigliani and Miller, 1958). However, many of the previous studies have found evidence of a link between size and capital structure (Chittenden et al., 1996; Berger and Udell, 1998; Michaelas et al., 1999; Romano et al., 2000; Hutchinson, 2003; Cassar and Holmes, 2003; Hall et al., 2004; Sogorb-Mira, 2005; Mac an Bhaird and Lucey, 2006; Lopez-Gracia and Sanchen-Andujar, 2007; Beck et al., 2008; Ramalho and da Silva, 2009; Degryse et al., 2009; Rocca et al., 2009; Psillaki and Daskalakis, 2009).

### **6.3 Characteristics of the owner-manager**

This section discusses the interview findings relating to the influence of age, perceptions and beliefs, relationship and networking, objectives and goals, and culture of the owner on the capital structure of the business.

#### **6.3.1 Owner's age**

The findings revealed that the confidence level of the owner in the financing decision is related to the owner's age. It has been suggested that older owners have more confidence and this may affect the capital structure of the business (Vos et al., 2007). Sorenson and Stuart (2001) found that confidence level may increase through experience in the business. This was confirmed by some of the interviewees.

*“Previously, I was involved in more than three businesses. I was only 15 years old when I was first involved in the business. At that time, I just used my own money and some amount of my parent's money. I took the same financing choices when I first started this business. At that particular time, I felt afraid to use a loan or any funds from others. I started using bank overdraft during fourth year of the business. As business grows and I myself become matured, I was quite clear about what I'm or will be doing. It may be because I've done routine works and expose to quite a number of business problems.”* [Owner-manager M, Wholesale and Retail]

*“I chose internal funds for start-up because I was not confident enough to apply for a loan. It may be because I was still young at that time. But now I’m quite open-minded and confident. That’s why I’ve used bank loan for my current business operation. It may be related to my age and exposure in the business.”*  
[Owner-manager W, Steel Trading and Retail]

In contrast to the above points, owner-managers D,J,L,S, and T stated that age makes them more careful in making decisions. At a young age, many people might not think carefully when they are making any decision. As they become older, they become more circumspect in their way of thinking (Van der Wijst, 1989) because they have more knowledge and experience. Older owner-managers are wiser and better able to recognise what is valuable to them in the long term (Diener and Seligman, 2004; Vos et al., 2007). They may prefer to focus more on financial independence and control (Van der Wijst, 1989; Vos et al., 2007). In addition, as they become older, they gain higher utility from financial freedom and exercising caution in decision-making and consequently would make less use of debt (Gellatly et al., 2003; Diener and Seligman, 2004; Vos et al., 2007). As one of the interviewees pointed out:

*“About 20 years ago, when I wanted to do something, I would do it no matter what. I ended up with overdraft facilities from more than one bank. I had almost all my personal assets secured against bank loans. But now, I don’t think I’m going to use any debt anymore. It may be because I’m getting older. What concerns me now is just to make sure the business performs well. As long as the cash is positive, I would be satisfied.”* [Owner-manager S, Tailoring and Dry Cleaning]

Based on the majority opinions, it can be concluded that, the capital structure of the business is associated with the age of the owner; whether negatively or positively. This is consistent with the theoretical findings; whereby neither pecking order nor trade-off theories predict any relationship between the owner’s age and leverage. However, empirically, there are quite a number of studies which found a correlation between these

two variables (see Ward, 1987; Van der Wijst, 1989; Scherr et al., 1993; Romano et al., 2000; Vos et al., 2007; Bell and Vos, 2009).

### **6.3.2 Owner's perceptions and attitudes to debt**

Owner-managers L,P,U,V, and X prefer not to use external sources of finance because they do not want to be burdened by debt. They believe that using only internal funds allows them to manage the firm in their own way. Norton (1990), who did a comparative study on small and large corporation in the US found that, in line with pecking order hypothesis, firms (regardless of the size) believe that management is most influential in formulating capital structure. He found in his study that small firms use no debt at all due to management preference. This view is shared by some of the interviewees in Malaysia, as the following quotation

*“100% of my financing sources came from internal sources. It is because I don't like to be burdened by debt and I really don't like this type of commitment. I would rather grow slower than borrow. If I want to make a new investment, I'll use internal funds. In my opinion, spending borrowed money is a risky operation which may lead to liquidation.”* [Owner-manager I, Air Conditioner services]

*“I only used internal funds because I don't want to worry about interest rates or loan repayments. Owing nothing meant that I'll have more time to focus on the core operations of the business.”* [Owner-manager U, Optometry services]

In relation to religion, the findings revealed that Malays (predominantly professing the religion of Islam) are averse to using bank loans from conventional banks. They favour seeking grants or loans from Islamic banks or government; especially for a long-term financing. This is in line with the argument of Hamoudi (2007) who asserted that, in Islam, any transaction which involves the payment of interest on debt is forbidden and this fact indirectly discourages Muslim entrepreneurs from borrowing from banks (except seeking for a short-term loan financing).

Some non-Muslim entrepreneurs share the same views as their Muslim counterparts. For example, one of the Indian interviewees commented:

*“I think, in all religion, debt must be paid. It’s similar for Hindu believer like me. That’s why, before making any decision on financing, I will think deeply.”*  
[Owner-manager G, Computer related services]

On the other hand, one of the Chinese interviewees offered a slightly different view:

*“In my religion, borrowing money is not considered as a sin or something bad. However, I would try my best not to borrow, and I would rather use whatever that I have to run the business. My principle is simple. If we earned one ringgit, we would save 50 cent. If we earned two ringgit, we would save 1.50. That’s the way we do business.”*[Owner-manager U, Optometry services]

Most of the interviewees (except owner-managers E,K, and R) in this preliminary study demonstrated behaviours that contribute to the factor of ‘perceptions and beliefs’ relating to capital structure of the firm. Interviewees were found to be careful in dealing with risks. They attempt to develop “safety nets” to minimise possible costs. This supports the findings of Michaelis et al. (1998) in the UK. The examples of behaviours reflecting owner’s attitudes to debt are summarised in Table 6.1.

**Table 6.1 Owner’s perceptions and attitudes to debt**

<ul style="list-style-type: none"><li>• Culture norms (e.g. greedy attitude must be avoided according to Chinese culture )</li><li>• Religious beliefs (e.g. Muslims would only borrow money from the Islamic compliance banks; Muslims prefer to rely on their own savings or family funds)</li><li>• Way of life (e.g. do not borrow because they do not want to be burdened by debt/ prefer internal funds because they want to manage the company in their own way to maintain control)</li><li>• Attitude to debt (e.g. risk averse or risk taker)</li></ul>
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### 6.3.3 Ethnicity

As can be seen in Appendix D, personal savings and funds from friends and families are the most significant sources of funds at start-up for all ethnic groups. As the business grows, different ethnic groups begin to choose different types of finance. For example, Malays utilised more than two-third of the government grants and bank loans. The Chinese on the other hand, were found to favour using internal funds throughout the entire business cycle; whereby almost all of them used internal funds (i.e. retained earnings and other internal funds such as personal savings or funds from friends and families) during start-up and the mature stage of the businesses (except Entrepreneur R who utilised government loans during the mature stage) and 50% of it during growth stage. This is in line with the record from the Economic Census 2011 by the Department of Statistics Malaysia who found that the majority of the SMEs' owners initially prefer to finance their businesses using retained earnings, internally-generated funds, or personal savings. They later look to grants or financing from government agencies, financing from cooperatives, and financing from banks, development finance institution - DFIs (e.g. SME Bank, Agrobank), or micro credit institutions (e.g. TEKUN, Amanah Ikhtiar Malaysia).

Interestingly, Indians were found to utilise all types of finance at each stage of the business life-cycle. The only difference is that, they Indian managers used more internal sources of capital for initial funding as well as funding at the mature stage. They used more debt financing during the growing stage of the business.

In addition, the findings show that Chinese and Indian managers used less government loans or grants compared to their Malay counterparts. The higher concentration on Bumiputra<sup>22</sup> finance by the Malaysian government may be the result of this supply-side effect. Two interviewees had commented concerning this issue:

*“My financing choice is quite limited, especially the sources from the government. It is because most of the financial sources are only limited for*

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<sup>22</sup> Bumiputra is the indigenous group in Malaysia which mostly consists of Malays.

*Bumiputra. I mean Malays only.*” [Owner-manager D, Hardware and Painting, Chinese]

*“Due to the fact that most of the external finance is only available for Bumiputra, it’s hard for me to find an external finance.”* [Owner-manager C, Bakery and Cakes, Indian]

Based on the majority of opinions, it can be concluded that, the ethnicity of the owner influences the capital structure of the business. This finding confirms previous findings such as the study of Smallbone et al. (2003), Deakin et al. (2007), and Robb and Fairlie (2007).

#### **6.3.4 Relationships and networking**

The findings suggest that the capital structure of the firm is also influenced by agency relationships (Jensen and Meckling, 1976) with lenders and creditors, as one of the interviewees pointed out:

*“In a business, you have to know a lot of people. If possible, try to build a strong relationship with everybody especially with your supplier, lender, or funder. This is because, when they feel comfortable with us and trust us, then it can ease us in handling our business. For example, when the bank manager has trust in us, the approval for the loan application would be smooth as there is less bureaucratic. One of the ways to increase the trust of the lenders is that, you invite them to visit your premise. That’s what I did.”* [Owner-manager N, Textile and Clothes]

Previous studies confirmed that, the closer the relationship between the lender or supplier, the lower the difficulty in raising external finance (Scott, 2006; Saleh and Ndubisi, 2006; Nguyen and Ramachandran, 2006). This preliminary study also discovered that bank finance becomes the most favourable external finance for the firms. Most of them depend totally on the support or advice of one particular bank (Howcroft and Beckett, 1993). They have more confidence in bank whom they have a long-

standing relationship (Howcroft and Beckett, 1993). Owner-managers A,C,H,J,S, and T believe that if they build a good relationship, they will receive better service, will be offered a better financial package, and will indirectly ease them in obtaining loans.

Owner-managers C,G,E,H,J,M,S,T, and X commented on the issues related to obtaining credit from suppliers. As firms grow and mature, their relationships with suppliers and creditors become stronger (Petersen and Rajan, 1994; Cole et al., 2004). This situation may make it easier for firms to take on credit (Nguyen and Ramachandran, 2006; Newman et al., 2011). According to Nguyen and Ramachandran (2006), SME's owners strengthen their networks with suppliers through building a long-term relationship with them, paying them promptly, visiting or offering personal greetings to them and by being a regular client. This is confirmed in this study as well.

*“Wide networking means you know somebody in some place. In my case, it is between my firm and creditors. It can be built by being a regular customer, paying in-time, or visiting their firms (I mean suppliers) regularly. Sometimes, I also gave some gifts to them; for example during Chinese New Year or on special days such as birthday.”* [Owner-manager E, Handbag Designer]

*“One of my suppliers is my cousin. Here, I can see different treatments that I've received compared to other suppliers.”* [Owner-manager J, Cosmetic Producer]

Interviewees also mentioned that instead of building a strong relationship with banks, other financial institutions or suppliers, they also need to have a good relationship with government agencies such as MARA<sup>23</sup>, SME Corp. Malaysia<sup>24</sup>, and CGC<sup>25</sup>. Failure to establish a good personal relationship with government agencies may reduce the chances of the firms to obtain external finance. For example, owner-manager X (the owner of a

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<sup>23</sup> The Majlis Amanah Rakyat (MARA) was established “to aid, train, and guide Bumiputra in the areas of business and industry” ([www.mara.gov.my](http://www.mara.gov.my))

<sup>24</sup> Small and Medium Enterprise Corporation Malaysia (SME Corp. Malaysia) “is the central point of reference for information and advisory services for all SMEs in Malaysia” ([www.smeCorp.gov.my](http://www.smeCorp.gov.my))

<sup>25</sup> Credit Guarantee Corporation (CGC) was formed “to assist SMEs that have no track record or collateral, or inadequate collateral, to obtain credit facilities from financial institutions by providing guarantee cover for such facilities” ([www.iguarantee.com.my](http://www.iguarantee.com.my))



Printing Service) specified that a lack of required support networks caused her being failed to obtain a grant from the government for a very profitable project which is related to the East Coast Economic Region (ECER)<sup>26</sup>.

Some interviewees considered neither relationship nor networking to be important factors which influenced their capital structure. For example, Owner-manager L stated that:

*“Like I said earlier, for me, whatever you want to use depends on what you plan to achieve. For instance, if you plan to expand your business and need more capital, then you will look for an external fund. No matter how close or how poor your relationship with the lender, you will try to get the fund. But of course, your business performance must be good.”* [Wholesale and Retail]

However, based on majority opinions, it can be concluded that there is an association between building relationships and networking with capital structure decisions. The items that define ‘relationship’ as well as ‘networking’ factors are mostly similar as shown by the previous studies of Wu (2001), Nguyen and Ramachandran (2006) and Newman (2010). Table 6.2 presents the clusters reflecting the factors of relationships and networking which were identified during this preliminary study.

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<sup>26</sup>ECER is one of the main economic regions in Malaysia (see Chapter 4).

**Table 6.2 Relationships and networking**

<b>Relationship</b>	<b>Networking</b>
<ul style="list-style-type: none"> <li>• Close relationship with lender/supplier</li> <li>• Duration of relationship with lender/supplier</li> <li>• Review relationship with lender/supplier on a regular basis</li> <li>• Review procedures in getting credits</li> <li>• Send report to lender/supplier on a regular basis</li> <li>• Provide data to lender/supplier when requested</li> </ul>	<ul style="list-style-type: none"> <li>• Be a regular client</li> <li>• Pay on time</li> <li>• Visit supplier/friends/relatives on regular basis</li> <li>• Offer personal greetings to lender/suppliers</li> <li>• Lenders/suppliers are managed by family members or friends</li> </ul>

### **6.3.5 Objectives and goals**

The findings also revealed that the capital structure of the firm is related to the objectives and goals of the firm. It is significant to note that all the interviewees in this preliminary study are the owners of their own firms. Thus, their business objectives may become mixed up with their own personal aims. Owner-managers A,B,C,F,J,K,Q, and V pointed that, other than aiming to make money, their capital structure decisions are also affected by their personal ways of life. If the business can offer more profit for them or the firm, through debt financing, they will utilise the debt and vice versa.

*“I’m doing business to change my lifestyle to be better and to make money. When I want to make a decision regarding financing, I will make sure that it is in line with my objectives and planning. For example, during the third year of business, when my firm introduced a new cosmetic product, there was one investor who wanted to invest money into my firm. Since the offer was very interesting, I then accepted the offer and use the finance from a private investor for that particular product.”* [Owner-manager J, Cosmetic Producer]

Other comments (owner-managers E,G,O,S,T, and U) are concerned with the objective of applying knowledge and skills. It is common for owner-managers to have businesses

in which he/she has knowledge and experience. When he/she has experience, he/she would be more confident, which indirectly helps him/her in obtaining funds from outsiders. As one of the interviewees pointed out:

*“Previously, I was an entrepreneurship teacher. I used to assist my students in doing small businesses. After retirement, I started this business because I wanted to apply all knowledge and skills that I have. I used only internal sources of finance in running this business, except in the third year of this business, I started to borrow some money from a bank, but I’ve already paid it all for less than a year.”* [Owner-manager O, the owner of a Business Consulting, Chinese]

Nevertheless, owner-managers L,U, and V considered that, since they know what they are doing, they will try to avoid utilising external funds. Most of them prefer to start small and expand the businesses gradually, by using their own money or retained earnings. Some interviewees pointed out that their capital structures depend on the objective of a business expansion; whether to continue with internal financing or to use external financing.

*“I would use whatever sources available for me, regardless of internal or external. As long as I can expand my business, I’ll use it. If by raising funds from debt financing is the only way for the firm to raise profit, I’ll use it.”* [Owner-manager M, Wholesale and Retail]

Another objective that reflected the financing decision which was identified in this study was the desire to maintain control (Dreux, 1990; Neubauer and Lank, 1998). Entrepreneurs, who aim to maintain control or prefer to be independent, tend to finance internally (Hutchinson 1995). Other than that, there were a few interviewees who relate this items (i.e. ‘maintain control’) with a ‘family tradition’. According to Ward (1987), self-defined or self-related goals are often reflected in a high degree of striving for autonomy in terms of financing. Generally, if the owner-managers aim to pass the business onto the next generation, they will try to maintain control, which will encourage them to use less external finance, especially external equity. This issue was highlighted by owner-managers Q and J:

*“Business is something like a compulsory job for our family since my late grandfather. This particular business was started by my father. All my siblings are working together. We all have our shares in this company. We will try our best to maintain the share of this company. Therefore, we will avoid using any funds which will make us lose our control of the business.”* [Owner-manager Q, Textile and Clothes]

*“This business is a family business. Every decision that I made was based on unanimous agreement of all family members. For your information, I started managing this firm when it was already at the maturity stage...from start-up until today; this firm only used internal funds. Only once the firm borrowed money from the bank and that loan has already been paid in full.”* [Owner-manager J, Cosmetic producer]

The majority of the interviewees considered that their firms’ capital structure was determined by the objective to increase business value. This supports the findings of previous studies (see Read, 1998; Romano et al., 2000). Comment by owner-manager A illustrates this:

*“I will try to maintain my business value as high as possible. If it is necessary for me to borrow money in maintaining my business value, I’ll definitely borrow it.”* [Owner-manager A, Bakery and cakes]

Other interviewees stated that they favour zero debt for the firm:

*“I think it depends on where you want to go with the business. Like me, I prefer being cash positive and having less call from the bank. That’s why I’ll try my best to pay off the debts as most as possible.”* [Owner-manager E, Handbag Designer]

Based on the majority of opinions, it can be concluded that the capital structure of the business is associated with the objectives and goals of the owner-manager. The conclusions were used in the development of the quantitative survey and this study will

examine the objectives of owner-managers as shown in Table 6.3. The findings confirm prior studies that reported a link between business objectives and capital structure (Boyer and Roth, 1978; Barton and Gordon, 1987; Read, 1998; Romano et al., 2000).

**Table 6.3 Objectives and goals**

<ul style="list-style-type: none"> <li>• Increase business value</li> <li>• Accumulate wealth</li> <li>• Improve owner’s lifestyle</li> <li>• Like the challenge</li> <li>• Maintain control</li> <li>• Fit around family commitments</li> <li>• Develop hobbies/skills</li> <li>• Repay borrowing</li> <li>• Pass onto next generation (family tradition)</li> <li>• Expand the firm</li> <li>• Provide jobs for family and friends</li> </ul>
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### 6.3.6 Business culture

Most of the interviewees (all apart from owner-managers B,I,M,T,U, and V) considered that the capital structure of the firm is also influenced by cultural factors. When the owners aim towards a harmonious relationship and preservation of public image, they will look for internal financial sources and try to avoid using external sources. These issues are highlighted in the following quotations.

*“I emphasised highly on the firm’s public image. This indirectly encourages me to maintain using internal finances and vice versa.”* [Owner-manager R, Bakery and cake]

*“I have 32 workers from different social background, different ethnicity, and different religious beliefs. I should really care about their needs and maintain harmonious working relationship as well as social harmony. I’ll try to avoid using large amount of external debt and will never involve in any external equity financing.”* [Owner-manager Q, Textile and clothes]

This finding is congruent with those of previous studies such as a study of Chui et al. (2002). Chui et al. (2002) which found that firms in a country where the national culture places greater importance on harmonious working relationships and social harmony, security, conformity, tradition, as well as preserving public image; utilised less debt in their capital structure. Schwartz (1994) defined these characteristic as conservatism. According to Schwartz (1994), conservatism is related to employees and the owners who aim towards harmonious relationship, preservation of public image, or uncertainty avoidance. This cultural factor has also been recognised as a key factor in other studies (see Chui et al., 2002; Licht et al., 2007; Breuer and Salzmann, 2009; Shao et al., 2010; Siegel, Licht, and Schwartz, 2011; Li et al., 2011).

Some interviewees mentioned that, when owners care about their own performance, they would try to apply a strict policy for the firm, choose safer projects and this approach would automatically utilise less debts. For example, two of the interviewees explained:

*“I’m very particular about the control of the firm. Thus, I prefer to use less debt finance.”* [Owner-manager X, Printing service]

*“My previous business has been less successful that drives me to come up with new policy. Now, the company apply more aggressive policy regarding financing. I just finance internally in order to play safe.”* [Owner-manager L, Wholesale and retail]

This has been confirmed in the previous studies such as a study of Schwartz (1994). Schwartz (1994) defined these characteristics as mastery; which is related with individual success and individual actions or decisions, which aim at individual satisfaction. These items have been considered to represent the mastery factor in numerous studies as well (for example, Chui et al., 2002; Licht et al., 2007; Breuer and Salzmann, 2008; Shao et al., 2010; Siegel et al., 2011; Li et al., 2011).

Based on the majority of opinions, it can be concluded that, the capital structure of the business is associated with the culture factor. Therefore, regarding the development of

the quantitative survey for the cultural factor, this study examines the cultural in terms of conservatism and mastery as defined by Schwartz (1994). Table 6.4 summarises the items of the cultural factor that have been revealed from the preliminary study.

**Table 6.4 Business culture**

<b>Conservatism</b>	<b>Mastery</b>
<ul style="list-style-type: none"> <li>• Regulations inform employees what is expected from them.</li> <li>• Standard operating procedures are helpful to employees on job.</li> <li>• Harmonious working relationships are important for the company</li> <li>• Instructions for operations are important for employees on job.</li> <li>• Preserving public image is one of the main policies for the company</li> </ul>	<ul style="list-style-type: none"> <li>• Owner's success is more important than the group's* success</li> <li>• An aggressive financing policy is important for the firm</li> <li>• Owner's interest is more important than the group's* interests</li> <li>• Achievement of owner's goals is more important for the company</li> </ul>

\*Note: Group means owners and employees

## **6.4 Management performance**

This section discusses the interview findings relating to the influence of profitability, assets structure, and business planning on the capital structure of the business.

### **6.4.1 Profitability**

All interviewees agreed that firm's capital structure is also determined by firm's profitability; regardless of the sign of the association (i.e. inverse or positive). This can be explained by pecking order theory, which suggests a link between the profitability and its capital structure (Panno, 2003; Newman et al., 2011). Some interviewees stated that firms with higher profits will try to utilise internal funds before looking for external funds and this is confirmed by the literature, for example, Psillaki and Daskalakis (2009), Chakraborty (2010) and Ibrahim et al. (2011). Alternatively, firms with low profitability will utilise more external sources in order to cover capital shortfalls

(Hovakimian et al., 2004). This is consistent with the statement of one of the interviewees.

*“During early 1990, this business had a problem and incurred losses. The business was unable to be financed by using internal funds; and because of that, I’ve applied for a government loan and also a bank loan. Luckily, my application for government loan had been approved. I used it to cover the losses and used it as a capital. When the business is stable, I just maintained using retained earnings and other internal funds.”* [Owner-manager S, Tailoring and Dry Cleaning]

These preliminary findings confirm the previous findings in the literature (see Van der Wijst and Thurik, 1993; Chittenden et al., 1996; Jordan et al., 1998; Wiwattanakantang, 1999; Michaelas et al., 1999; Bevan and Danbolt, 2002; Panno, 2003; Hovakimian et al., 2004; Sogorb-Mira, 2005; Rocca et al., 2009; Newman et al., 2011; Ibrahim et al., 2011). In contrast, some interviewees voiced different views by stating that when firms are profitable, they favour using debt as they can be benefited through the tax shield. This is consistent with trade-off theory (Ooi, 1999). This positive association is in line with previous studies (Frank and Goyal, 2003; Klapper et al., 2006; Qian et al., 2009; Degryse et al., 2009).

The owner-manager N emphasised the availability of funds required in time of need. He explained that some firms may prefer to borrow but lenders may only be willing to provide finance to stable and profitable firms. This supports the findings of Fu et al. (2002), Degryse and Ongena (2001), Deloof (2003), Giannetti and Ongena (2009).

Some interviewees (owner-managers D,O, and V) maintained that their financing decisions have nothing to do with profitability and they will always avoid external sources of finance.

*“My business principle is simple. Use whatever you have and plan something that is compatible with what you have. So, whether my firm obtains gain or*



*suffers loss, I'd only use internal sources of financing.*" [Owner-manager V, Printing Service]

These preliminary findings suggest that there is a relationship between profitability and capital structure of small firms in Malaysia, which supports most of the previous studies discussed so far.

#### **6.4.2 Asset structure**

Almost two-thirds of the interviewees emphasised the importance of collateral in increasing the chances of obtaining external funds. Interviewees mentioned that other than seeking to obtain sufficient information for monitoring the progress and behaviour of the firm, a lender also demands collateral as a condition for a loan advance. This issue had been highlighted in the following quotations.

*"My first-time application for a bank loan was rejected. The reason given by the bank was because my firm provided insufficient security. At that time, I only had my skills as a baker instead of tangible asset. Surely, that was not good enough to secure the loans."* [Owner-manager C, Bakery and Cakes]

*"When I started this business, I borrowed money from the bank. I secured 10% out of the total loan that I've applied for, as a security to the bank. During my third year of the business operation, again, I financed by using a bank loan. But this time, I've provided my house plus business fixed assets as the securities."* [Owner-manager T, Car Trading and Insurance Services]

These preliminary findings are consistent with the previous studies (see Storey, 1994; Berger and Udell, 1998). Interviewees also considered that firms that have a greater amount of tangible assets will have a greater borrowing capacity (Cassar, 2002). Thus, it becomes essential for firms to keep their assets, especially their tangible assets. For example, owner-manager L mentioned that:

*“I found that it was difficult for me to borrow from a bank due to inadequate collateral value of assets and unstable cash flows of my firm. Thus, I use only internal sources of fund.” [Wholesale and retail]*

This is in conformity with the study of Cosh and Hughes (1994) on companies in the UK. They report that, even though there were some firms which used the personal assets of directors for collateral purposes, most firms still prefer to utilise their own money when they have inadequate business collateral assets. This preliminary finding also supports some other previous studies (for example, Marsh, 1982; Van der Wijst and Thurik, 1993; Rajan and Zingales, 1995; Michaelas, 1999; Hall et al. 2004; Sogorb-Mira, 2005; Ortqvist et al., 2006; Klapper et al., 2006; Zou and Xiao, 2006; Vos et al., 2007; Frank and Goyal, 2009; Bany-Ariffin et al., 2010). In addition, some interviewees (owner-managers B,F,L,Q, and T) mentioned the importance of tangible assets in the case of bankruptcy. They pointed out that the bank can seize the assets of the firm in the case of bankruptcy which indirectly prevents the firm from being liquidated. Thus, firms having fixed assets would use leverage more actively because of fewer chances of bankruptcy (see Shah and Khan, 2007; Chakraborty, 2010).

Another benefit of tangible assets is that the higher the tangible assets, the more debt becomes available to small firms at a lower cost (see Jensen and Meckling, 1976; Harris and Raviv, 1990). This will indirectly reduce the risk borne by the lenders and increase the firms' debt level since they could use their tangible assets as collateral for the debt. The interviewees added that the need for fixed assets depends on the type of business and the business life-cycle. Some businesses do not require so many assets, while others need more assets. Interviewees also commented that firms will secure the financing using fixed assets only for the long-term business activities. Alternatively, firms will use trade credit or bank overdraft for the short-term business activities.

Thus, the preliminary findings suggest that there is a relationship between asset tangibility and capital structure while confirms most of the findings of previous studies as discussed above.

### 6.4.3 Business planning

Interviewees stated that a business plan is prepared to enable entrepreneurs to view and evaluate the proposed business venture, to analyse and evaluate the practicability of a proposed business, and to allocate business resources effectively. Interviewees mentioned that investors or financial institutions need to fully understand the business before making any investment decision. The presence of a business plan will assist potential investors or lenders in analysing and evaluating the viability of the project and in deciding whether it will finance or not the proposed project. As one of the interviewees explained:

*“I used a business plan in obtaining a loan from a commercial bank. It was easy for me to get an approval as the availability of a business plan can boost the confidence of interested parties; i.e. in my case is a bank, to finance the cost of the venture.”*[Owner-manager S, Tailoring and dry cleaning]

It is common for small owner-managers to use a formal business plan to acquire external finance such as bank loans, at a start-up (Berger and Udell 1998) or post start-up stage. The importance of a proper business plan in obtaining loan had been highlighted by Haron and Shanmugam (1994) in their study on a loan application in Malaysia. Haron and Shanmugam (1994) assert that the possible reasons leading to the rejection of a loan application are; lack of knowledge of capital management and overall business management, and lack of a proper business plan.

Owner-managers F,P, and V offered different opinions regarding business plans. They stated that entrepreneurs need a business plan to enable him/her to fully understand the proposed business. This is because, by having a business plan, entrepreneurs can determine in advance the investment or financing decisions for their proposed business or product. One of the interviewees pointed out the above points.

*“Even though I only use internal funds, since start-up until today, I still prepare a business plan. I believe that, when you have a business plan, it can ease you in planning your business financially or non-financially. I prepare a plan for*

*business activities, both short-term and long-term plans. These plans include all future plans for the business such as target sales, target profit, production strategies, marketing strategies, etc.” [Owner-manager F, Construction Company]*

Another significant characteristic related to business planning was a formal management structure. This characteristic was highlighted by nine interviewees. They believe that a good management structure could facilitate the financing decisions of the firms. A proper structure represents a proper management of the firm; hence increasing the confidence level of the lender or investor forgiving financing facilities to the firm. Some interviewees stated that management structure can facilitate business activities. Since everyone in the company knows their job description, it will automatically structure the management of the business. Thus, it will indirectly affect the financing decision of the firm. For example, Entrepreneur M explained that:

*“By having a proper structure of management, it can facilitate you in obtaining a fund from the lender. As for my business, when I want to find a private investor for my company, one of the characteristics that the investor looked at was my firm’s management structure.” [Owner-manager M, Wholesale and Retail]*

Some interviewees stated that their capital structure is also influenced by the preparation of a strategic plan. However, the focus on strategic plans differed between ethnic groups in a number of ways. Malay interviewees were more concerned to have a long-term strategic plan. In contrast, Indians appeared to be more focused on a short-term strategic plan, while Chinese interviewees wanted both long-term and short-term strategic plans. It was found that those firms with a proper strategic plan prefer to utilise more external funds since they can easily access or obtain the external finances (Romano et al., 2000). The main reason was because lenders felt convinced and confident because of the information given. This relationship has been highlighted in the following quotation:

*“A business plan is required especially during a start-up stage; while a strategic plan is needed for every business stage. Like in my case, I can easily obtain a loan, as I mentioned earlier, during a growth stage. The preparation of strategic*

*plan also played a big role here. The bank felt confident and informative since they know my long-term and short-term strategic plans.” [Owner-manager D, Hardware and Painting]*

The above three characteristics (i.e. business plan, strategic plan, management structure) had been highlighted in the study of Romano et al. (2000) as well. In addition to those three characteristics, more than half of the interviewees mentioned that a proper preparation of a business performance appraisal (Townley, 1997) also influenced their financing decision. It was because, when the firms are able to prepare such information, lenders would have more confidence in them. Interviewees also mentioned that firms may use this type of information to evaluate the current performance of the firm and to identify any financial problems faced by the firm. Hence, firms would be able to choose the best capital structure for them.

The preliminary findings suggest that there is a relationship between asset tangibility and capital structure while it also confirms most of the findings of previous studies as discussed above. A clear business plan, strategic plan, management structure and performance appraisal are essential for firms' financing decisions and may increase the validity and reliability of the firms to outsiders. Insufficient information from the firm will indirectly increase the opacity of the firm; while an adequate amount of information from the firm may make it easier for the firm to obtain outside financing, such as in the approval process of the loan (Chirinko and Singha, 2000; Graham and Harvey, 2001). Table 6.5 presents the clusters of business planning and examples of behaviours for each cluster which were identified during the preliminary study.

**Table 6.5 Business planning**

<b>Cluster</b>	<b>Examples of behaviours</b>
Business plan	<ul style="list-style-type: none"><li>• Early or start up plan</li><li>• Expected cash flow statement</li><li>• Expected income</li><li>• Expected performance</li><li>• Financial analysis</li><li>• Marketing plan</li></ul>
Strategic plan	<ul style="list-style-type: none"><li>• Long-term strategic plan</li><li>• Short-term strategic plan</li><li>• Clear strategic plan (informative)</li><li>• Logic and achievable strategic plan</li></ul>
Management structure	<ul style="list-style-type: none"><li>• Reports of all duties</li><li>• Task schedule</li></ul>
Business performance appraisal	<ul style="list-style-type: none"><li>• Actual cash flow statement</li><li>• Actual income</li><li>• Actual performance</li></ul>

## **6.5 Business environment**

This section discusses the interview findings relating to the influence of the business environment on the capital structure of the business. The extant literature reports conflicting results in relation to the effect of macroeconomic factors on the capital structure. For instance, Hatzinikolaou et al. (2002) report a negative relationship between inflation rates and capital structure; Sener (1989) and Taggart (1995) report a positive relationship; and Mutenheri and Green (2002) found no significant relationship.

Economic recession also influence the capital structure of the firms. Michaelas et al. (1999) report that firms rely more on short-term debt in response to liquidity problems during a period of economic recession in the UK. This also seems to have been a problem for some of the interviewees in Malaysia:

*“Last year, the performance of my firm was unstable. It may be due to the global economic crisis. Demand for my product decreased dramatically. So, I couldn’t totally depend on my own money or internal funds. Thus, I had to finance using a government loan.”*[Owner-manager J, Cosmetic Producer]

*“Sales for the last year were quite low due to a widespread recession problem. However, I didn’t apply for a bank loan because the interest rate was too high at that time.”* [Owner-manager D, Hardware and Painting]

Some interviewees emphasised issues related to the legal system in Malaysia, especially concerning corruption. They stated that firms will use more short-term debt compared to equity, when the legal system has less integrity. La Porta et al. (1998) also found slightly similar findings by asserting that the laws of the country and their quality of enforcement appeared to be among the determinants of a firm’s capital structure.

One of the interviewees pointed out the issue of tax shields. This preliminary finding supports previous studies who reported that macroeconomic conditions such as economic system, legal and tax environment (Gleason et al., 2000; Korajczyk et al., 2003) and technological capabilities (Gleason et al., 2000) have an impact of firms’ capital structure. The following quotation illustrates this issue.

*“My financing decisions also depend on the rules and regulation of the government. For instance, when the government increased the tax rate for medium size firm, I’ve borrowed quite a big amount of loan. My reason was to be benefited through a high percentage of tax shields.”* [Owner-manager Q, Textile and Clothes]

Some interviewees highlighted the effect of social pressure<sup>27</sup> on their capital structure. They stated that one’s opinion might be influenced by others. This confirmed the findings of Asch (1955) who found that social influences shape people’s beliefs, opinions, and practices. Interviewees also pointed out that their financing decisions may be influenced by the pressure from peers or competitors. Peer pressure can be a positive influence on the firm as it can be an effective collateral substitute (Mosele, 1996; Karlan et al., 2009). On the other hand, pressure from competitors can be either positively or negatively affect the firm. The following quotations provide the examples.

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<sup>27</sup> Social pressure means a pressure from competitors, society, business partners, close friends and families; which may influence the financing decision of the owner.

*“High pressure from my competitors also influenced my financing choices. In order to compete with them (i.e. competitors), I gave 10% of the company’s ownership to a private investor. I planned to produce a new facial-related product which required a big amount of capital.”*[Owner-manager J, Cosmetic Producer]

*“As everyone knows that this type of business is mostly owned by Chinese. Therefore, it is quite pressure for me to keep afloat in this business. But I’m happy and I’ll try my best to maintain and survive in this business.* [Owner-manager K, Hardware and Painting]

Based on this preliminary study, the researcher summarised environmental factors in the Table 6.6. The items are slightly similar to the previous literature such as Naman and Slevin (1993), Covin et al. (2000), and Zhengfei and Kangtao (2004).

**Table 6.6 Business environment**

<ul style="list-style-type: none"><li>• It is easy to keep afloat in this industry</li><li>• There is little threat to the survival and well-being of my business</li><li>• There are rich investments and marketing opportunities</li><li>• My business must frequently change its marketing practices</li><li>• One wrong decision could easily threaten the viability of my business</li><li>• The failure rate of businesses in this industry is high</li><li>• Social pressure could affect my business</li><li>• Strict government rules and regulation could hinder the viability of my business</li><li>• The survival of my business is highly dependent on the country’s economy</li></ul>
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## **6.6 Findings related with firm’s performance and dependent variables**

Based on the information gathered from the preliminary study (except owner-manager D), the financial information (including the financial performance) will be measured by the rate of change. This issue has been highlighted in the following quotation:



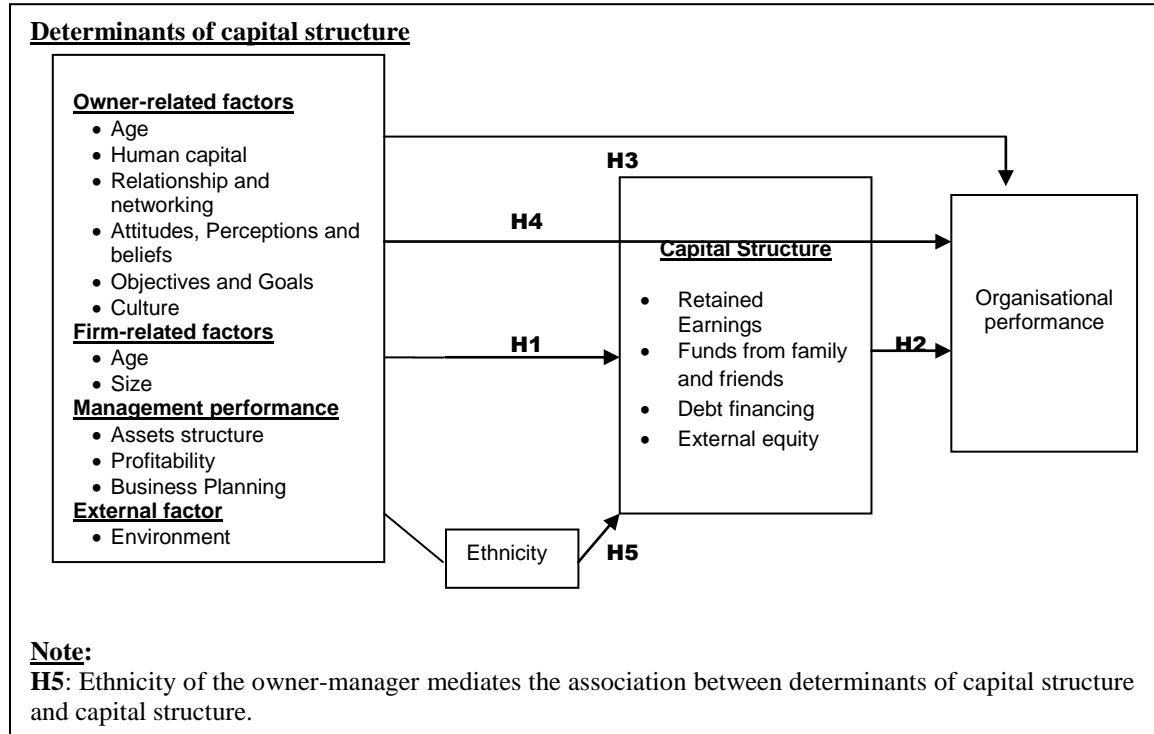
*“If you want to know about the financial statements of SMEs, you will never able to get the exact figure. This may be because they don’t trust you, or they really don’t know about the information that you requested for. Therefore, it would be better to ask them to provide the answer in range form. For example, range between 15% to 20%, or less than 15%, and so on.”* [Owner-manager Q, Textile and Clothes]

Another important finding from this preliminary study was concerning the measurement of capital structure. A majority of the interviewees refused to disclose the exact figures or portions of their financial capital. They suggested that the measurement should be in nominal form, which should be measured in terms of ‘used’ or ‘not used’. Based on the literature review and preliminary findings, the researcher decided to scale capital structure using dichotomous measurement.

## **6.7 Revised model**

The findings from this preliminary study were structured based on themes identified from the literature. A revised model of the determinants of capital structure and its consequences was developed on the basis of the preliminary study and literature reviews. One hypothesis concerning the moderating effect of ethnicity; on the relation between capital structure determinants and the capital structure was added in the model. In total, five main hypotheses will be used in the following analysis (in the main study) for hypotheses testing purposes. Below is the revised conceptual framework for the study.

**Figure 6.1 Revised conceptual framework**



## 6.8 Conclusions

There are a number of conclusions which can be drawn in relation to the research question addressed by the study. The question concerned the factors that affect the capital structure of firms. The results confirm the applicability of the existing model of Michaelas (1998), Romano et al. (2000), Chui et al. (2002), Nguyen and Ramachandran (2006), Mac an Bhaird and Lucey (2006), Newman et al. (2011) and some others. However, the existing models require modification since this current preliminary study had revealed some new items. This preliminary study emphasises two factors, namely the business environment and the owner’s attitude to debt, which received relatively little attention from previous scholars.

The findings of the preliminary study provide evidence of the universality of some of the Western-based theory relating to the determinants of capital structure. As aforementioned, this preliminary study aims to integrate the results of the preliminary

data into any amendment to the questionnaire intended for use in the subsequent main study and into the research framework that has been proposed in the previous chapter (Chapter 3).

As described in Chapter 4, the findings of the preliminary study were used to develop hypotheses for the main survey. The next chapter seeks to test the psychometric properties of the extended model of capital structure determinants, and to test the reliability and validity of the dependent and independent variables as well as the moderator. The next chapter presents the results of the main survey that relate to the capital structure of the sample firms.

## CHAPTER 7 RESULTS OF THE MAIN STUDY

### 7.1 Introduction

The findings from the preliminary study indicate that financial theories alone might not fully explain how SMEs in Malaysia are financed. Therefore, the main study took the form of a survey with the owner-managers of 384 SMEs to investigate the other factors that determine the financial structure of Malaysian SMEs. This chapter starts by presenting the results of an exploratory factor analysis, which identifies sets of interrelated variables, followed by the results of the associated reliability and validity tests. Finally, the logistic and other multiple regression analyses are presented, followed by a discussion of the results. The discussion is structured according to the main themes identified in the literature review (see Chapter 2). The final section draws conclusions.

### 7.2 Exploratory factor analysis

Exploratory factor analysis was performed since not all latent variables were taken from existing models. The variables were divided into four groups and the associated results are discussed below.

#### 7.2.1 Group 1: Goals and planning

This group contains 15 variables. Following the initial factor analysis, 'liked challenge' was deleted due to low communalities. A further three variables ('family tradition', 'fit around family commitment' and 'provide job to family and friends') were deleted due to cross-loading problems. The subsequent factor analysis resulted in a KMO measure of 0.780, which indicates a satisfactory 'middling' sample adequacy according to Kaiser (1974). Moreover, the Bartlett's test is significant ( $p \leq 0.01$ ), which supports the factorability of the correlation matrix, and the determinant of the correlation matrix was greater than 0.00001, which indicated that the multicollinearity is not a problem.

The principal component analysis in Table 7.1 is based on the varimax orthogonal method, which ensures that the factors are independent. Three factors with loadings above 0.5 are indicated in bold, which together explain 73% of the variance. All factors have eigenvalues greater than 1 and communalities above 0.50 which indicates high correlation between the variables.

**Table 7.1 Principal component analysis of goals and planning**

Variable	Item-to-total correlation	Factor 1 PLANNING ( $\alpha=0.961$ )	Factor 2 LIFEGOAL ( $\alpha=0.906$ )	Factor 3 COMGOAL ( $\alpha=0.634$ )	Communalities
Prepare a formal business plan	.899	<b>.904</b>	.259	.026	.888
Prepare a formal strategic long-term plan	.922	<b>.925</b>	.233	.045	.912
Prepare a formal management structure	.910	<b>.907</b>	.259	-.015	.890
Prepare a business performance appraisal	.886	<b>.897</b>	.250	-.009	.869
Accumulate wealth	.840	.272	<b>.830</b>	.023	.835
Improve lifestyle	.822	.313	<b>.840</b>	-.017	.828
Develop hobbies or skills	.774	.200	<b>.828</b>	-.042	.782
Maintain control	.531	.224	-.226	<b>.614</b>	.547
Expand the firm	.591	-.083	.113	<b>.855</b>	.750
Increase firm's value	.625	-.028	.028	<b>.782</b>	.613
Repay the borrowings	.424	.108	.255	<b>.555</b>	.614
<b>% of variance (73%)</b>		<b>32%</b>	<b>27.5%</b>	<b>13.5%</b>	

**Factor 1: Business planning (PLANNING)**

The first factor groups together four variables: ‘formal business plan’, ‘formal strategic plan’, ‘formal management structure’ and ‘business performance appraisal’. Such elements have been recognised as important financing factors in the literature (Romano et al., 2000). Factor 1 accounts for 32% of the variance and is named ‘Business planning’ (PLANNING).

**Factor 2: Lifestyle goals (LIFEGOAL)**

The second factor comprises three variables: ‘accumulating wealth’, ‘improving lifestyle’ and ‘developing hobbies or skills’. Such elements have been recognised as lifestyle goals in most firms in previous studies (Stanworth and Curran, 1976; Barton and Gordon, 1987; Petty and Bygrave, 1993; McMahon and Stanger, 1995; Dewhurst and Horobin, 1998; Romano et al., 2000; Burns, 2010). Factor 2 accounts for 27.5% of the variance and is named ‘Lifestyle goals’ (LIFEGOAL).

**Factor 3: Commercial goals (COMGOAL)**

The third factor groups together four variables: ‘maintaining control’, ‘expanding the firm’, ‘increasing business value’ and ‘repaying the borrowings’. Factor 3 accounts for 13.5% of the total variance and is named ‘Commercial goals’ (COMGOALS). This is consistent with Dewhurst and Horobin (1998), who found that the owners of small firms may have both commercial and lifestyle goals at some stages of the firm’s life-cycle. The variables in this factor have also been used in previous studies (Van der Wijst, 1989; Ang, 1992; Storey, 1994; Chaganti et al., 1995; Michaelas et al., 1999; Getz and Carlsen, 2000; Romano et al., 2000; Ou and Haynes, 2006; Vos et al., 2007).

The results of the reliability tests for PLANNING, LIFEGOAL and COMGOAL were satisfactory as they were greater than 0.50 (Nunnally and Bernstein, 1994). No variables were omitted from the subsequent analysis as the ‘Alpha if items are deleted’ was less than the overall reliability.

### 7.2.2 Group 2: Characteristics of the owner

During the preliminary study, some characteristics of the owner ('relationship', 'networking' and 'attitude to debt') were found to be important determinants of the financing decisions of the sample companies. This group contains 18 variables measuring the characteristics of the owner. Initial reliability tests were satisfactory for all variables (RELATION, NETWORK and ATTITUDE). To further examine the internal consistency, reliability was confirmed by the total correlation and Cronbach's alpha if the item is deleted. This led to two variables being omitted from the subsequent analysis ('provide data to lender/supplier when requested' and 'review services of lender/supplier on regular basis') as the results indicated that the reliability of RELATION would be increased by more than 0.787 if they were omitted. The subsequent reliability test for RELATION gives an improved Cronbach's alpha of 0.894. The internal consistency of NETWORK and ATTITUDE is significant at the 1% level and the item-to-total correlations are above the threshold value (0.35), which is satisfactory.

The results of the principal component analysis initially revealed three factors, but to enhance the factor solution, six variables were dropped. 'Consider hobbies of lender/supplier', 'send report to lender/supplier regularly', and 'pay on time' were deleted because of cross-loading, while 'invite lender/supplier to visit firm', 'visit lender/supplier regularly', and 'lender/suppliers are family or friends' were excluded because their communality values were less than 0.50. Table 7.2 presents the revised analysis, which reveals three factors with loadings above 0.5, indicated in bold. The factors were named 'relationship', 'networking' and 'attitudes to debt'. Together, these factors explain 62% of the variance and all have eigenvalues greater than 1. All communalities are higher than 0.5 and the KMO values are above the minimum of 0.5 (Kaiser, 1974). The result of Barlett's test is significant at ( $p \leq 0.001$ ), which supports the factorability of the correlation matrix. The determinant of the correlation matrix was 0.00001, which indicates that the multicollinearity is not a problem.

**Table 7.2 Principal component analysis for owner-related factors**

Variable	Item-to-total correlation	RELATION	NETWORK	ATTITUDE	Communalities
		( $\alpha=0.894$ )	( $\alpha=0.85$ )	( $\alpha=0.817$ )	
Close relationship with lender/ supplier	.602	<b>.825</b>	.083	.131	.899
Duration of relationship with lender/supplier	.603	<b>.904</b>	.077	.065	.883
Regular review of relationship with lender/supplier	.730	<b>.909</b>	.269	-.103	.866
Regular review of procedures in getting credits	.790	<b>.852</b>	.246	.049	.855
Be regular clients to the suppliers	.877	.127	<b>.963</b>	.049	.824
Personal greetings to lender/supplier	.877	.046	<b>.965</b>	.142	.882
Culture norms	.734	.102	.274	<b>.805</b>	.824
Belief in religion	.622	.010	.270	<b>.721</b>	.797
Way of life	.795	.106	.208	<b>.872</b>	.865
Financing attitude	.501	.175	.272	<b>.715</b>	.793
<b>% of variance (61.38%)</b>		<b>25.386</b>	<b>20.185</b>	<b>15.812</b>	

**Factor 1: Relationship (RELATION)**

The first factor groups together four variables: ‘duration of relationship of the firm with lender or supplier’, ‘close relationship with lender or supplier’, ‘regular review of the firm’s relationship with the lender or supplier’, and ‘regular review of procedures in getting credits’. Factor 1 accounts for 26% of the total variance and is named ‘relationship’ (RELATION). These variables have been recognised as important financing factors in previous studies (Pfeffer and Salancik, 1978; Donnelly et al., 1985; Petersen and Rajan, 1994; Nguyen and Ramachandran, 2006).



### **Factor 2: Networking (NETWORK)**

The second factor combines two variables: ‘be regular clients’ and ‘offer personal greetings to lender/supplier’. These variables have been recognised as important elements of networking in previous research (Yeung and Tung, 1996; Holmlund and Tornroos, 1997; McMillan and Woodruff, 1999; Nguyen and Ramachandran, 2006). Factor 2 accounts for 20% of the variance and is named ‘networking’ (NETWORKING).

### **Factor 3: Attitude to debt (ATTITUDE)**

The third factor groups four variables: ‘way of life’, ‘culture norms’, ‘religious beliefs’ and ‘financing attitudes’. Factor 3 accounts for 16% of the variance and is named ‘attitude to debt’ (ATTITUDE). Previous research shows that these variables enhance the understanding of the influence of owner’s perceptions and beliefs on financing decisions (Michaeles et al., 1998; Chui et al., 2002).

### **7.2.3 Group 3: Cultural dimensions**

This group contains ten variables. To enhance the factor solution, ‘importance of details of job requirements and instructions’ was omitted from the subsequent analysis as the communality value is less than 0.5. Table 7.3 shows the results for the remaining nine variables. The solution reveals two factors with loadings above 0.5 indicated in bold, which together explain 72% of the variance. The communality values are above 0.5 and eigenvalues over Kaiser’s criterion of 1. Cronbach’s alpha for conservatism and mastery was 0.872 and 0.891 respectively and the item-to-total correlations for both constructs were above 0.5. The KMO measure (0.883) verifies the sampling adequacy, which is considered meritorious (Kaiser, 1974).

**Table 7.3 Principal component analysis for cultural dimensions**

Variables	Item-to-total correlation	CONSERV ( $\alpha=0.872$ )	MASTERY ( $\alpha=0.891$ )	Communities
Regulations inform employees what is expected from them.	.623	<b>.713</b>	.003	.543
Standard operating procedures are helpful to employees on job.	.812	<b>.873</b>	-.034	.791
Harmonious working relationship and social harmony are important for the company.	.821	<b>.911</b>	-.043	.821
Instructions for operations are important for employees on job.	.865	<b>.924</b>	-.074	.879
Preserving public image is one of the main policies for the company.	.688	<b>.722</b>	-.055	.517
Owner's success is more important than employees' success.	.810	-.013	<b>.892</b>	.795
An aggressive financing policy is important for the firm.	.812	.012	<b>.902</b>	.829
Owner's interest is more important than employees' interests.	.857	-.050	<b>.836</b>	.890
Achievement of owner's goals is more important for the company.	.622	-.107	<b>.774</b>	.595
<b>% of variance (71.63%)</b>		<b>39.34%</b>	<b>32.29%</b>	

**Factor 1: Conservatism (CONSERV)**

The first factor combines five variables: 'rules and regulations are important to inform employees what the organisation expects from them', 'standard operating procedures are helpful to employees on job', 'harmonious working relationship and social harmony are important for the company', 'instructions for operations are important for employees on job', and 'preserving public image is one of the main policies for the company'. Following Schwartz (1994), this factor has been labelled 'conservatism' and these variables have been recognised as elements of culture in previous studies (Chui et al., 2002; Licht et al., 2007; Breuer and Salzmann, 2009; Shao et al., 2010; Li et al., 2011; Siegel et al., 2011). This factor explains 39% of the variance.

## **Factor 2: Mastery (MASTERY)**

The second factor contains four variables: ‘owner’s success is more important than group success’, ‘an aggressive financing policy is important for the firm’, ‘owner’s interest is more important than group interests’ and ‘achievement of owner’s goals is more important for the company’. These variables are concerned with individual success, actions or decisions which relate to individual satisfaction. When the owners care about their own performance, they try to apply strict policies for the firm, choose safer projects and automatically utilise less debts (Hirshleifer and Thakor, 1989). These variables are considered to represent ‘mastery’ as defined by Schwartz (1994) and have been recognised as a key culture factor in previous studies (Chui et al., 2002; Licht et al., 2007; Breuer and Salzman, 2009; Shao et al., 2010; Siegel et al., 2011; Li et al., 2011). This factor explains 32% of the variance.

### **7.2.4 Group 4: Business environment**

Previous research suggests that the determinants of financial structure of SMEs are concerned with external as well as internal factors (Michaelas et al., 1998). In this study, the external factor has been identified as the business environment. In an effort to identify the important elements in the business environment that influence the owners’ financing decisions, a principle components analysis was conducted on nine variables. To enhance the factor solution, two variables were dropped: ‘Failure rate of businesses in this industry is high’ because the communality values are less than 0.5 and ‘one wrong decision could easily threaten the viability of my business’ because it loads for more than 0.35 on each factor or is multi-loaded. Table 7.4 presents the results of the revised analysis. Together, these factors explain 67% of the variance and all have eigenvalues greater than 1. All communalities were higher than 0.5 which is satisfactory. The KMO measure shows an adequate value of 0.694 and the result of the Bartlett’s test is significant ( $p \leq 0.01$ ), which indicates that the correlation between variables is sufficient for the analysis. The determinant of the correlation matrix was greater than 0.00001, which indicates that the multicollinearity is not a problem.

**Table 7.4 Principal component analysis for environmental factors**

<b>Variables</b>	<b>Item-total-Correlation</b>	<b>STABLEENVT</b>	<b>EXENVT</b>	<b>Communalities</b>
		<b>(<math>\alpha=0.854</math>)</b>	<b>(<math>\alpha=0.604</math>)</b>	
It is easy to keep afloat in this industry.	.858	<b>.675</b>	.266	.526
There is little threat to the well being of my business.	.704	<b>.939</b>	.018	.882
There are rich investment and marketing opportunities.	.738	<b>.824</b>	-.396	.837
My business must regularly change its marketing practices.	.607	<b>.886</b>	.012	.785
High social pressure from the society could affect my business.	.301	-.001	<b>.535</b>	.512
Strict government's rules and regulation could hinder the viability of my business.	.551	-.205	<b>.893</b>	.839
The survival of my business is highly dependent on the economic situation of the country.	.498	.259	<b>.848</b>	.786
<b>% of variance (66.85%)</b>		<b>34.72</b>	<b>32.13</b>	

**Factor 1: Stable environment (STABLENVT)**

The first factor groups four variables: 'It is easy to keep afloat in this industry', 'there is little threat to the survival and well being of my business', 'my business must frequently change its marketing practices' and 'there are rich investment and marketing opportunities'. This factor has been named 'stable environment' in accordance with previous studies (Porter, 1991; Zahra, 1993; Naman and Slevin, 1993; Sohi, 1996;

Lozada and Calantone, 1996; Covin et al., 1999; Goll and Rasheed, 2004; Lindelof and Lofsten, 2006). This factor accounts for 35% of the variance.

### **Factor 2: External environment (EXENVT)**

The second factor contains three variables: ‘the survival of my business is highly dependent on the economic situation of the country’, ‘high social pressure from the society could affect my business’ and ‘strict government’s rules and regulation could hinder the viability of my businesses’. This factor has been labelled ‘external environment’. All the variables which were identified as being important in the preliminary study are also recognised as such in the literature (Zahra, 1993; Bull and Willard, 1993; Donnelly et al., 2007). This factor accounts for 32% of the variance.

The reliability tests for both factors are satisfactory as they are higher than 0.50 as recommended by Nunnally and Bernstein (1994). The total correlation for all variables is higher than 0.3, which is relatively good according to Field (2005). No variables were deleted because there was no indication in the results that this would increase the reliability.

## **7.3 Logistic regression analysis**

There does not appear to be any empirically-based model in the literature that shows the relationships between the factors presented in the previous section and the financing decisions made by SMEs. Based on theories from divergent disciplines, this section presents the results of four logistic regression analyses relating to the financing antecedents of SMEs. The results of the preliminary tests are presented first.

### **7.3.1 Correlation**

A 2-tailed Spearman correlation matrix was generated for each set of the predictor variables in the four regression studies and the results show no sign of multicollinearity among the individual variables. As a further check, the tolerance and variable inflation

factors (VIF) were examined. Based on the cut-off  $VIF \geq 10.0$  as an indication of a multicollinearity problem (Neter et al., 1985; Myres, 1990), no variable was found to cause a problem. Therefore, it can be concluded from Table 7.5 that the determinants of capital structure (characteristics of the owner, characteristics of the firm, management performance and external factors) are correlated with no cause for concern over multicollinearity.

**Table 7.5 Correlation matrix of variables and collinearity statistics (Dependent variable: Retained earnings)**

Variables	1	2	3	4	5	6	7	8	9	10	Collinearity Statistics	
											Tolerance	VIF
PLANNING	1										.719	1.321
ATTITUDE	.229(**)	1									.693	1.606
RELATION	-.017	.1350(*)	1								.744	1.098
NETWORK	-.349	-.451	-.090	1							.668	1.497
LIFEGOAL	.088	.065	.056	-.111(*)	1						.905	1.105
COMGOAL	.465(**)	.245(*)	-.001	.064	-.050	1					.604	1.655
CONSERV	.051	.182(*)	.458(*)	-.042	.059	.048	1				.741	1.155
MASTERY	-.038	.051	-.080	-.145(**)	.139(*)	-.127(*)	-.096	1			.870	1.149
STABLENVT	-.080	-.198(*)	.102	.334(*)	.066	.073	.010	.197(*)	1		.748	1.336
EXENVT	-.024	.079	.061	.252(*)	.103	.228(*)	.031	.186(*)	-.021	1	.813	1.229

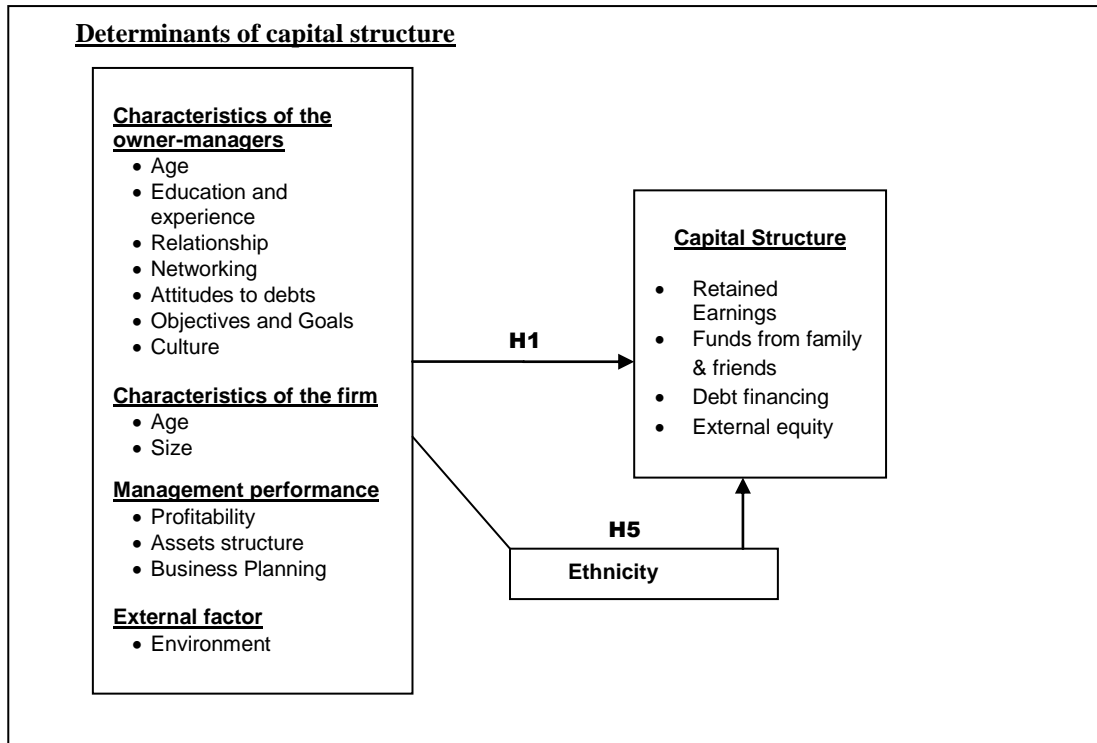
\*\* Correlation is significant at the 0.01 level (2-tailed).

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

### 7.3.2 Testing of H1 and H5

This section presents the results of the regression analysis used to test H1 and H5. Figure 7.1 summarises the variables in the analysis.

**Figure 7.1 Variables in the logistic regression analyses**



As mentioned in Chapter 4, two sub-categories (Category 1 and Category 2) were run for each dependent variable. The first category includes two models (model 1 and 2) which test for the main effect of the variables. The nominal predictor variables (ethnicity, owner’s age, education, firm’s age, and firm’s size) were entered in model 1. Next, the significant variables from model 1 were entered with the continuous predictor variables measured on a 5-point Likert scale (perceptions and attitude to debt, business planning, relationship, networking, commercial goals, lifestyle goals, asset structure, profitability, conservatism, mastery, stable environment, and external environment) in model 2. Model 1 served as the base model for Category 1. The second category covers logistic regression model 3. Model 3 put interactions (two-way) of ethnicity and independent variables into the equation. Model 2 became the base model for Category 2 (see Section 4.6.5 for a detailed explanation).



The following sections discuss the influence of capital structure determinants on the selection of capital structure under study. It should be noted that the positive coefficients associated with some factors indicate that SME owners are more likely to use the modelled financial capital, and vice versa.

### 7.3.3 Retained earnings

This section presents results of logistic regression of the use of retained earnings. The table below indicates the outcomes for this particular regression.

**Table 7.6 Logistic regression of the use of retained earnings**

<i>Variable</i>	<i>Expected sign</i>	<i>B</i>	<i>Wald</i>	<i>P</i>	<i>Expected (B)</i>
<b>Characteristics of the owner</b>					
RELATION	+	-.067	.095	.715	3.121
NETWORK	+	-.328	.412	.523	.144
ATTITUDE	+	1.151	6.438	.011	3.162
LIFEGOAL	+	1.416	12.271	.000	4.122
COMGOAL	+	-.965	7.935	.005	.381
CONSERV	-	.362	12.689	.000	1.436
MASTERY	-	.760	5.285	.022	2.139
<b>Characteristics of the firm</b>					
AGE	+		13.528	.004	
AGE(1)		-.468	4.501	.064	.726
AGE(2)		.921	14.204	.061	2.513
AGE(3)		4.036	12.098	.001	56.587
<b>Management Performance</b>					
PLANNING	-	-1.755	5.586	.018	.173
ASSET	-	-1.823	8.687	.003	.162
PROFIT	+	.974	17.030	.000	2.648
<b>External factors</b>					
STABLENVT	-	-1.354	4.718	.030	.258
<b>Two-way Interaction</b>					
CONSERV by ETHNIC(1)- Chinese-reference to Malay	+	.936	3.922	.048	22.0
<b>Constant value</b>					
		<b>-.443</b>			
<i>Chi-square</i>			104.250		
<i>-2 Log likelihood</i>			65.450		
<i>Hosmer &amp; Lemeshow R<sup>2</sup></i>			0.899		

Looking first at the owner-related factors, there is no evidence to reject the null hypotheses for RELATION (H1.4a) and NETWORK (H1.5a) ( $p \geq 0.10$ ). The results for ATTITUDE (H1.6a) are significant ( $p \leq 0.05$ ). This factor had a positive effect on the odds of utilisation of retained earnings by the firms, which support H1.6a (reject the null hypothesis). For a one-point increase in ATTITUDE, the firms use the retained earnings three times more than other sources of finance. Both factors related to business cultural orientation [CONSERV (H1.9a) and MASTERY (H1.10a)] appeared to be positively significant in the retained earnings model. Since the odds ratios are more than 1, this means that as these factors increase, the odds of the utilisation of retained earnings will also increase. A one-point increase on both scores will increase the odds by 1.436 times and 2.139 times respectively. The significance levels of both factors are significant ( $p \leq 0.05$ ).

Similarly, the results for LIFE GOAL are significant ( $p \leq 0.05$ ), which support H1.7a (reject the null hypothesis). The odds of the usage of retained earnings in business are 4.122 times larger as the mean of LIFE GOAL increases. The correlation coefficient for COMGOAL (H1.8a) shows an unexpected negative sign, so there is no evidence to reject the null hypothesis for H1.8a.

Among the characteristics of the firm, the results for AGE are significant ( $p \leq 0.05$ ), indicating that the overall variable AGE is statistically significant. Therefore, the null hypothesis that the coefficient equals 0 would be rejected (H1.11a). There is no coefficient listed, because AGE is not variable in the model. Rather, dummy variables, which code for AGE (reference category), are in the equation and those have coefficients. However, as can be seen in Table 7.6, only the coefficient of one dummy variable AGE(3) is statistically positively significant ( $p \leq 0.05$ ).

With regard to the management performance, there is no evidence to accept the null hypotheses in respect of PROFIT (H1.13a), ASSET (H1.14a), and PLANNING (H1.15a). The results for PROFIT are highly positively significant ( $p \leq 0.05$ ). The ASSET was negatively significantly related ( $p \leq 0.05$ ) with the usage of retained earnings ( $B_i$  is negative), which reject the null hypothesis of H1.14a. For any positive change in ASSET, the odds will decrease by 0.162 times. The result for PLANNING shows negative effect on the odds of a business owner using the retained earnings, which rejects the null hypothesis of H1.15a.

Among the external factors, only the STABLENVT (H1.16a) is included in the final regression. The STABLENVT was found to produce a significant negative effect on the odds of utilisation of retained earnings by the firms ( $p \leq 0.05$ ). The odds ratio indicates that every unit increase in ‘stable environment’ is associated with a 74% decrease in the odds of utilising the retained earnings.

The output also shows that the overall two-way interaction variable ‘CONSERV by ETHNIC’ is statistically significant ( $p \leq 0.05$ ). Therefore, the null hypothesis that the coefficient equals 0 would be rejected (H5.9a). There is no coefficient listed, because ‘CONSERV by ETHNIC’ is not a variable in the model. Rather, dummy variables, which code for ‘CONSERV by ETHNIC’ (reference category), are in the equation, and those have coefficients. However, as shown in Table 7.6, only the coefficient of one dummy variable ‘CONSERV by ETHNIC (1)’ is statistically significant ( $p \leq 0.05$ ). This shows that Chinese owner-managers are more likely to use retained earnings if they perceive CONSERV to be important. For one unit increase in the ETHNIC(1), i.e. Chinese, moderated by CONSERV, the firms will use the retained earnings 22 times more than other sources of finance. It is interesting to mention that the variable ETHNIC does not appear to be statistically significant with the usage of retained earnings if it is tested by itself. Rather, when it interacts with the variable of CONSERV, it appears to be statistically significant.

The Wald statistics in Table 7.6 indicate that the most powerful predictor of retained earnings in SMEs is PROFIT (H1.13a), followed by CONSERV (H1.9a), LIFE GOAL (H1.7a), and AGE (H1.11a). In terms of the goodness of fit for the model, the results show that the -2Log likelihood of the model predicts an accurate outcome variable as it decreased from 169.700<sup>28</sup> in the previous model (where only the constant was included in the model). Moreover, results show that there is a significant association between the independent variables and retained earnings as the p-value of Chi-square is less than 0.001. The goodness of fit can also be found from the significant value of Hosmer and Lemeshow R Squared. The value of Hosmer and Lemeshow is not significant (0.899) which indicates an adequate goodness of fit for the model (i.e. it indicates a poor fit if the significance value is less than 0.05). This indicates that the model explains 89.9% of the variance.

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<sup>28</sup> Chi-square = 169.700 – 65.450 = 104.250

**Table 7.7 Classification table for retained earnings**

Classification Table					
Observed			Predicted		Percentage Correct
			RE		
			not used	used	
Step 0	RE	not used	0	50	.0
		used	0	334	100.0
Overall Percentage					87.0

Classification Table (a)					
Observed			Predicted		Percentage Correct
			RE		
			not used	used	
Step 1	RE	not used	38	12	76.0
		used	22	312	93.4
Overall Percentage					91.1

a The cut value is .500

In addition, the classification table (Table 7.7) shows that, overall, the model correctly classifies 87% of the respondents. The current model correctly classifies 76% of respondents who did not utilise retained earnings and 93.4% of those who used it. The above table indicates that, when only the constant was included, the model correctly classified 87% of the owners used retained earnings. However, with the inclusion of independent variables, it has risen to 91.1% (used and not used). This can be seen as a reasonable goodness of fit of the model.

### 7.3.4 Personal savings and funds from friends and families (PF&F)

This section presents results of logistic regression of the use of personal savings and funds from friends and families (PF&F). The table below shows the outcomes for this particular regression.

**Table 7.8 Logistic regression of the use of PF&F**

<i>Variable</i>	<i>Expected sign</i>	<i>B</i>	<i>Wald</i>	<i>P</i>	<i>Expected (B)</i>
<b>Characteristics of the owner</b>					
ETHNIC- Malay	+		9.756	.008	
ETHNIC(1)- Chinese		.932 (.300)	9.625	.002	2.539
ETHNIC(2)- Indian		.553 (.299)	3.426	.064	1.738
RELATION	+	-.224	1.871	.175	.105
NETWORK	+	-.078	.042	.823	.344
ATTITUDE	+	-.015	.008	.945	.162
MASTERY	+	.254 (.112)	5.132	.023	1.289
<b>Characteristics of the firm</b>					
AGE- Less than 1 year	-		9.537	.023	
AGE(1)- 1-3		2.599 (1.168)	4.952	.026	13.450
AGE(2)- 4-10		-.086 (1.002)	.007	.932	.918
AGE(3)- Over 10		-.619 (.974)	.405	.525	.538
<b>Management performance</b>					
PLANNING	-	-.696 (.147)	22.252	.000	.499
<b>Constant value</b>			<b>23.876</b>		
<i>Chi-square</i>			<i>63.173</i>		
<i>-2 Log likelihood</i>			<i>371.193</i>		
<i>Hosmer &amp; Lemeshow R<sup>2</sup></i>			<i>0.670</i>		

Among the owner-related factors there is no evidence to reject the null hypotheses ( $p > 0.10$ ) for RELATION (H1.4b), NETWORK (H1.5b) and ATTITUDE (H1.6b). The results also showed that the overall variable of ETHNIC (H1.3b) is statistically significant ( $p = 0.008$ ). There is no coefficient listed as the ETHNIC is not a variable in the model. Rather, dummy variables, which code for ETHNIC, are in the equation and those have coefficients (ETHNIC1 and ETHNIC2). However, only the

coefficient of one dummy variable ETHNIC1 (i.e. Chinese) is statistically significant ( $p \leq 0.05$ ). The results show that the Chinese owner-managers prefer to use PF&F 2.539 times more than Malay owner-managers. On the other hand, the preferences of Indian entrepreneurs are found to be similar to their Malay counterparts. This can be seen in Table 7.8 which shows that the p-value of the Indians (i.e. ETHNIC2) is not significant.

The results for MASTERY are highly significant ( $p \leq 0.05$ ). This factor had a positive effect on the odds of the usage of internal funds. Since the odds ratios are more than 1, this means that as the MASTERY increases, the odds of the utilisation of internal funds will also increase. This means that a one-point increase on the scores will increase the odds by 1.289. The more the owners perceived these factors to be important for their financing decisions, the more likely they will be to use PF&F. Therefore, the null hypothesis that the coefficient equals 0 would be rejected (H1.10b).

An examination of the characteristics of the firm shows that AGE is highly significant ( $p \leq 0.05$ ), indicating that the overall variable AGE is statistically significant. Therefore, the null hypothesis that the coefficient equals 0 would be rejected (H1.11b). The output indicates that the overall variable of AGE is statistically significant ( $p \leq 0.05$ ). Therefore, the null hypothesis that the coefficient equals 0 for the AGE would be rejected (H1.11b). There is no coefficient listed, because AGE is not a variable in the model. Rather, dummy variables, which code for AGE (reference category), are in the equation and those have coefficients. However, only the coefficient of one dummy variable AGE(1) is statistically significant, where the p-value is less than 0.05. This shows that the younger aged firms (age 1 to 3 years) prefer to use internal funds such as loans from family and friends. The results also show that PLANNING (H1.15b) is highly significant ( $p \leq 0.05$ ), and the correlation coefficients carry the expected negative sign, which reject the null hypothesis of H1.15b.

The Wald statistics in Table 7.8 indicate that the most powerful predictor of PF&F in SMEs is PLANNING (H1.15b), followed by ETHNIC (H1. 3b) and AGE (H1.11b). In terms of the goodness of fit for the model, the results show that the -2Log likelihood of the model decreased from 434.366 in the previous model (where only

the constant was included in the model). This means that the model is better in prediction as the lower value of -2LL shows that the model is predicting the outcome variable more accurately. The model's Chi-square significance is excellent ( $p < 0.0000$ ) where it indicates that there is a significant association between the independent variables and PF&F. The value of Hosmer and Lemeshow is not significant (0.670) which indicates an adequate goodness of fit for the model (i.e. it indicates a poor fit if the significance value is less than 0.05). This signifies that the model explains 67% of the variance.

**Table 7.9 Classification table for PF&F**

Classification Table (a,b)					
Observed			Predicted		Percentage Correct
			IF		
			not used	used	
Step 0	IF	not used	201	0	100.0
		used	183	0	.0
Overall Percentage					52.3

a Constant is included in the model.  
b The cut value is .500

Classification Table (a)					
Observed			Predicted		Percentage Correct
			IF		
			not used	used	
Step 3	IF	not used	181	20	90.1
		used	104	79	56.8
Overall Percentage					67.7

a The cut value is .500

Looking at the current model, the model correctly classifies 52.3% of the respondents. 181 cases that did not use PF&F are correctly predicted by the model. Similarly, 79 cases which used PF&F are also correctly classified. However, 104 cases which are predicted to not use PF&F did use it. Likewise, 20 cases which are predicted by the model to use PF&F did in fact not use it in the observed outcome. It is therefore obvious that the model has higher reliability in predicting firms that do not use PF&F (90.1%) and not so accurate when predicting firms that use PF&F (56.8%). However, the overall accuracy of the model is quite high, about 67.7%. The above table shows that the model only correctly classified 52.3% of the owners who did not use PF&F when only the constant was included. However, with the inclusion

of independent variables, this has risen to 67.7% (correctly classified). This can be seen as a reasonable goodness of fit of the model.

### 7.3.5 Debt finance

This section presents the results of logistic regression of the use of debt finance. The following Table 7.10 indicates the outcomes for this particular regression.

**Table 7.10 Logistic regression of the use of debt finance**

<i>Variable</i>	<i>Expected sign</i>	<i>B</i>	<i>Wald</i>	<i>P</i>	<i>Expected (B)</i>
<b>Characteristics of the owner</b>					
ETHNIC- Malay	-		26.007	.000	
ETHNIC(1)- Chinese		-2.264 (.462)	24.003	.000	.104
ETHNIC(2)- Indian		-.112 (.348)	.104	.747	.894
RELATION	+	.811 (.385)	4.438	.035	2.251
NETWORK	+	1.886 (.865)	4.751	.029	6.594
ATTITUDE	-	-1.958 (.772)	6.439	.011	.141
CONSERV	-	-.919 (.462)	3.952	.047	.399
MASTERY	-	-.192 (.094)	4.148	.042	.825
COMGOAL	-	1.666 (.418)	15.878	.000	5.291
<b>Characteristics of the firm</b>					
AGE- Less than 1 year	+		66.137	.000	
AGE(1)- 1-3		-2.115 (1.212)	3.046	.081	.121
AGE(2)- 4-10		-2.591 (1.140)	5.162	.063	.075
AGE(3)- Over 10		-5.530 (1.176)	22.119	.000	.004
<b>Management performance</b>					
PLANNING	+	1.247 (.208)	35.921	.000	3.481
ASSET	+	.688 (.224)	9.404	.002	1.989
PROFIT	-	-.359 (.164)	4.786	.029	.698
<b>External Factors</b>					



STABLENVT	+	1.829 (.592)	9.540	.002	6.225
EXENVT	-	-.628 (.276)	5.196	.023	.533
<b>Two-way Interaction</b>					
MASTERY by ETHNIC (1)- Chinese- reference to Malay	-	-.214 (.085)	6.281	.012	.807
<u>Constant value</u>			<b>-19.487</b>		
<i>Chi-square</i>			235.740		
<i>-2 Log likelihood</i>			165.264		
<i>Hosmer &amp; Lemeshow R<sup>2</sup></i>			0.258		

Starting with the owner-related factors, the output showed that the overall variable of ETHNIC is statistically significant ( $p=0.000$ ). There is no coefficient listed as the ETHNIC is not a variable in the model. Rather, dummy variables, which code for ETHNIC, are in the equation and those have coefficients (ETHNIC1 and ETHNIC2). However, only the coefficient of one dummy variable of ETHNIC1 is statistically significant, where the p-value is less than 0.05. The results show that the Chinese entrepreneurs are less likely to use debts in comparison to the Malay (reference group), which is 0.104 times less than other sources of finance. This means that a one-point increase on ‘Chinese’ score will reduce the odds by 89.6%. On the other hand, the preferences of Indian entrepreneurs are found to be similar to their Malay counterparts. This can be seen in the table which shows that the p-value of the Indians (ETHNIC2) is not significant.

The results for RELATION are highly significant ( $p \leq 0.05$ ). This factor produced a positive effect on the odds of the usage of debt financing, which reject the null hypothesis of H1.4c. Since the odds ratio is more than 1, it means that as the RELATION increases, the odds of the utilisation of debt will also increase. This means that a one-point increase on RELATION score will increase the odds by 2.251 times. Similarly, the NETWORK (H1.5c) is also found to be highly significant ( $p \leq 0.05$ ) and the correlation coefficient carries the expected positive sign. They will utilise more debts when the business owners are more concerned about the NETWORK (i.e. be regular clients or offer personal greetings to lender/supplier).

Unlike the finding for retained earnings, the ATTITUDE has a negative impact on the odds of utilisation of debt financing. The odds of the usage of debt in business are 0.141 times smaller as the mean of ATTITUDE increases. The p-value (less than

0.05) for this factor is statistically significant within the analysis, which supports H1.6c. The correlation coefficient for COMGOAL shows an unexpected positive sign, so there is no evidence to reject the null hypothesis for H1.8c.

With regard to business cultural orientation, both factors CONSERV (H1.9c) and MASTERY (H1.10c), appeared to be significant ( $p \leq 0.05$ ) and had a negative effect on the odds of the usage of debts., for a one-point increase on both scores will reduce the odds by 60% and 17.5% respectively. The results reject the null hypotheses of H1.9c and H1.10c, respectively.

An examination of the characteristics of the firm shows that AGE is highly significant ( $p \leq 0.05$ ). The output indicates that the overall variable of AGE is statistically significant ( $p = 0.000$ ). Therefore, the null hypothesis that the coefficient equals 0 would be rejected (H1.11c). There is no coefficient listed, because AGE is not a variable in the model. Rather, dummy variables, which code for AGE (reference category), are in the equation and those have coefficients. However, as can be seen in Table 7.10, only the coefficient of one dummy variable AGE(3) is statistically significant, where the p-value is less than 0.05. This shows that, the older the age of the firm, the less likely the firms will use debts as their source of capital, which is 0.004 times less than other sources of finance. This means that a one-point increase on AGE(3) score will reduce the odds by 99.6%.

With regard to the management performance, there is no evidence to accept the null hypotheses in respect of PROFIT (H1.13c), ASSET (H1.14c), and PLANNING (H1.15c). The results for PROFIT (H1.13c) are highly negatively significant ( $p \leq 0.05$ ). As the profitability of the firms increases, they will utilise less debts as their source of capital for the business operations or expansions. However, if they ask for bank finance, they can easily access it and get a greater duration than those firms which are less profitable.

The ASSET was positively significantly related ( $p \leq 0.05$ ) with the usage of debt financing. For any positive change in the ASSET, the odds will increase by 1.989 times. This result shows that, if the firms possessed more fixed assets, they will use more debt financing as they can use their assets as security for getting debts from the lenders. This study also found that firms, which possessed a high level of fixed

assets, pledged collateral to secure long-term debt finance. On the other hand, firms used their personal assets as collateral to secure short-term debts.

The result for PLANNING shows a significant ( $p \leq 0.05$ ) positive effect on the odds of a business owner using the debt financing, with the odds of using debt being 3.481 times larger as the mean of the PLANNING factor increases. This finding rejects the null hypothesis of H1.15c. When firms put more emphasis on business planning, it indirectly reduces the problem of asymmetric information, which indirectly increases the ability of the firm to look for external sources of finance.

There is no evidence to accept the null hypotheses in respect of STABLENVT (H1.16c) and EXENVT (H1.17c). The STABLENVT was found to produce a significant positive effect ( $p \leq 0.05$ ) on the odds of utilisation of debts. The more the owners perceived this factor to be important when they are deciding on their financing decisions, the more likely they will use debt financing. On the other hand, the EXENVT was found to produce a significant negative effect ( $p \leq 0.05$ ) on the odds of utilisation of debts by the firms. The odds ratio indicates that every unit increase in EXENVT is associated with a 47% decrease in the odds of utilising the debts. This factor is concerned with the issues of the social pressure from the society, strict government rules and regulations, and the economic situation. The more the owners perceived EXENVT to be important when they are deciding on their financing decisions, the less likely they will use the debts.

The output also shows that the overall two-way interaction variable 'CONSERV by ETHNIC' is statistically significant ( $p$ -value = 0.007). Therefore, the null hypothesis (H5.9c) that the coefficient equals 0 would be rejected. There is no coefficient listed, because 'CONSERV by ETHNIC' is not variable in the model. Rather, dummy variables, which code for 'CONSERV by ETHNIC' (reference category), are in the equation, and those have coefficients. However, as shown in Table 7.10, only the coefficient of one dummy variable 'CONSERV by ETHNIC(1)' is statistically significant, where  $p$ -value is less than 0.05. Since the B-coefficient is negative, for one-unit increase in the ETHNIC(1), i.e. Chinese, moderated by CONSERV, the firms will use debt 67% less than other sources of finance.

The Wald statistics in the table indicate that the most powerful predictor of debt financing is PLANNING (H1.15c), followed by AGE (H1.11c), ETHNIC (H1.3c) and COMGOAL (H1.8c). In terms of the goodness of fit for the model, the initial -2LL for the model was found to be 401.004 and the -2LL for the full model was 165.264. Since the -2Log likelihood of the model decreased from the initial, this means that the model is better in prediction. The model's Chi-square significance is excellent ( $p < 0.0000$ ). Since the p-value of Chi-square is less than 0.001, it shows that there is a significant association between the independent variables and debt financing. In addition, the value of Hosmer and Lemeshow is not significant ( $p > 0.05$ ) which indicates an adequate goodness of fit for the model.

This study also looks into the classification table below to see how well a logistic model performs.

**Table 7.11 Classification table for debt financing**

Classification Table (a,b)					
Observed			Predicted		Percentage Correct
			Debt Financing not used	used	
Step 0	Debt Financing	not used	263	0	100.0
		used	121	0	.0
Overall Percentage					68.5

a Constant is included in the model.  
b The cut value is .500

Classification Table (a)					
Observed			Predicted		Percentage Correct
			Debt Financing not used	used	
Step 3	Debt Financing	not used	224	39	85.2
		used	20	101	83.4
Overall Percentage					84.6

a The cut value is .500

Looking at the current model, 224 cases that did not use debt financing are correctly predicted by the model. Similarly, 101 cases which used debt finance are also correctly classified. However, 20 cases which are predicted to not use debt finance did use it. Likewise, 39 cases which are predicted by the model to use debt finance did in fact not use it in the observed outcome. It is therefore obvious that the model has higher reliability in predicting firms that do not use debt (85.2%) and not so accurate when predicting firms that use debt (83.4%). However, the overall accuracy

of the model is quite high, about 84.6%. When only the constant was included, the model correctly classified 68.5% of the owners who did not use debt. However, with the inclusion of independent variables, this has risen to 84.6% (correctly classified). This can be seen as a reasonable goodness of fit of the model.

### 7.3.6 External equity

This section presents the results of logistic regression of the use of external equity. The table below shows the outcomes for this particular regression.

**Table 7.12 Logistic regression of the use of external equity**

<i>Variable</i>	<i>Expected sign</i>	<i>B</i>	<i>Wald</i>	<i>P</i>	<i>Expected (B)</i>
<b>Characteristics of the owner</b>					
ETHNIC- Malay	-		9.002	.011	
ETHNIC(1)- Chinese		-6.442 (3.322)	3.761	.052	.002
ETHNIC(2)- Indian		-17.186 (7.323)	5.508	.019	.010
MASTERY	+	.541 (.283)	3.658	.066	1.717
COMGOAL	+	1.037 (.348)	8.852	.003	2.820
<b>Characteristics of the firm</b>					
SIZE- Micro	+		8.190	.017	
SIZE(1)- Small		.580 (.327)	3.149	.076	1.785
SIZE(2)- Medium		2.344 (1.228)	3.645	.046	10.427
<b>Management performance</b>					
PROFIT	-	-754 (.333)	5.117	.024	.471
PLANNING	+	1.978 (.199)	24.071	.000	2.659
<b>Two-way Interactions</b>					
CONSERV by ETHNIC (1)- Chinese- reference to Malay	-	-3.832 (1.804)	4.509	.034	46.136
<u>Constant value</u>				<b>-3.268</b>	
<i>Chi-square</i>				174.47 3	
<i>-2 Log likelihood</i>				186.76 2	
<i>Hosmer &amp; Lemeshow R<sup>2</sup></i>				0.474	

Among the owner-related factors, the output showed that the overall variable of ETHNIC is statistically significant ( $p \leq 0.05$ ). There is no coefficient listed as the ETHNIC is not variable in the model. Rather, dummy variables, which code for ETHNIC, are in the equation and those have coefficients (ETHNIC1 and ETHNIC2). However, as can be seen from Table 7.12, only the coefficient of one dummy variable ETHNIC(2) is statistically significant ( $p \leq 0.05$ ). The results show that the Indian entrepreneurs are less likely to use external equity in comparison with the Malay (reference group), which is 0.011 less than other sources of finance. This means that a one-point increase on 'Indian' score will reduce the odds by 99%.

The result for MASTERY is insignificant ( $p \geq 0.05$ ). Therefore, the null hypothesis that the coefficient equals 0 would be accepted (H1.10d). The COMGOAL produced a significant ( $p \leq 0.05$ ) positive effect on the odds of the usage of external equity. Since the odds ratio is more than 1, this means that as the COMGOAL increases, the odds of the utilisation of external equity will also increase, as a one-point increase on COMGOAL score will increase the odds by 2.82. When the firms' goals were to repay borrowing or expansion, they used more external equity. This finding is quite similar to the findings of Fitzsimmons and Douglas (2006) who found that those SMEs that intend to increase the number of markets targeted or those firms that aim for growth or expansion sought equity financing.

In addition, the results indicate that the overall variable of SIZE is statistically significant ( $p \leq 0.05$ ). Therefore, the null hypothesis (H1.11d) that the coefficient equals 0 for the SIZE would be rejected. There is no coefficient listed, because SIZE is not a variable in the model. Rather, dummy variables, which code for SIZE (reference category), are in the equation and those have coefficients. However, as shown in Table 7.12, only the coefficient of one dummy variable SIZE(2) is statistically significant ( $p \leq 0.05$ ). This shows that larger firms are more likely to use external equity as their sources of capital, which is 10.427 times more than other sources of finance. This complements the findings of Romano et al. (2000) who also found the same association between these variables.

In terms of PROFIT (H1.13d), it was found to produce a significant negative ( $p \leq 0.05$ ) effect on the odds of the employment of external equity. The odds of the

utilisation of external equity in the business are 53%<sup>29</sup> smaller as the mean of PROFIT increases. As the profitability of the firms increase, they will utilise less external equity as their source of capital for the business operations or expansions.

The results also show that PLANNING (H1.15d) is highly significant ( $p \leq 0.05$ ), and the correlation coefficients carry the expected positive sign, confirming that firms choosing external equity do consider PLANNING as a major determinant of capital structure. This extends the previous research of Romano et al. (2000) who also found a similar pattern. The results show that, for every unit increase in the mean of the PLANNING, the employment of external equity increases by 2.659. This result is consistent with the general assumption of the utilisation of external equity, where mostly, the firm that used external equity as their financial sources was the one which paid more attention to the issue of business planning. This is mainly because, as the sufficiency of information increases, it will indirectly increase the confidence level of investors. This will then increase the chances for the firm to obtain equity from the outsiders.

The Wald statistics in Table 7.12 indicate that the most powerful predictor of external equity in SMEs is PLANNING (H1.15d). In terms of the goodness of fit for the model, the results show that the -2Log likelihood of the model decreased to 186.762 from the previous model (where only the constant was included in the model). This means that the model is better in prediction as the lower value of -2LL shows that the model is predicting the outcome variable more accurately. In addition, the model's Chi-square is significantly ( $p < 0.0000$ ).associate between the independent variables and external equity. The value of Hosmer and Lemeshow is not significant (0.474) which indicates an adequate goodness of fit for the model. This indicates that the model explains 47% of the variance.

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<sup>29</sup> Odd ratio =  $(1 - 0.47) * 100 = 53\%$

**Table 7.13 Classification table for external equity**

Classification Table (a,b)					
Observed			Predicted		
			External equity		Percentage Correct
			not used	used	not used
Step 0	External equity	not used	282	0	100.0
		used	102	0	.0
	Overall Percentage				73.4

Classification Table (a)					
Observed			Predicted		
			External equity		Percentage Correct
			not used	used	not used
Step 3	External equity	not used	255	27	90.4
		used	21	81	79.4
	Overall Percentage				87.5

a The cut value is .500

The current model correctly classifies 73.4% of the respondents. 255 cases that did not use external equity are correctly predicted by the model. Similarly, 81 cases which used external equity are also correctly classified. However, 21 cases which are predicted to not use external equity did use it. Likewise, 27 cases which are predicted by the model to use external equity did in fact not use it in the observed outcome. It is therefore obvious that the model has higher reliability in predicting firms that do not use external equity (90.4%) and not so accurate when predicting firms that use external equity (79.4%). However, the overall accuracy of the model is high, about 87.5%. In conclusion, when only the constant was included, the model correctly classified 73.4% of the owners did not use external equity. However, with the inclusion of independent variables, this has risen to 87.5% (correctly classified). This can be seen as a reasonable goodness of fit of the model.



## 7.4 Multiple regression analysis

Table 7.14 presents results of multiple regression analyses (tests of mediating effects of debt).

**Table 7.14 Results of multiple regression analyses**

<i>Independent variables</i>	<i>Dependent variable (PERFORMANCE)</i>			
	1	2	3	4
<b>DEBT</b>	-0.384* (0.081)	-0.388* (0.092)	-	-
<b>GOAL</b>	-	0.721* (0.103)	-	0.700* (0.106)
• LIFEGOAL	0.058 (0.082)	-	0.341* (0.064)	-
• COMGOAL	0.054 (0.122)	-	0.364* (0.099)	-
<b>PROFIT</b>	0.0001 (0.0002)	0.0002 (0.0004)	0.0005 (0.0003)	0.102* (0.0003)
<b>SIZE</b>	0.042 (0.044)	0.041 (0.043)	0.036 (0.048)	0.0341* (0.042)
<b>PLANNING</b>	-	0.0001 (0.0003)	0.0005 (0.0002)	0.112* (0.0003)
<b>ETHNIC (Malay)</b>	0.043 (0.081)	0.147 (0.063)	-0.322 (0.044)	-0.036* (0.031)
<b>CULTURE</b>	-	0.231 (0.080)	-	0.700* (0.080)
• MASTERY	0.055 (0.071)	-	0.346* (0.103)	-
• CONSERV	0.057 (0.082)	-	0.346* (0.092)	-
Adjusted R	0.63	0.62	0.49	0.48
F-Statistics	21.225*	32.475*	15.895*	19.204*
VIF (minimum-maximum)	1.230-2.892	1.146-2.843	1.033-1.517	1.042-1.267

The estimated models in Table 7.14 generally exhibit moderate fit. Adjusted R-squares range from 0.48 to 0.63, while all F-statistics are statistically significant ( $p \leq 0.0001$ ), suggesting that the explanatory powers of overall models are adequate (Myers, 1990). Table 7.14 shows the models for the performance. Models 1 and 2 are direct effect models controlling the effect of a mediator (DEBT); while Models 3 and 4 are total-effect models which consist of only independent variables. The latter models (3 and 4) account for both direct and indirect effects of determinants of capital structure on the performance.

DEBT (for Models 1 and 2) was negatively associated with PERFORMANCE ( $b=0.384$  and  $0.388$  respectively;  $p<0.001$ ). Hence, the H2 are supported when GOAL, PLANNING, SIZE, CULTURE and PROFIT are controlled. The fourth hypothesis posits that overall GOAL is positively associated with PERFORMANCE. As shown in Model 2, the direct effect of overall GOAL on PERFORMANCE is statistically significant ( $b=0.721$ ,  $p<0.001$ ) when controlling the effect of the mediator (i.e. debt). The total effect of overall GOAL on PERFORMANCE in Model 4 is also positive and statistically significant ( $b=0.700$ ,  $p<0.001$ ). A similar situation can be found for the tests of the relationships between LIFEGOAL (H3.7) and COMGOAL (H3.8) with PERFORMANCE. In Model 1, the estimated direct-effect coefficient of COMGOAL and LIFEGOAL are not statistically significant ( $b=0.058$  and  $0.054$  respectively), while the total effect coefficient Model 3 is significant ( $b=0.341$  and  $0.364$  respectively,  $p<0.001$ ) for LIFEGOAL and COMGOAL.

H3.12, H3.13 and H3.15 (the relationship between SIZE, PROFIT and PLANNING with PERFORMANCE) are positive, while H3.2 (the relationship between ETHNIC and PERFORMANCE) is negative. They are supported by estimated coefficients of Model 4. The total effects of coefficient Model 4 are significant ( $b=-0.036$  for ETHNIC,  $b=0.102$  for PROFIT,  $b=0.0341$  for SIZE, and  $b=0.112$  for PLANNING). Moreover, the absolute effect of PLANNING on firm's performance is diminished when a mediating variable (debt financing), is included ( $b = 0.311$ ,  $p<0.001$  when no mediator;  $b = 0.456$ ,  $p<0.001$  when a mediator is controlled).

The result for H3.9 is slightly similar to the above hypothesis (i.e. GOAL) except that the direct effect of overall CULTURE on PERFORMANCE is not statistically significant ( $b=0.231$ ). The total effect of overall CULTURE on firm's performance in Model 4 is positive and statistically significant ( $b=0.700$ ,  $p<0.001$ ). In Model 1, the estimated direct-effect coefficient of CONSERV and MASTERY are not statistically significant, while the total effect coefficient Model 3 is significant ( $b=0.346$  for both,  $p<0.001$ ) for CONSERV and MASTERY.

## **7.5 Discussion of the hypotheses tests**

This section presents a discussion of the study. The discussion of results is classified into five main groups according to the groups of hypotheses. Existing literature and follow-up interviews, which were conducted with 20 SME owner-managers, will be used to support the discussion.

### **7.5.1 Owner's age and managerial human capital**

Surprisingly, the results do not support the proposed association between 'age of the owner' and 'managerial human capital' and sources of finance in hypotheses 1.1 and 1.2, respectively. Owner-manager's age, education level and experience were not found to influence the financing decisions of SMEs. The insignificant relationship between owner's age and capital structure confirms the findings of Wachter and Green (1998), Romano et al. (2000), Cassar (2004) and Buferna (2005). Alternatively, the insignificant association between human capital and capital structure confirms the findings of Buferna (2005), Watson (2006), Roper and Scott (2009), Irwin and Scott (2010), Sena et al. (2012), and Borgia and Newman (2012). It conflicts with findings of Bates (1997) and Coleman and Cohn (2000).

### **7.5.2 Ethnic**

As expected in hypothesis 1.3, the results confirm the significant positive association between ethnic-minority owner-manager and PF&F and negative association between this factor and external financing. The results show that the Chinese owner-managers, who are ethnic-minority business owners, prefer to use internal financing more than Malay owner-managers; they are averse towards external financing. The results are consistent with prior studies, such as Smallbone et al. (2003), Deakin et al. (2007), and Robb and Fairlie (2007), who also found positive associations between ethnic-minority business owners and internal financing. The results also confirm the study of Curran and Blackburn (1993) who establish that black owner-managers prefer to utilise internal sources of finance due to some obstacles.

This study had also analysed the moderating effects of ethnicity with all independent variables. The moderating effects of ethnicity by conservatism are positively related

with the retained earnings and negatively related with external equity. The rest of the interactions were not significant in the capital structure choice of small firms. The results show that Chinese owner-managers who are concerned with the public image and employees' working and social harmony are most likely to utilise retained earnings; while Indians are less likely to use external equity. This pattern had been confirmed by the follow-up interviews.

*"We also consider preserving public image and maintaining harmonious among workers when deciding on the financial sources. It indirectly strengthening our employees-employers' relationship where would encourage us to work together and be together. To maintain these situations, I should have the power over my company. Hence, I prefer to utilise retained profits and will avoid external equity."*

[Chinese, Business Owner #5]

The result also shows that Chinese owner-managers, who apply a strict policy and focus on their interests and success, are less likely to use debt. This result supports hypothesis 5 and has been confirmed by one of the follow-up interviewees.

*"Every single cent is matter to me. My interest will come first before anyone else. Since I own this company, so, anything happen to this company will affect my success. It is better for me to avoid debt to reduce any chance of bankruptcy."*

[Chinese, Business Owner #15]

### **7.5.3 Relationship and networking**

Results reveal that only debt is significantly associated with the 'relationship and networking' which supports hypotheses 1.4c and 1.5c. The results confirm findings of prior studies on SMEs in developing countries (e.g. Nguyen and Ramachandran, 2006). Results indicate that SMEs with good relationships with other economic factors (such as management at other firms or government officials) have better access to external financing since they possess more information. The information is concerned with government policies, business licences, market and distribution channels, business opportunities, and complementary policies regarding taxation (Fan, 2002; Tan, Yang, and Veliyath, 2009). Several interviewees from follow-up

interviews emphasised the imperative role played by government officers in enabling firms to build effective relationships with their banks. For instance:

*“The government has given us great support to communicate with the bank. The government officer will provide us with an introduction in the case if we do not know the bank officials.”* [Malay, Business Owner #14]

The results establish that SME owners who have strengthened their networks with suppliers through building a long-term relationship with them, paying them promptly, visiting or offering personal greetings to them and by being a regular client, face fewer difficulties in raising external finance. The findings confirm the previous studies (Petersen and Rajan, 1994; Nguyen and Ramachandran, 2006). The current follow-up interviews also highlighted the importance of network ties in the financing of the firm. For instance, one of the interviewees mentioned that:

*“Keeping a good relationship with other firms, especially with suppliers or customers is essential. Sometimes, we use the inter-firm guarantee. We borrow from each other or guarantee for each other. We will use it in a case of lack of security for our debts.”* [Chinese, Business Owner #11]

*“Sometimes, it can be difficult for supplier or lender to distinguish the financial position of the firm from its owner. Yes, most of the SMEs’ owners prefer to keep everything secret. It would be different when you know the supplier or lender.”* [Indian, Business Owner #13]

Additionally, the positive relationship between network ties and debt might be partly explained by the negative correlation between control aversion and network ties which can be seen from the descriptive statistics. The present findings contradict the argument of Newman (2010) who asserted that firms with stronger network ties tend not to finance using debt even though they are able to access large amounts of external financing due to the perceived risk of losing control over their business that this may entail.

#### 7.5.4 Owner's perceptions and attitudes to debt

The results show negative and positive impacts on the odds of utilisation of debt financing and retained earnings, respectively. The results support hypothesis 1.6. Such results are supportive of previous findings (Friend and Lang, 1988; Barton and Matthews, 1989; Norton, 1990; Matthews et al., 1994; Harvey and Evans, 1995; Hutchinson, 1995; Michaelis et al., 1998; Berger and Udell, 1998; Hamoudi, 2007), which suggest that owner-managers who are risk averse, have a strict belief in religion, and who do not want to be burdened by debt would prefer to finance internally and are less likely to utilise debt. The following comment from the follow-up interview also highlights a comment concerning owner-manager's perception towards using debt.

*“Borrowing money from the bank is so difficult. I should guarantee my debts by assets, and the procedures are strict and inconvenient.”*

[Malay, Business Owner #8]

About the impact of the attitude of management towards risk on the financing of SMEs, strong evidence is found of a positive association between the risk-takers' owner-managers and the utilisation of debt in the capital structure of SMEs. Previous studies (see Barton and Matthews, 1989; Matthews et al., 1994) also report the same pattern, particularly in a situation of providing security for debt using personal assets. Weston and Brigham (1981) assert that firm's capital structure represents the financial risk that the firm could face. In other words, as stated by Barton and Gordon (1987), the amount of funds that could be borrowed by the companies depends on the amount of risk these companies can bear, and, therefore, the owner-management's attitudes to debt will affect the firm's capital structure.

### 7.5.5 Objectives and goals

The ‘commercial goals’ produced a positive effect on the odds of the utilisation of retained earnings and negative effects on the odds of the utilisation of debt and external equity, which supports hypothesis 1.7. Respondents who aim to maintain control were found to prefer to rely on retained earnings and were averse to seek external financing. This complements previous empirical works (see Harvey and Evans, 1995; Hutchinson, 1995; Berger and Udell, 1998; Pukthuanthong and Walker, 2007; Newman et al., 2011). These results also confirm the findings of Chaganti et al. (1995) who found a negative association between aims to maintain control with the use of external equities.

Results also indicate that if growth is the main goal of the firm, a firm might borrow more debt in order to finance its new project. It complements the findings of Romano et al. (2000) who found that firms (i.e. manufacturing sector) that aim for expansion were less likely to use capital and retained profits. Results suggest that SMEs who are aware of the need for capital for funding future development of their firms will focus on building strong relationships with their banks, leading to greater amounts of bank financing in their capital structure than firms with limited growth intentions. The positive relationship between growth intentions and the use of external sources of finance is in line with prior studies (e.g. Van der Wijst, 1989; Cressy, 1995; Michaelas et al., 1999; Cassar, 2004). Alternatively, due to the agency problem, the sampled firms might reduce the debt finance. In addition, if the company was more concerned with increasing profitability, it might use less debt to avoid interest payments or use more debt to take any advantages of tax deductibility.

Unexpectedly, results reveal that only retained earnings are significantly associated with the ‘lifestyle goals’ which supports hypothesis 1.8a and rejects hypotheses 1.8b 1.8c and 1.8d. The sampled SMEs were found to use more retained earnings if their goals were related to their life satisfaction, for example to develop hobbies or skills, to improve lifestyle, and to accumulate wealth. This pattern was confirmed by the follow-up interviews.

*“Since the main reason of involving in this business is to improve my lifestyle, I’ll try avoiding any external money which may cause me to lose*

*control over my firm. Up to now, I only use retained profits to finance my business.”* [Indian, Business Owner #12]

*“I have knowledge and high enthusiasm of doing this business. I know the best way to do the right thing with a little help from others. I’ll try to maintain financing my business internally rather than borrowing from outsiders.”* [Malay, Business Owner #18]

### **7.5.6 Culture**

Both factors of cultural orientations (i.e. ‘conservatism’ and ‘mastery’) were evidenced to be significant in at least one of the models tested. As expected in hypothesis 1.9, the results confirm the significant positive association between culture and internal financing and negative association between this factor and external financing. Those owner-managers who care about their performance, public image and harmony, prefer to use retained earnings and rely less on debt. The study confirmed the results of previous studies (Hirshleifer and Thakor, 1989; Schwartz, 1994; Chui et al., 2002; Breuer and Salzmann, 2009; Shao et al., 2010; Siegel et al., 2011; Li et al., 2011).

The results also support hypothesis 1.10. Those owner-managers who only care about their interest and success utilise all internal sources of finance such as retained earnings and F&F. They were averse to using debt. These results confirm previous studies (see Hirshleifer Schwartz, 1994; Chui, 2002). Such findings support the pecking order theory that proposes that firms will only seek external finance when they have exhausted all sources of internal finance.

### **7.5.7 Age of the firm**

As expected, results reveal positive and negative impacts of the firm’s age on the odds of utilisation of retained earnings and PF&F, respectively. These results support hypotheses 1.11a and 1.11b. Unexpectedly, debt was found to be inversely related with the firm’s age, which does not support hypothesis 1.11c. The regression result also does not support hypothesis 1.11d, since it was not significant. The results, in general, suggest that SME owners prefer to use internal finance and would only raise



debt when additional finance is needed. The results support the predictions of pecking order theory and contradict the life cycle model.

The results indicate that older firms are less likely to finance externally. They prefer to finance internally as they are able to accumulate funds internally. In contrast, new firms might not have time to retain funds and might be forced to borrow. This supports the previous studies (see Chittenden et al., 1996; Michaelis et al., 1999; Riportella and Martinez, 2003; Hall et al., 2004; Bhaird and Lucey, 2006; Lopez-Gracia and Sanchez-Andujar, 2007; Vos et al., 2007; Ramalho and Da Silva, 2009; Rocca et al., 2009). Most of them secure loans for their businesses using the owner-managers' personal assets, which confirms the view of Berger and Udell (1998). These results contradicted empirical studies that had been done by Cole (1998), Upneja and Dalbor (2001), Cole et al. (2004) and Newman (2010). These prior studies report that lenders find the older firms are less risky since the firms have earned a relatively good reputation over time and most of the older firms are known to the lenders. This situation indirectly increases the chances of utilising external financing.

#### **7.5.8 Size of the firm**

Data analysis reveals that only external equity is significantly associated with the size of the firm (H1.12d). The regression results do not support the hypotheses on retained earnings, PF&F, and debt since all of these sources of finance are not significant. This result has been confirmed graphically in the descriptive statistics for this variable; a positive trend has been noticed for the relationship between firm's size and external equity. This result confirms the findings of Romano et al. (2000) who found the same association.

The insignificant outcome of debt confirms the findings of Upneja and Dalbor (2001) and Tang and Jang (2007). The present findings contradict most previous studies (see Chittenden et al., 1996; Michaelis et al., 1999; Hutchinson, 2003; Cassar and Holmes, 2003; Frank and Goyal, 2003; Hall et al., 2004; Sogorb-Mira, 2005; Nguyen and Ramachandran, 2006; Bhaird and Lucey, 2006; Lopez-Gracia and Sanchez-Andujar, 2007; Beck et al., 2008; Bhabra et al., 2008; Ramalho and Da

Silva, 2009; Psillaki and Daskalakis, 2009; Newman, 2010; Harrison et al., 2011; Jegers, 2011).

### **7.5.9 Profitability**

In line with the proposed hypothesis 1.13 of the profitability variable, the results showed a significant positive association between profitability and retained earnings, and a negative association between profitability and external finance (debt and external equity). The positive association confirms prior studies of Myers (1984), Van Auken and Carter (1989) and Fu et al. (2002). The inverse relationship supports the results of previous studies (see Titman and Wessels, 1988; Harris and Raviv, 1991; Van der Wijst and Thurik, 1993; Chittenden et al., 1996; Jordan et al., 1998; Michaelas et al., 1999; Bevan and Danbolt, 2002; Cassar and Holmes, 2003; Chen, 2004; Chen and Strange, 2005; Sorgorb-Mira, 2005; Huang and Song, 2006; Klapper et al., 2006; Vos et al., 2007; Lopez-Gracia and Sanchez-Andujar, 2007; Degryse et al., 2009; Psillaki and Daskalakis, 2009; Rocca et al., 2009; Chikolwa, 2009; Chakraborty, 2010; Harrison et al., 2011; Newman et al., 2011; Zarebski and Dimovski, 2012; Saarani and Shahadan, 2013).

The negative effect does not support trade-off theory that firms prefer internal funds in financing decisions and by that strategy will have less external funds such as debt or external equity. There is another possible explanation that the majority of Malaysian SMEs may use outsiders' funds only if they are successful at reducing the information asymmetries problem between firms and outsiders. As retained earnings are the financing sources with the least asymmetric information, SMEs would prefer internal financing (including retained earnings) if they cannot convey credible information to these outside parties. One more justification from the corporate governance point of view for a negative relationship is that debt might be used more frequently as a management discipline device in Malaysian SMEs. Therefore, more debt reflects more monitoring activities; these activities include expenses, which may reduce the firm's profits, so debt is not favourable.

### 7.5.10 Asset structure

As expected in hypothesis 1.14, the results showed a significant positive association between tangibility and debt, and a negative association between tangibility and retained earnings. The results indicate that, if the firms possessed more fixed assets, they would use less retained earnings. The results are similar to the findings of Bhaird and Lucey (2009) who found a negative association between the use of retained profits and collateral for small Irish firms. The results also confirm most prior studies (see Sogorb-Mira, 2005; Nguyen and Ramachandran, 2006; Ortqvist et al., 2006; Huang and Song, 2006; Shah and Khan, 2007; Psillaki and Daskalakis, 2008; Rocca et al., 2009; Degryse et al., 2009; Zekohini and Ventura, 2009; Frank and Goyal, 2009; Chakraborty, 2010; Bany-Ariffin et al., 2010; Newman et al., 2011; Ayed and Zouari, 2014).

These results are contrary to the findings of Riportella and Martínez (2003) and Cassar (2004). A positive effect of debt supports the trade-off model regarding that firms with more tangible assets are more likely to face financial distress due to their liquidation value. These firms have easier access to finance and lower costs of financing. It also supports the suggestion of Myers and Majluf (1984) that firms prefer to issue debt secured by property with known values more than issuing costly securities.

In addition it supports the positive effect of the agency theory by Jensen and Meckling (1976). They suggest that stockholders of levered firms have an incentive to invest sub optimally to expropriate wealth from bondholders. In this case, if the debt can be collateralised, then the borrower is restricted to use these funds in specific projects. The collateralised assets can also be used as a monitoring instrument which indirectly reduces the agency costs of debt. Results indicate that firms with a high level of fixed assets overcome problems of asymmetric information by pledging collateral to secure debt finance. When there are insufficient firm assets to secure business loans, the personal assets of the firm owner are an important source of collateral.

### 7.5.11 Business planning

The result for 'PLANNING' shows a significant positive effect on the odds of a business owner using debt financing, which supports hypothesis 1.15c. When a firm puts more emphasis on business planning, it will indirectly reduce the problem of asymmetric information, which indirectly increases the ability of the firm to look for external sources of finance (Harvey and Evans, 1995; Berger and Udell, 1998; Klapper et al., 2006; Bell and Vos, 2009; Rocca et al., 2009).

Results also indicate that when the firm was more concerned about the business plan, formal strategic plan, formal management structure, and business appraisal, they utilised less retained earnings and PF&F. These results do not support hypotheses 1.15a and 1.15b. The firms that used retained earnings as their financial sources did not pay more attention to the issue of business planning such as the issue related with the financial track records, credit records, proper documentation system, and the availability of firms' information to outsiders. This extends the previous research of Romano et al. (2000) who also found a similar pattern.

The negative effect and positive effect of the relationship between business planning with internal finance and external finance, respectively, may reduce the information asymmetries problem. The consideration of the 'PLANNING' factor may help the company to borrow money from outsiders (Harvey and Evans, 1995; Coleman and Carsky, 1999). The following are some statements from respondents of follow-up interviews which support the above discussion.

*“Business planning such as business plan may ease the business activities since we have our planning and strategies, either for long-term or short-term plans. A proper planning for our business may help us in borrowing money from outsiders. Normally, Malaysian business owners didn't care about the business plan or strategic plan, or any formal documentation. However, they will put more attention on these issues if they decide to use external fund. This is because the loan application process in Malaysia is extremely tedious. The bank will simply reject a loan application if the applicant is lack of knowledge especially knowledge about the current or proposed business, or if the applicant unable to prepare a proper business plan.”*

[Chinese, Business Owner #7]

*“By having a proper business plan and structure of management, it can facilitate me in obtaining a fund from the outsiders. Like for my business, when I want to find a private investor for my company, one of the characteristics that the investor looked at was my firm’s management structure. In other words, improper planning for business may hinder the opportunity to obtain external funds.”* [Malay, Business Owner #3]

#### **7.5.12 Environment**

Unexpectedly, results do not support the proposed hypothesis 1.16. Results reveal that stable environment was negatively associated with retained earnings and positively associated with debt. Results show that companies that survive and are able to keep afloat in industry prefer to finance using debt rather than retained profits. Alternatively, in environments with greater asymmetric information, firms will use internal financing instead of debt (Klapper et al., 2006).

The variable of external environment was negatively associated with debt, which supports hypothesis 1.17c. The regression results do not support the hypotheses on retained earnings, PF&F, and debt, since all of these sources of finance are not significant. Social pressure, bad economic situations, and strict government regulations on the business such as on taxation, will indirectly discourage the owner-managers to use debt. This inverse relationship supports previous empirical studies (see Gulati, 2000; Hatzinikolaou et al., 2002) and contradicts the findings of Sener (1989) and Taggart (1995). In line with the research findings of SMEs in the previous studies (see Holmes and Kent, 1991; Pettit and Singer, 1985; Watson and Wilson, 2002; Klapper et al., 2006), limited evidence is found to support trade-off theory.

### **7.5.13 Organisational performance**

In line with H2, 3 and 4, results showed that there were associations between debt and performance, direct associations between determinants of capital structure and performance, and indirect associations between determinants of capital structure and performance (mediated by debt). The results indicated that debt was negatively associated with performance. These results are in line with the finding of Singh and Faircloth (2005) who affirm that higher debt may lead to lower funds available for firms in profitable investments, which indirectly will reduce the firm's performance.

Results also show positive associations between firm's performance and size, profitability, planning, culture, and goals, and a negative association with ethnicity (Malay). Those who find a positive relationship between firm size and performance support the arguments of trade-off theory that size reflects economies of scale production, cheaper sources of funds, greater diversification and access to new technology. The studies include Orser et al. (2000) and Tsai and Wang (2005). Those studies generally found that investors are willing to invest in large firms as they believe that large firms are less risky. This situation may lead to better performance by the firms as they possess sufficient capital for business operations and development. The result on the association of ethnicity (Malay) with performance was found to be in contrast to the report of SME's Corporation of Malaysia in SME Annual Report 2007. The report stated that there is a gap between minority-owned and non-minority-owned businesses in terms of sales, profits, employment, and survivability. The report stated that minority-owned businesses were found to be lagging behind and they faced greater challenges in getting financing which indirectly worsens their business performance. However, it contradicts the findings of the current study.

In addition, results in general reveal that debt level does mediate the association between determinants of capital structure and the firm's performance. This mediating role is confirmed to be partially related. The mediating role of debt does not change the association between determinants of capital structure and the performance in regard to its significance. However, the mediating role appeared as small changes in the coefficients of these determinants in the relationship with the performance. Even though both regressions before and after controlling debt level

are significant, it has been confirmed that debt level has a mediating role on the relationship between the determinants of capital structure and performance. As a result, this significant mediating role of the debt level cannot be ignored.

## **7.6 Conclusions**

This chapter has presented the findings from final scales purification and hypotheses testing as well as discussion of the findings. The purification was conducted through exploratory factor analysis. The study also conducted reliability and construct validity tests. All measurement scales were found to possess satisfactory measurement properties. As for hypotheses testing, underlying assumptions such as outliers and multicollinearity, were evaluated. No violation was encountered. This chapter contributes to the capital structure literature by investigating to what extent the owner-related factors, firm-related factors, management performance and external factors influenced the financing decisions of the SMEs through the use of logistic regression tests. The chapter also presented results of multiple regression analysis which tests hypotheses 2, 3 and 4. The discussion of results was presented accordingly in the last part of this chapter. The next chapter presents a summary of the key issues that derived from this main study, contributions and limitations of the study as well as concluding the whole study.

## **CHAPTER 8 CONCLUSIONS**

### **8.1 Introduction**

This chapter draws conclusions for the study. It reviews the results of the study and its contribution to the literature. It also highlights the managerial and policy implications for regulators in Malaysia. The final sections discuss the limitations of the study and offer suggestions for future research.

### **8.2 Review of the results**

The purpose of the study was to fill a gap in the literature by investigating the determinants of capital structure in SMEs in Malaysia and their effect on a firm's performance. This section discussed the results in the context of the specific aims and objectives.

#### **8.2.1 Influence of owner-manager characteristics, firm characteristics, management performance and external factors**

Evidence shows that all factors in the firm characteristics were found to be significant in at least one of four sources of finance. The factors are: business planning, commercial goals, lifestyle goals, relationship, networking, firm's age, size, asset structure, and profitability. The findings are consistent with previous studies (e.g. Chittenden et al., 1996; Michaelas et al., 1999; Romano et al., 2000; Gibson, 2002; Swinnen et al., 2002; Fu et al., 2002; Riportella and Martinez, 2003; Hutchinson, 2003; Cassar and Holmes, 2003; Hall et al., 2004; Sogorb-Mira, 2005; Nguyen and Ramachandran, 2006; Klapper et al., 2006; Hussin et al., 2006; Mac an Bhaird and Lucey, 2006; Lopez-Gracia and Sanchez-Andujar, 2007; Psillaki and Daskalakis, 2008; Beck et al., 2008; Bell and Vos, 2009; Rocca et al., 2009; Ramalho and da Silva, 2009; Degryse et al., 2009; Chakraborty, 2010; Newman et al., 2011) which found that these factors have an influence on capital structure of the firms. Results reveal that retained earnings are positively associated with age of the firm, lifestyle goals, and profitability, and inversely related to business planning, commercial goals and asset structure. Age of the firm and business planning are negatively related to funds from family and friends. Results also reveal that debt



financing is positively associated with commercial goals, business planning and asset structure and negatively associated with the age of the firm and profitability. External equity is positively associated with commercial goals, firm size, and business planning and negatively related to profitability.

SMEs' capital structure was also found to be influenced by the owner's ethnicity, networking and relationship, and attitudes to debt. Alternatively, the capital structure of the firm is not influenced by the owner's age and education. Owner's networking and relationship was positively associated with debt financing. Owner's ethnicity (ethnic minority) was positively related to funds from family and friends and inversely associated with external financing. Findings concerning ethnicity were found to be in line with previous studies (see Smallbone et al., 2003; Deakin et al., 2007; Robb and Fairlie, 2007). Owner's attitude to debt (i.e. averse to use debt) was positively associated with retained earnings and negatively related to debt. The influence of owner's attitude to debt confirms the findings of the preliminary study as well as the suggestion of Michaelas et al. (1999).

In addition, both factors of business cultural orientations (i.e. 'conservatism' and 'mastery') and business environment (i.e. 'stable environment' and 'external environment') were found to be the critical determinants in choosing sources of finance. Results reveal that business culture and stable environment were positively and negatively associated with retained earnings, respectively. Mastery is positively associated with funds from family and friends and external equity. Debt is positively associated with stable environment and inversely associated with business culture and external environment. The result of conservatism and mastery confirmed results of previous studies (Chui et al., 2002; Breuer and Salzmann, 2009; Shao et al., 2010; Siegel et al., 2011; Li et al., 2011). The influence of external environment confirms the study of Booth et al. (2001). Alternatively, the relationship between 'stable environment' and financing choice was tested for the first time in this study. This factor was previously used in management studies such as Barringer and Bluedorn (1999) in measuring the association between corporate entrepreneurship and strategic management.

### **8.2.2 Impact of capital structure and its determinants on organisational performance**

Results reveal a significant negative relationship between debt and the firm's performance. The result shows that the Malaysian SMEs do not use debt as a control mechanism to maximise the performance as stated by agency theory. It is not possible to recommend high leverage levels to owner-managers within the study sample because of the negative relationship between debt and performance. It explains that borrowing hastens the separation between SMEs and lenders. The result indicates that like most of the firms in the world (Phillips and Sipahioglu, 2004), SMEs in Malaysia are attempting to grow through less risky paths. The study confirms that SMEs in Malaysia do not care about tax-shield benefit derived from employing debt and non-debt tax shield (Ahmed and Hisham, 2009).

In addition, results indicate that only goals, profitability, size, planning, ethnicity, and culture have a significant association with firm's performance. Results also reveal that debt mediates the relationship between determinants of capital structure and the firm's performance, partially. It means the mediating role of debt does not change the relationship between determinants of capital structure and the performance in regard to its significance.

### **8.2.3 Indirect effects of ethnicity**

This study has analysed the moderating effects of ethnicity with all independent variables. Results showed that conservatism and mastery were significant when they interacted with 'ethnicity'. It indicated that the capital structure decisions of the Malay, Chinese, and Indian owner-managers were influenced by culture. Two-way interaction between conservatism and ethnicity was positively associated with retained earnings and negatively associated with equity financing. Alternatively, two-way interaction between mastery and ethnicity was negatively associated with debt financing.

#### **8.2.4 Financing patterns of Malay, Chinese and Indian owner-managers**

The study found that Malays favour external sources of capital, while non-Malays (Chinese and Indian) prefer internal sources of finance. Malays prefer to raise capital through borrowing from financial institutions or using government loans. Alternatively, the preferred internal funds utilised by Chinese or Indians are the funds from friends and families. There is no evidence of the association between ethnicity and use of retained earnings since all ethnic groups utilised funds almost alike.

#### **8.3 Contribution of the study**

This study draws on financial management, strategic management, and entrepreneurship literature to develop a theoretical framework to explain the determinants of capital structure of SMEs in Malaysia; incorporating pecking order theory (Myers, 1984; Myers and Majluf, 1984), static trade-off theory (DeAngelo and Masulis, 1980), life-cycle model (Modigliani and Brumberg, 1954), agency theory (Jensen and Meckling, 1976) and Schwartz's (1994) culture model. The consideration of these theories aids in resolving inconsistent results concerning the influence of culture, network ties, and the environment over existing measures and the effect of capital structure and its determinants on firm performance. Consequently, this study makes a number of contributions to the existing body of knowledge.

The thesis adds to the financial studies literature by developing an integrated model which combines four perspectives on the capital structure choice: firm characteristics, owner-manager characteristics, management performance, and environment. This study extends the range of theoretical firm or entrepreneur-related determinants of capital structure, such as attitudes to debt, relationship and networking, culture, and business planning. In addition, most of the previous literatures focused mainly on firm-related factors rather than environmental factors, even though in practice, managers also like to consider the environmental factor when deciding on financing mix (Booth et al., 2001; Antoniou et al., 2002; Gianetti, 2003; Korajczyk and Levy, 2003). This factor is mostly studied in developed countries. Studying the influence of environmental factors on capital structure

decision on ASEAN countries will be more worthy especially in the wake of the current economic crisis as suggested by Deesomsak et al. (2004). In essence, this thesis attempts to bring the description of Western capital structure theory together with actual financing practices of firms from other economic backgrounds, thus bridging the gap between theory and practice.

This is the first empirical study on the topic to be conducted in Malaysia from an SME owner's perspective. Although the government is providing relatively large facilities to assist SMEs financially and non-financially, the effects of these policies have not been subject to systematic analysis until now. Moreover, this is the first study to examine the multi-dimensionality of SMEs' capital structure in Malaysia.

This is the first study to develop a theoretical framework that engages in the issue of capital structure choice among different ethnic groups in Malaysia. This is in contrast with other studies which focus on Western ethnicity issues (Smallbone et al., 2003; Hussain and Matlay, 2007; Deakin et al., 2007; Robb and Fairlie, 2007). The present study focuses on one country and on three different ethnic groups. This study employs Schwartz's cultural dimensions with individual-level measurement, which is different from previous studies that focused on country level. For instance, a study of Chui et al. (2002) uses Schwartz's (1994) cultural values to investigate the influence of culture on financing choices across 22 countries.

This study tested regression models by employing internal and external sources of finance as dependent variables in multivariate models. This is distinct from previous studies that mostly used long-term and short-term debt (e.g. Bevan and Danbolt, 2002; Cassar and Holmes, 2003; Sogorb-Mira, 2005; Padron et al., 2005; Abor and Biekpe, 2009). The main reason for also considering internal source is because the primary source of finance for SMEs is an internal source (Romano et al., 2000; Mac an Bhaird and Lucey, 2006), such as personal savings, funds from friends and family, or informal sources. Notwithstanding that internal funds are found to be the most important source of financing for SMEs, there are still few studies testing multivariate models by using the internal funds as a dependent variable (e.g. Fluck et al., 1998; Ou and Haynes, 2006; Bhaird and Lucey, 2006).

Although previous research has examined the determinants of capital structure, this is the first study to investigate the association between determinants of capital structure or capital structure and firm performance and the mediating role of the capital structure for the association between determinants of capital structure and performance. This research provides evidence that there is a significant (partially) mediating role of capital structure on the firm's performance.

This study also makes a methodological contribution to the literature by using methodological triangulation to investigate the capital structure determinants of SMEs in Malaysia. Interviews and survey questionnaire were conducted in an attempt to analyse financial as well as non-financial and behavioural factors that affect Malaysian SMEs' capital structure. This combination of collection methods may mitigate the problem of access to financial data (e.g. unavailable or incomplete data) or panel data for Malaysian SMEs. The use of interviews or personally administered questionnaires instead of an online data collection method in identifying the dimension of capital structure is considered practical following the report of the Census of Establishments and Enterprises (2011) which reveals that 73% of SMEs did not use Information and Communication Technology (ICT) in conducting their business. The lack of access to better technology and ICT had also been highlighted by Salleh and Ndubisi (2006) in their study on the challenges faced by SMEs in Malaysia.

## **8.4 Implications and recommendations**

### **8.4.1 Implications for owner-managers of SMEs**

Owner-managers should be aware of the factors that may influence their financing decisions. They should ensure that their firms are financed at the lowest possible cost. Every financial decision must be able to create value for the firms. The following paragraphs highlight the managerial implications of the study.

SME owners should recognise that asymmetric information would restrain firms from accessing bank loans or other external sources of funds. Owner-managers should take a positive initiative in improving firms' accessibility to external sources of debt and equity financing through enhancing firms' accounting systems. This

would allow firms to receive larger levels of credit from networks in general, and from commercial banks in particular. Owner-managers may also consider merger and amalgamation as a means of improving access to external sources of finance. This may require tougher disclosure requirements on limited liability enterprises, resulting in improved transparency and greater trust between the firm and financial or non-financial institutions.

SME owner-managers should focus more attention on building strong network ties. SME owner-managers can establish a high level of confidence and trust among lenders or financiers through disclosing well-prepared financial statements and portraying good discipline by prompt payment. In addition, maintaining strong business networks with customers and suppliers would make it easier for SMEs to obtain finance from informal networks or trade credit. SMEs also need to assess the consequences that their control and risk aversion might have on their ability to grow and prosper. SME owner-managers should be aware of how their behaviours (e.g. control or risk averse) may impact negatively on the competitiveness of their business in the long run.

Finally, this study identifies the critical factors that might accelerate the performance of SMEs. This study will give benefit to SME owners-managers in aiding them to choose the right financing capital for their firms. Findings of the relevance of traditional capital structure theories in explaining firms' financing behaviours suggest that both capital structure theories of pecking order and agency coexist in Malaysia, and there is a tax benefit to debt. Current findings suggest that owner-managers should concentrate on internally generated funds in order to gain the most from both capital structure practices. However, sometimes owner-managers may overlook the opportunities to enhance the value if they do not utilise debt. Thus, owner-managers may acquire external funds with the condition that they should fit decisions around taking full advantage of the tax benefit of debt. They should set a low target capital structure if the bankruptcy costs are very high.

#### **8.4.2 Implications for policymakers**

The results of this study are not only relevant to the owner-managers of SMEs, but also to policymakers in Malaysia and other countries with similar ethnic mixes. This

study highlights a number of policy implications. The identification of influencing factors such as ethnicity and environment will extend current understanding of how effectively the policymaker assists the small firms. Such findings are necessary for the ultimate development of SME assistance especially in terms of financing and advising by the government. The government authorities should recognise the importance of providing SMEs with support to improve their ability to access formal sources of financing.

The present results indicated that Malaysian SMEs are, to a large extent, control averse and that control aversion was negatively related to leverage. Aversion towards external control may prevent SMEs from seeking and obtaining adequate financing for their business operations (Berggren et al., 2000). Consequently, this control aversion may affect the firms' chances of survival (i.e. ability to grow). Government authorities should be aware of how such behaviour impacts on the development of the SME sector when developing policies related to the SME sector.

Policymakers should also be aware of the mismatch of supply and demand for financing in the SME sector when designing policies to support SME development (especially those which are unincorporated). Profitable firms, with active networks, are less motivated to seek external sources of financing that may subject them to greater scrutiny. They tend to reinvest their profits, before seeking external financing. In contrast, firms with fewer network ties have the greatest need for external financing but face greater difficulties in borrowing formally due to the existence of high levels of asymmetric information between them and potential financiers. As a result, they tend to rely on informal financing mechanisms which results in higher financing costs. Therefore, policymakers should concentrate on providing specific support for those enterprises that are in serious need of external financing and are actively demanding it. Policymakers must find ways of redirecting support away from successful firms towards firms who are in greater need of formal financing, but are less able to access it due to significant asymmetric information between them and their potential lenders. This could be done by developing effective mechanisms for guaranteeing the debts of firms in innovative new industries that have significant potential for long-term growth and new firms without the obligatory network ties.

The government might also help owner-managers improve their network ties by holding forums in which they might develop their network ties with other business owners and bank officials. Government authorities could also assist in setting up credit guarantee schemes or providing funds for SMEs, which may reduce the asymmetric information between lenders and borrowers. Although a nationwide network of credit guarantee schemes by Credit Guarantee Corporation has been established, these schemes have not worked due to a lack of ongoing financial support, complicated bureaucracy and red tape from the government. In addition, the government authorities should consider advancing low-cost non-default loans especially to sole traders to help them survive in the premature stages of their business growth. The government authorities should also provide financial aid to guarantee schemes. The financial aid could allow businesses with a limited track record to seek adequate financing to support their early stages of business development.

Policymakers should also adopt a user-friendly accounting system that will encourage SMEs to be more transparent in financial dealings. It will indirectly assist SMEs in getting better access to external financing, since it may improve the ability of financial institutions to assess creditworthiness of loan applicants from the SME sector. Moreover, the outcome of any policy changes should be tailored towards having an increased liquidity in the market, and tax is one mechanism. Present findings of the significance of tax in firms' financial decisions (external factors) suggest that policymakers should design a taxation regime that would not only maximise the tax benefit of debt to debt seekers, but to debt providers as well. On the investors' side, Malaysia's current tax system seeks to offset the tax incentive of corporate debt by giving investors a tax credit on dividends received since Malaysian shareholders do not pay additional taxes on dividend income.

Policymakers should consider the dynamic nature of the particular industry when developing mechanisms to support SME development (Berggren et al., 2000). SMEs engaged in innovative, new industries marked by rapid technological development will need greater support than SMEs involved in traditional industries, with little potential for growth. Support should be provided towards enterprises that are most likely to need it rather than to all enterprises irrespective of their individual situation. The government should review the Industrial Coordination Act (1975), specifically



in terms of financial incentives, facilities and contracts. The existing requirement was found to favour manufacturing industries compared with service sectors or agriculture and ICT (MIDA, 2012). The government should also re-examine the requirement of ICA in terms of size of the firm as it is not in accordance to the definition given by the Bank Negara Malaysia (2013). Thus, the government should guarantee that all business sectors enjoy the same opportunity to access credit from the government.

Another very important issue is the discrimination in financing facilities and accessibility among ethnic groups. Current findings show that there is unfair treatment for non-Malay-owned (i.e. Chinese and Indian) SMEs in accessing government grants and loans. Government contracts explicitly favour Malay-owned businesses (Tran, 2013). The government should guarantee that the rhetoric of racial equality to be practically implemented in the funding policy. The government could review the existing quota on grants and loans and increase the quota for the non-Malay-owned businesses gradually. The government should strengthen the implementation of the existing New Economic Model which focuses more inclusive and race-blind system.

#### **8.4.3 Implications for financial institutions**

Implications of the study can also be drawn for financial institutions engaging in lending to SMEs. Many SMEs are averse to borrow from financial institutions due to strict lending requirements. Financial institutions should consider changing their credit policies accordingly to suit the individual conditions of the firm, and not solely assess the creditworthiness of the firm on the basis of past performance. Financial institutions might consider placing greater weight on other factors such as the viability of its future business plans or growth potential of the firm. They might also consider accepting more items as collateral (i.e. other than fixed assets such as receivables, inventory and equipment) as suggested by Fagan and Zhao (2009).

#### **8.5 Limitations of the study and generalisability**

Results, implications and contributions of the study should be considered with the following limitations. As highlighted by Pandey (2001), unavailability of

comprehensive financial data is a major limitation in capital structure studies in emerging market economies. The collected financial information may be subject to possible human error (i.e. not the audited financial statement), which may have implications for the reliability and validity of the results. The main reason is due to inappropriate preparation of the financial statements (e.g. lack of documentation and transaction records) by the owner-managers.

The model developed in this thesis is a simple model, adapted from various models (see Shyam-Sunder and Myers, 1999; Michaelas et al., 1999; Romano et al., 2000; Bhaird and Lucey, 2006). Although numerous independent variables affecting capital structure decisions have been studied, other variables probably could have been used and even have been more effective. A further consideration is that, even after revising the underlying assumptions and including some subjective financing decisions' framework to the models' specifications, the models still need some improvements if they are to represent firms' actual financing scenarios in a particular place, as confirmed by Palacín-Sánchez, Ramírez-Herrera, and di Pietro (2013) in their studies on Spanish SMEs. In addition, similar to other empirical research conducted in the field of financial management, the conclusions drawn in this thesis are based on organisational behaviours at a particular time. Thus, any development beyond February 2014 is ignored.

The sample for the main study was drawn on the basis of the criteria described in Section 4.5.2. A response rate of 75% was achieved, and useable responses were received from 384 SMEs. This is an acceptable sample size for a population of this magnitude (Krejcie and Morgan, 1970, cited by Collis and Hussey, 2009). The satisfactory results of tests for generalisability and non-response bias allow the findings to be generalised only to SMEs within the definition provided in Tables 4.1 and 4.2 in this study. Hence, it would be misleading and inappropriate to make a claim that the findings of this research are applicable across a wide range of SMEs. The results are representative of micro, small, and medium-sized enterprises in Malaysia and are not necessarily generalisable to other countries. It is important to be aware of the cultural, legal, and institutional differences between developing economies and the Western economies as highlighted by Chen (2004). The findings of this study may be limited to the Malaysian context and may not necessarily reflect capital structure behaviours in other countries. However, the limitations and

generalisability issues do not minimise the significance of the findings. Alternatively, these limitations provide scope for other studies to further test and extend the theoretical framework developed in this study.

## **8.6 Future research**

The theoretical framework developed in this study can be used as the basis for future research into the financing of SMEs in other regions of Malaysia and in other developing countries. Future research is needed to compare the financing behaviours of SMEs in Malaysia with those in other developing countries and to investigate differences in industry and sector to enhance our knowledge of SMEs' financing needs. In addition, it would be useful to conduct a comparative study of company and non-company financing behaviours as these two structures have their own special characteristics arising from their legal status and the extent of limited liability and financial disclosure.

Another consideration that should be noted is that the future research could look in more detail at the financing behaviours among different ethnic groups by conducting a survey on a large sample of each ethnic group (e.g. more than 300 samples for each ethnic group). Large samples of study may enable collection of detailed and additional information on financing behaviours. A case study (instead of survey questionnaire) approach may also be employed to highlight in detail the capital structure and financing preference of SMEs.

Future studies may also integrate a measure of personal risks of SME owners into the model through considering the issue of collateral and owner's equity. Finally, this study could be updated to take account of the effect of goods and services tax (GST) on the capital structure (specifically in Malaysia) as Malaysia will implement GST starting from the first quarter of 2015 (Zhou, Tam, and Heng-Contaxis, 2013).

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## Appendix A: The Participant Information Sheet

### Brunel Business School Research Ethics **Participant Information Sheet**

#### **1. Title of Research**

Determinants of capital structure in small and medium enterprises in Malaysia

#### **2. Researcher**

Student on PhD programme, Brunel Business School, Brunel University London

#### **3. Contact Email**

[cbpghm@brunel.ac.uk](mailto:cbpghm@brunel.ac.uk) or [fizah8107@yahoo.com](mailto:fizah8107@yahoo.com)

#### **4. Purpose of the research**

The research project investigates the factors that influence the capital structure (financing choices) and effects of financing behaviours on the firm's performance.

#### **5. What is involved?**

- Complete a self-completion questionnaire or interview.
- Participant has been asked about business financing preference, business background, general issues of SMEs in Malaysia, company's performance (not included any exact figure), and comment.
- The targeted respondents are owner-managers of the firms (i.e. those who involve in making financial decisions for the firms).

#### **6. Voluntary nature of participation and confidentiality.**

Your participation is absolutely voluntary but important for the success of this study. This research is **STRICTLY CONFIDENTIAL** and is being carried out for academic purposes only. Your enterprise and your name will not be identified as all questionnaires will be coded upon receipt; so that no links are possible between the data and the identity of the enterprise or yourself. The data will only be used in an aggregated form in the report.

## Appendix B: Guide for individual and group interviews

<b>Owner's Background</b>
<ul style="list-style-type: none"><li>• How old are you?</li><li>• How long have you been in this business?</li><li>• Is this business is your first business? If not, then how many times have you attempted to set up own business?</li><li>• What is your education background?</li><li>• What motivate you to start your own business?</li><li>• Did you inherit this business from your family or it was your own initiative?</li><li>• How many employees do you have so far?</li></ul>
<b>Company's Background</b>
<ul style="list-style-type: none"><li>• What is the principal activity of your business?</li><li>• How many years your business is operating?</li><li>• What stage of development would you say the business is in at the present time?</li></ul>
<b>Business Financing</b>
<ul style="list-style-type: none"><li>• How do you finance your business in start-up, growth and matured stages?</li><li>• What are the reasons for considering the chosen type of finance?</li><li>• Do you prefer to fund your business by means of internal or external funding sources? Why?</li><li>• Do you have any preferences for short-, medium- or long-term funding sources? Why?</li><li>• Under what circumstances would you require for debt?</li><li>• Under what circumstances would you make an equity issue?</li><li>• What are the characteristics (e.g. enterprise or entrepreneur's characteristics) required when you apply for an external finance (e.g. bank, financial institution, non-financial institution, or government)?</li><li>• What do you understand about capital structure determinants?</li><li>• Did your financing choice determined by a specific determinant? (e.g.: SMEs characteristics/owner's characteristic/culture/relationship with financial provider)</li><li>• What items in this page do you think are not relevant to the determinants of capital structure? and Why? (the researcher will show respondents the listed determinants of capital structure which were obtain from previous literature)</li></ul>
<b>Company's Performance</b>
<ul style="list-style-type: none"><li>• How would you describe your organisation's current state?</li><li>• Did your business performance depend on the sources of finance that you used?</li><li>• If so, could you please describe the effect of each financing choice on your company's performance?</li></ul>

**General Issues**

- In your opinion, what are the barriers to the development of the SMEs in Malaysia?
- In your opinion, what measures should be taken at governmental level to support the creation and development of SMEs in Malaysia?
- Are you aware of the government's financing packages available for SMEs? And, to what extent is business like yours well-supported by the government or financial institutions?
- To what extent is business like yours well supported by the government or financial institutions?
- What advice would you give to someone who wants to start his or her own business? Specifically regarding financing of business.

## Appendix C: Questionnaire for the main survey

To Whom It May Concern:

Dear business owner,

### **RE: “Determinants of Capital Structure in Small and Medium-Sized Enterprises in Malaysia”**

Recognising that the future of SMEs in Malaysia relies heavily on the efforts of the SME’s owners such as yourself, we are eager to learn about your own experiences. In particular, we are conducting a survey on the financing decisions among SMEs in Malaysia with the support of the Brunel University Business School, United Kingdom. The purpose of the study is to investigate the determinants of capital structure in SMEs and the impact of the financing decisions on the organisational performance.

Your co-operation is critical to the success of the project; therefore, we would be very grateful if you could complete the questionnaire. Please note that **there is no “right” or “wrong” answer** to any of these questions. If you have any comments about the financing determinants that you would like to include, please do so in the space provided at the end of the survey.

This research is **STRICTLY CONFIDENTIAL** and is being carried out for academic purposes only. Your enterprise and your name will not be identified as all questionnaires will be coded upon receipt; so that no links are possible between the data and the identity of the enterprise or yourself. The findings of this research project will be reported in the thesis that will be submitted to the Brunel University London, as required for the degree of Doctor of Philosophy.

In return for your cooperation, a summary of the findings will be provided to you after the project is finalised (upon request). In addition, we will be delighted to discuss our findings with you if this could be beneficial to your organisation.

We thank you for your time and co-operation.

Yours sincerely,  
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**SECTION A: BUSINESS FINANCING**

In this section, please provide us with some information regarding your company’s financing.

1. When you start this business, from which sources was finance raised? (Check only ONE for each column)

	Primary sources	Secondary sources
Personal Savings/personal funds	1	1
Funds from friends and family	2	2
Trade Credit, Hire purchase, Leasing	3	3
Debt financing	4	4
External Equity Financing	5	5

2. What source(s) of finance does your firm use during post start-up?  
(Please rate on a scale, 0=Not Used & 1= Used)

Sources of finance (SOF)	Not Use	Use
Retained earnings	0	1
Internal source of finance (i.e. Personal savings of owners, Personal loan, Personal Credit cards, Funds from family and friends)	0	1
Debt financing (i.e. Commercial loans / mortgages from banks and other financial institutions, bank overdraft, leasing and hire purchase, factoring or sale of account receivable)	0	1
External equity (i.e. Venture capital, business angels/ private investors, government grants and loans)	0	1

For questions 3 to 31, please indicate the level of importance of the following statements. (For each question, please tick the number that reflects your perception and opinion).

1	2	3	4	5
Not important at all	Not Important	Neutral	Important	Very Important

**When making a financing decision for your company, which of the following factors do you consider as important?**

3.	Formal business plan	1	2	3	4	5
4.	Formal strategic plan (long-term or short-term plan)	1	2	3	4	5
5.	Formal management structure	1	2	3	4	5
6.	Business performance appraisal	1	2	3	4	5
7.	Close relationship with lender/ supplier	1	2	3	4	5
8.	Duration of relationship with lender/supplier	1	2	3	4	5
9.	Review relationship with lender/supplier on a regular basis	1	2	3	4	5
10.	Review procedures in getting credits	1	2	3	4	5
11.	Send report to lender/supplier on regular basis	1	2	3	4	5
12.	Provide data to lender/supplier when requested	1	2	3	4	5
13.	Review services of lender/supplier on regular basis	1	2	3	4	5
14.	Consider hobbies of bank’s managers	1	2	3	4	5
15.	Invite lender/supplier to visit firm	1	2	3	4	5
16.	Be regular clients	1	2	3	4	5
17.	Pay on time	1	2	3	4	5
18.	Visit lender/supplier on regular basis	1	2	3	4	5
19.	Offer personal greetings to supplier/lender	1	2	3	4	5
20.	Lenders/suppliers are managed by family members/friends	1	2	3	4	5
21.	Culture norms	1	2	3	4	5
22.	Religious beliefs	1	2	3	4	5
23.	Way of life	1	2	3	4	5
24.	Attitude to debt	1	2	3	4	5

For questions 25 until question 35, please indicate the level of importance of the following objectives in influencing the financing decision of your company.

1	2	3	4	5
Strongly Unimportant	Unimportant	Neutral	Important	Strongly Important

25.	Accumulate wealth	1	2	3	4	5
26.	Improve lifestyle	1	2	3	4	5
27.	Develop hobbies or skills	1	2	3	4	5
28.	Maintain control	1	2	3	4	5
29.	Expand the firm	1	2	3	4	5
30.	Increase firm's value	1	2	3	4	5
31.	Repay the borrowings	1	2	3	4	5
32.	Liked challenge	1	2	3	4	5
33.	Fit around family commitment	1	2	3	4	5
34.	Family tradition (Pass onto next generation)	1	2	3	4	5
35.	Provide jobs for family and friends	1	2	3	4	5

36. Please tick the type of collateral used or not used by your company for debt financing.

	Used	Not used
i. Inventory or accounts receivable	1	2
ii. Business equipment or vehicles	1	2
iii. Business securities or deposits	1	2
iv. Business real estate	1	2
v. Personal real estate	1	2

37. If you have used government financing, which of the following government programs or services did your enterprise use or not use?

	Used	Not used
i. Soft loans	1	2
ii. Grants	1	2
iii. Equity finance	1	2
iv. Venture capital	1	2
v. Guarantee scheme	1	2
vi. Tax incentives	1	2
vii. Other (please specify)___	1	2

38. In order to obtain capital to expand/grow or refinance your business, would you consider sharing the equity (ownership) in your firm? (Check one only)

I currently share 50% or more	1
Yes, I am willing to share more than 50%.	2
Yes, but I would rather keep more than 50%.	3
No	4



**SECTION B: BUSINESS ENVIRONMENT**

In this section, please provide us with some information regarding business environment.

Please indicate the extent to which each of the following statements is true or untrue in so far as it reflects the business environment that your firm is operating in (please relate each statement with the financing decision)

1	2	3	4	5
Very Untrue	Untrue	Neutral	True	Very True

1.	It is easy to keep afloat in this industry	1	2	3	4	5
2.	There is little threat to the survival and well being of my business	1	2	3	4	5
3.	There are rich investments and marketing opportunities	1	2	3	4	5
4.	My business must frequently change its marketing practices	1	2	3	4	5
5.	One wrong decision could easily threaten the viability of my business	1	2	3	4	5
6.	The failure rate of businesses in this industry is high	1	2	3	4	5
7.	Social pressure could affect my business	1	2	3	4	5
8.	Strict government rules and regulation could hinder the viability of my business	1	2	3	4	5
9.	The survival of my business is highly dependent on the country's economy	1	2	3	4	5

**SECTION C: BUSINESS CULTURAL ORIENTATION**

In this section, please provide us with some information regarding business cultural orientation.

Please indicate how strongly do you agree or disagree with the following statements (please relate each statement with the financing decision).

1	2	3	4	5
Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree

1.	Details of job requirements and instructions are important	1	2	3	4	5
2.	Regulations inform employees what is expected from them	1	2	3	4	5
3.	Standard operating procedures are helpful to employees on job	1	2	3	4	5
4.	Harmonious working relationships are important for the company	1	2	3	4	5
5.	Instructions for operations are important for employees on job	1	2	3	4	5
6.	Preserving public image is one of the main policies for the company	1	2	3	4	5
7.	Owner's success is more important than the employees' success	1	2	3	4	5
8.	An aggressive financing policy is important for the firm	1	2	3	4	5
9.	Owner's interest is more important than the employees' interests	1	2	3	4	5
10.	Achievement of owner's goals is more important for the company	1	2	3	4	5

**SECTION D: INFORMATION ON THE BUSINESS OWNER**

In this section, please provide us with some information regarding your personal demographic characteristics.

1. Please, indicate your gender:

Male	1
Female	2

2. Please, indicate your racial background.

Malay	1
Chinese	2
Indian	3

3. Please indicate your age?

24 or younger	1	45-54	4
25-34	2	55 and over	5
35-44	3		

4. What is the highest level of academic qualification obtained by the owner?

No academic qualifications	1	Postgraduate degree/Doctorate	4
Professional qualification	2	On-the-job-training	5
Undergraduate degree/ diploma	3	Other (please specify)___	6

5. For how long did you work before you started up your current business?

2 years or less	1
3-5 years	2
6-10 years	3
More than 10 years	4
Not Applicable	5

6. Please indicate the area which best represents your preparation for this business.

Life Experience	1
Trial and Error	2
Relevant Work Experience	3
Family Business Training	4
Business Start-Up Courses	5
Related Educational Background	6
Other (please specify)___	7

**SECTION E: INFORMATION ON THE ENTERPRISE**

In this section, please provide us with background information regarding your company.

1. Please, indicate how many years your business is operating?

Less than 1 year	1
1–3 years	2
4–10 years	3
Over 10 years	4

2. What is the principal activity of this business? (**Check only one from the box below**)  
 Could you briefly explain what the principal activity of your business is?

Accommodation / Budget Hotel	1	Printing and Photocopying Services	11
Agriculture, Hunting and Forestry, Fishing	2	Real Estate, Renting and Housing Development	12
Arts and Entertainment	3	Restaurants and Catering Services	13
Bakery and Cakes	4	Telecommunications, Computer and Related Services	14
Construction and Maintenance	5	Textile and Clothing	15
Electric and electronic	6	Tourism and Travel	16
Hardware and Painting	7	Transportation and Logistics Service	17
Foods and beverages	8	Wholesale and Retail	18
Health and Beauty Services	9	Workshop (Vehicles/Bicycle)	19
Mining and quarrying	10	Other (please specify)	20

3. What is the legal status of this business?

Sole Proprietors	1
Partnership	2
Limited Liability Partnership	3
Limited Liability Company	4

4. What is your firm's business premise?

Home-based	1
Leased space	2
Other	3

5. Please, indicate the total number of full-time and half-time employees in your firm (including you)?

1-4	1
5-19	2
20-50	3
51-150	4

**SECTION F: BUSINESS PERFORMANCE**

In this section, we seek information on your firm's performance

	Yes	No
1. Did your firm prepare the formal financial report?	1	2
2. Did your firm prepare a financial forecast?	1	2
3. Did your firm consistently keep the financial track record?	1	2

4. How frequent the report is prepared? (*formal or informal report*)

Everyday	1
Once a week	2
Once a month	3
No report	4

5. To what extent do you think each of the following items increase/ decrease your debt or equity ratio (external sources of finance)?

1	2	3	4	5
Strongly decrease	Decrease	No Change	Increase	Strongly Increase

A	Increase in profitability	1	2	3	4	5
B	Increase in the size of the firm	1	2	3	4	5
C	Increase in the value of fixed assets	1	2	3	4	5

Note: Profitability= Profit before interest and taxes/ Total assets, Size of the firm= Number of employees.

6. To ensure more accuracy, please provide the following information to the best of your knowledge. All information that you provide will remain strictly confidential.

1	2	3	4	5
Decreased more than 15%	Decrease not more than 15%	No change	Increase not more than 15%	Increase more than 15%

		Year 2010	Year 2009	Year 2008
a	Total assets	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
b	Fixed assets	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
c	Total liabilities	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
d	Sales volume	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
e	Profit before interests and taxes	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
f	Gross margin	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5
g	Cash Flow	1 2 3 4 5	1 2 3 4 5	1 2 3 4 5

7. How well is your company's performance compared to its close competitors in the same industry for the following situations?

1	2	3	4	5
Lowest 20%	Lower 20%	Middle 20%	Next 20%	Top 20%

New product introduction	1	2	3	4	5
Product quality	1	2	3	4	5
Marketing effectiveness	1	2	3	4	5
Manufacturing value-added	1	2	3	4	5
Technological efficiency	1	2	3	4	5

8. a) Did your business have business plan?

Yes , written	1
Yes, but not written	2
No	3

- b) How far ahead do you plan?

A few months	1
1±2 years	2
3±4 years	3
4±5 years	4
Not applicable	5

9. How would you describe your organisation's current state?

Rapidly Growing	1
Healthy and growing	2
Stable	3
Declining	4

*If you would like to make any comments regarding any of the items included in the questionnaire, please write them in the space provided below.*

***THIS SURVEY ENDS HERE***

***THANK YOU FOR YOUR PARTICIPATION IN THIS STUDY***

**Appendix D: Preliminary study: Capital structure**

<b>Interviewees</b>	<b>Ethnic</b>	<b>Funding method at start-up</b>	<b>Funding method at growth</b>	<b>Funding method at maturity</b>
A	Malay	Personal savings and F&F	Bank financing (overdraft)	Retained earnings, Trade credit
B	Indian	Government loan	Internal funds	Internal funds
C	Indian	Personal savings	Bank loan, trade credit	Trade credit
D	Chinese	Personal savings and F&F	Bank loan	Internal funds
E	Malay	Bank loan, Internal funds	Bank loan, Trade credit, Retained earnings	Trade credit
F	Malay	Personal savings and F&F	Bank loan	Government loan
G	Indian	Personal savings	Government loan	Trade credit
H	Malay	Personal savings	Government loan	Trade credit, Hire purchase
I	Chinese	Personal savings and F&F	N/A	N/A
J	Indian	Internal funds	Internal funds, Leasing, Private investor	Trade credit
K	Indian	Bank loan	Internal funds	Internal funds
L	Chinese	Personal savings and F&F	Internal funds	Internal funds
M	Chinese	Personal savings and F&F	Bank financing/ Bank Overdraft	Trade credit , Leasing & Hire purchase
N	Malay	Personal savings	Bank loan	N/A
O	Chinese	Personal savings and F&F	Bank loan	Internal funds
P	Malay	Personal savings	N/A	N/A
Q	Chinese	Personal savings and F&F	Bank loan	Leasing
R	Chinese	Personal savings and F&F	Bank loan	Government loan

S	Malay	F&F, Bank loan	Government loan, Bank loan	Bank loan, Trade credit, Leasing
T	Indian	Personal savings and F&F	Trade credit, bank loan	Trade credit, Leasing & Hire purchase
U	Chinese	Personal savings	Internal funds	Internal funds
V	Indian	Personal savings and F&F	Retained earnings	Retained earnings
W	Malay	F&F	Government grant & loan, Bank loan	N/A
X	Malay	Personal savings	Trade credit	Trade credit
Y	Malay	Personal savings and F&F	Trade credit, Leasing	Private investor

**Appendix E: Determinants of capital structure (are gathered from preliminary study and previous studies)**

<b><u>Determinants of Capital Structure</u></b>	<b><u>Items</u></b>	<b><u>Entrepreneurs/ Participants</u></b>	<b><u>Related Literature</u></b>
Business Planning	<ul style="list-style-type: none"> <li>• Formal business plan</li> <li>• Formal strategic plan (long-term or short-term plan)</li> <li>• Formal management structure</li> <li>• Business performance appraisal</li> </ul>	ALL	Romano et al. (2001), Berger and Udell (1998) Harvey and Evans (1995) Haron and Shanmugam (1994) Townley (1997) Chirinko and Singha (2000) Graham and Harvey (2001).
Relationship	<ul style="list-style-type: none"> <li>• Close relationship with lender/ supplier</li> <li>• Duration of relationship with lender/supplier</li> <li>• Review relationship with lender/supplier on a regular basis</li> <li>• Review procedures in getting credits</li> <li>• Send report to lender/supplier on regular basis</li> <li>• Provide data to lender/supplier when requested</li> <li>• Review services of lender/supplier on regular basis</li> <li>• Consider hobbies of bank's managers</li> <li>• Invite lender/supplier to visit firm</li> </ul>	A,C,E,G,H,J,L,M,N,S,T,X	Howcroft and Beckett (1993) Petersen and Rajan (1994) Wu (2001) Cole et al. (2004) Nguyen and Ramachandran (2006) Scott (2006) Newman et al. (2011)
Networking	<ul style="list-style-type: none"> <li>• Be regular clients</li> <li>• Pay in time</li> <li>• Visit supplier/friends/relatives on regular basis</li> <li>• Offer personal greetings to lender/suppliers</li> <li>• Lenders/suppliers are managed by family members or friends</li> </ul>		
Owner's attitudes, perceptions and beliefs	<ul style="list-style-type: none"> <li>• Culture norms</li> <li>• Religious beliefs</li> <li>• Way of life</li> </ul>	EXCEPT E,K,R	Friend and Lang (1988) Norton (1990) Michaelis et al. (1998)



	<ul style="list-style-type: none"> <li>• Attitude to debt</li> </ul>		<p>El-Gamal (2003) Hamoudi (2007)</p>
Objectives and goals	<ul style="list-style-type: none"> <li>• Increase business value</li> <li>• Accumulate wealth</li> <li>• Improve the lifestyle of the owner-manager</li> <li>• Liked challenge</li> <li>• Maintain control</li> <li>• Fit around family commitment</li> <li>• Develop hobbies/skills</li> <li>• Repay borrowing</li> <li>• Pass onto next generation (family tradition)</li> <li>• Expand the firms</li> <li>• Provide jobs for family and friends</li> </ul>	A,B,C,E,F,G,J,K,L,M,O,Q,S,T,U,V	<p>Boyer and Roth (1978) Barton and Gordon (1987) Shrivastava and Grant (1985) Dreux (1990) Hutchinson (1995) Read (1997) Neubauer and Lank (1998) Romano et al. (2000)</p>
Cultural Orientations	<ul style="list-style-type: none"> <li>• Details of job requirements and instructions are important</li> <li>• Owner's success is more important than group success</li> <li>• An aggressive financing policy is important for the firm</li> <li>• Owner's interest is more important than group interests</li> <li>• Achievement of owner's goals is more important for the company</li> <li>• Rules and regulations are important to inform employees what the organisation expects from them.</li> <li>• Standard operating procedures are helpful to employees on job</li> <li>• Harmonious working relationship and social harmony are important for the company</li> </ul>	EXCEPT B,I,M,T,U,V	<p>Hirshleifer and Thakor (1989) Schwartz' (1994) Clugston et al. (2000) Chui et al. (2002) Castro et al.(2007) Licht (2007) Breuer and Salzmann (2008) Shao et al. (2010) Li et al. (2011) Siegel et al. (2011)</p>

	<ul style="list-style-type: none"> <li>• Instructions for operations are important for employees on job</li> <li>• Preserving public image is one of the main policies for the company</li> </ul>		
Business Environment	<ul style="list-style-type: none"> <li>• It is very stressful and hard to keep afloat in this industry.</li> <li>• There is little threat to the survival and well being of my business.</li> <li>• There are rich investments and marketing opportunities.</li> <li>• My business must frequently change its marketing practices.</li> <li>• One wrong decision could easily threaten the viability of my business.</li> <li>• The failure rate of businesses in this industry is high.</li> <li>• Social pressure could affect my business.</li> <li>• Strict government's rules and regulation could hinder the viability of my business.</li> <li>• The survival of my business is highly dependent on the economic situation of the country. (e.g. inflation/recession)</li> </ul>	EXCEPT A,B,D,I,M,T,Y	<p>Sener (1989)  Naman and Slevin (1993)  Taggart (1995)  Michaelas et al. (1999)  Covin et al. (2000)  Hatzinikolaou et al. (2002)  Mutenheri and Green (2002)  Zhengfei and Kangtao (2004)</p>

## Appendix F: Summary of the data collection

	<u>When?</u>	<u>Where?</u>	<u>Why? (purpose)</u>	<u>How? (approach)</u>	<u>With whom? (respondents)</u>
<b>1<sup>st</sup> Pilot study</b>	July 2009	United Kingdom	<ul style="list-style-type: none"> <li>- To test the level of understanding of the SMEs owners regarding the draft interview guide.</li> </ul>	<ul style="list-style-type: none"> <li>- Telephone survey</li> <li>- Personally administered survey</li> </ul>	<ul style="list-style-type: none"> <li>➔ 2 British</li> <li>➔ 1 Malay</li> <li>➔ 1 Malaysian Chinese</li> <li>➔ 1 Malaysian Indian</li> </ul>
<b>Preliminary study</b>	Nov-Dec 2009	Malaysia	<ul style="list-style-type: none"> <li>- For items confirmation</li> <li>- To get a description of the determinants of capital structure in Malaysia's SMEs</li> </ul>	<ul style="list-style-type: none"> <li>- Semi-structured interviews</li> </ul>	<ul style="list-style-type: none"> <li>- 15 individual interviews</li> <li>- 2 group interviews (consist of 5 participants for each group)</li> <li>➔ 10 Malay</li> <li>➔ 8 Chinese</li> <li>➔ 7 Indian</li> </ul>
<b>2<sup>nd</sup> Pilot survey</b>	Jan-Feb 2010	Malaysia	<ul style="list-style-type: none"> <li>- To determine the appropriateness and relevance of the questions in the instrument</li> <li>- To check on the uniformity, consistency and validity of variables used in the instruments</li> <li>- To ensure it met the objectives of the study</li> <li>- To refine the questionnaire in order to ensure it is understood by the respondents</li> <li>- To check for content validity and face validity</li> </ul>	<ul style="list-style-type: none"> <li>- Face-to-face structured interviews</li> <li>- Telephone survey</li> </ul>	<ul style="list-style-type: none"> <li>- 25 SMEs' owners</li> <li>- 3 lecturers</li> <li>- 2 SMEs' experts from SME Bank of Malaysia</li> </ul>
<b>Main study-Survey questionnaire</b>	May-Nov 2010	Malaysia	<ul style="list-style-type: none"> <li>- For generalisation purposes using a large sample</li> <li>- To gain an understanding of Malaysian owner-managers' preferences, perceptions and beliefs towards capital structure</li> <li>- To examine the determinants of capital structure of the SMEs.</li> </ul>	<ul style="list-style-type: none"> <li>- Structured interviews (Face-to-face)</li> <li>- Personally-administered (wait and collect on the spot)</li> <li>- Personally-administered (drop-off)</li> <li>- Online survey</li> <li>- Telephone survey</li> </ul>	<ul style="list-style-type: none"> <li>384 SMEs' owners</li> <li>➔ 128 Malay</li> <li>➔ 128 Chinese</li> <li>➔ 128 Indian</li> </ul>
<b>Additional Interviews</b>	After completing with the exploratory factor analysis	UK & Malaysia	<ul style="list-style-type: none"> <li>- For terms confirmations (the name given to the new constructs or items)</li> <li>- To test whether the terms/names given to each constructs or items are relevant and understood by the business owners</li> </ul>	<ul style="list-style-type: none"> <li>- Telephone interviews</li> </ul>	<ul style="list-style-type: none"> <li>➔ 5 SMEs' owners from Malaysia</li> <li>➔ 3 from the U.K</li> </ul>

## Appendix G: Summary of the data analysis for the main survey

### *i. Pilot study*

Types of analysis	Reason using the analysis	Results
i. Reliability test ii. Face validity iii. Content validity	To test the reliability and validity of the questionnaire.	The Cronbach's alpha for each construct is > 0.70; the item-to-total correlation is > 0.50. → No item was deleted

### *iii. Main Survey*

Types of analysis	Reason using the analysis	Summary of the results	
<b><u>Exploratory Factor Analysis</u></b>			
<ul style="list-style-type: none"> <li>- PCA with varimax rotation</li> <li>- KMO &gt; 0.70</li> <li>- Eigen value &gt; 1.0</li> <li>- Communalities &gt; 0.50</li> <li>- Factor Loadings &gt; 0.50</li> </ul>	<ul style="list-style-type: none"> <li>- To reduce the number of items</li> <li>- To examine the dimensionality of underlying constructs</li> </ul>	<p>→ Out of 52 items, 15 items were deleted.</p> <ul style="list-style-type: none"> <li>- The internal consistency of the constructs of the study is relatively high as for Cronbach alpha was greater than 0.7 for all the constructs</li> <li>- Items assigned to each dimension consistently exhibited high loadings on their constructs</li> <li>- Factor loadings of all the items were fairly high indicating a reasonably high correlation between the hypothesized factors and their individual items.</li> </ul>	
<p>→ Remaining items = 37 → Factors = 10 Items were divided into groups to ensure that the number of observations per item for each analysis was at least 5:1 (Cavusgil and Zou, 1994; Hair <i>et al</i>, 2010).</p>			
<b><u>Logistic Regression Analysis</u></b>			
<ul style="list-style-type: none"> <li>- Binary LR</li> <li>- Forward stepwise procedure</li> <li>- Check for multicollinearity – good, as all VIF &lt; 5.0; Tolerance index are close to 1.0</li> </ul>	<ul style="list-style-type: none"> <li>- To test the hypotheses (determinants of capital structure- DOCS) on 4 regression models:                             <ol style="list-style-type: none"> <li>i. Retained earnings</li> <li>ii. Internal funds</li> <li>iii. Debt</li> <li>iv. External equity</li> </ol> </li> </ul> <p style="text-align: center;"><u>Why did not use SEM?</u></p> <ul style="list-style-type: none"> <li>- Binary Categorical DV</li> <li>- Non-normality of data &amp; small sample size- less than 400 as required by the ADF (Tanaka, 1984)</li> </ul>	<p><u>DOCS &amp; Retained earnings:</u></p> <p>Results for the first hypothesis reveal that, commercial goals, lifestyle goals, age of the firm, owner's attitudes to debt, profitability, and two-way interaction between conservatism and ethnicity were positively associated with retained earnings; while business culture, stable environment, business planning, and asset structure were negatively associated with retained earnings.</p> <p><u>DOCS &amp; F&amp;F:</u></p> <p>Results reveal that mastery and ethnicity were positively related;</p>	<p><u>DOCS &amp; Debt finance:</u></p> <p>Results reveal that debt financing is positively associated with commercial goals, networking and relationship, business planning, asset structure, and stable environment; and negatively associated with the age of the firm, business culture, ethnicity, owner's attitude to debt, profitability, external environment, and moderating effects of ethnicity with conservatism.</p> <p><u>DOCS &amp; External equities:</u></p> <p>Results reveal that mastery, commercial goals, firm size, and business planning were</p>

		<p>while age of the firm and business planning were negatively related with this dependent variable.</p>	<p>positively related; while ethnicity, profitability, and the moderating effects of ethnicity with conservatism, were negatively related with this dependent variable.</p>
<p>For <b>categorical IVs</b>, the reference group is the first item for each group.</p> <p><u>e.g.</u></p> <p>Ethnicity comprise of 1:Malay, 2:Chinese, 3:Indian.</p> <p>Hence, the reference group is the first item, which is 1: Malay.</p>		<p>For <b>continuous IVs (Likert Scale)</b>, the researcher firstly created one new variable for each factor in the final solution. The researcher chose '<i>Anderson-Rubin method</i>' for calculating the factor scores. The scores that are produced have a mean of 0, standard deviation of 1, and are uncorrelated. (<i>factor scores were used in this study to perform additional analyses using the factors as variables</i>)</p> <p><u>e.g.</u></p> <p>The factor of 'Business Planning' consists of 4 items. In doing binary LR, the researcher puts in ONLY the factor score of this factor, not every factor loading of each item.</p>	