

**The Mediating Role of Innovation between Family
Influence and Business Performance of Public Listed
Family Businesses in Malaysia**

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ABSTRACT

Innovation is a *sine qua non* for many businesses in today's competitive, complex and capricious environment. Plenty researches have highlighted that innovation is closely linked with business performance. Yet, to date, scant attention has been given to innovation in the world dominant form of business - family business. Even pertaining researches carried out in the past, the focuses are normally on the family versus nonfamily business dichotomy on innovation performance. However, in reality, family influence on business is multidimensional and continuous. The involvement and pattern of family influences vary from business to business. This dissertation seeks to fill these gaps by exploring the links between family influence, innovation and business performance.

The study was undertaken in Malaysia context using a sample of 174 public listed family businesses. The data were obtained through questionnaire survey conducted over a period of six months. The study involved three constructs: family influence, innovation and business performance. Family influence was operationalized using the F-PEC scale. There are three important dimensions in F-PEC scale: power, experience and culture. The innovation construct was measured using innovation in product/process and idea generation prevailing in the company. The business performance was measured by family goal performance and financial performance.

Data were analyzed using two tests: Statistical Package for the Social Science (SPSS) 20.0 and Structural Equation Modeling (SEM) with AMOS 20.0. Whereas the former test was used in the pilot test to verify the reliability and screened the

preliminary data, the latter was conducted to explore the direct and indirect effects of family influence on innovation and business performance.

Analysis of the structural relationship supports three out of the ten hypotheses. The hypothesized model results provided evidence that not all dimensions in F-PEC scale are statistically significant related with innovation. Among the dimensions in F-PEC scale, only culture is statistically significant related with innovation in family businesses. With regard to the direct effects of family influence on business performance, the study found that none of the dimensions in F-PEC scale is statistically significant related with business performance. Concerning the direct effect of innovation on business performance, as expected, innovation is positively linked with business performance. In the case of mediating effect, this study concluded that the influence of culture on business performance is mediated by innovation.

The findings of this study should help both practitioners and academicians understand the link between family influence, innovation and business performance better. It strikes to provide a foundation for ongoing research into family business' innovation, and the nature related family influence and their management.

ABSTRAK

Inovasi adalah *sine qua non* bagi kebanyakan perniagaan dalam persekitaran yang berdaya saing, kompleks dan berubah-ubah dalam hari ini. Banyak kajian telah menekankan bahawa inovasi berkait rapat dengan prestasi perniagaan. Namun, sehingga kini, sedikit perhatian telah diberikan kepada inovasi dalam bentuk dunia dominan perniagaan - perniagaan keluarga. Malah berkaitan dengan kajian yang dijalankan pada masa lalu, tumpuan biasanya pada dikotomi perniagaan keluarga berbanding dengan perniagaan bukan keluarga mengenai prestasi inovasi. Walau bagaimanapun, dalam realiti, pengaruh keluarga terhadap perniagaan adalah multidimensi dan berterusan. Penglibatan dan corak pengaruh keluarga berbeza daripada satu perniagaan ke satu perniagaan. Kajian ini mengisi jurang tersebut dengan meneroka hubungan antara pengaruh keluarga, inovasi dan prestasi perniagaan.

Kajian ini telah dijalankan dalam konteks Malaysia dengan menggunakan sebanyak 174 sampel yang diambil dari perniagaan keluarga yang tersenarai awam dalam Bursa Malaysia. Data yang diperolehi melalui soal selidik yang dijalankan dalam tempoh enam bulan. Kajian ini melibatkan tiga konstruk: pengaruh keluarga, inovasi dan prestasi perniagaan. Pengaruh keluarga yang telah beroperasi diukur menggunakan skala F-PEC. Terdapat tiga dimensi penting dalam skala F-PEC: kuasa, pengalaman dan budaya. Inovasi telah diukur menggunakan inovasi dalam produk / proses dan penjana idea yang wujud dalam syarikat tersebut. Prestasi perniagaan diukur oleh prestasi matlamat keluarga dan prestasi kewangan.

Data dianalisis dengan menggunakan dua ujian: Statistical Package for the Social Science (SPSS) 20.0 dan Structural Equation Modeling (SEM) dengan AMOS

20.0. Manakala ujian yang telah digunakan dalam ujian perintis adalah untuk mengesahkan kebolehpercayaan dan mengukur data awal, ujian kedua telah dijalankan untuk mengkaji kesan langsung dan tidak langsung pengaruh keluarga terhadap inovasi dan prestasi perniagaan.

Analisis hubungan struktur telah menyokong tiga daripada sepuluh hipotesis. Hasil model akhir keputusan SEM menunjukkan bahawa tidak semua dimensi dalam skala F-PEC mendapat wujud hubungan signifikan yang berkait dengan inovasi. Antara dimensi dalam skala F-PEC, hanya budaya adalah statistik yang signifikan berkait dengan inovasi dalam perniagaan keluarga. Dengan mengambil kira kesan langsung pengaruh keluarga terhadap prestasi perniagaan, kajian ini mendapati bahawa tiada dimensi dalam skala F-PEC adalah statistik yang signifikan berkait dengan prestasi perniagaan. Mengenai kesan langsung inovasi kepada prestasi perniagaan, seperti yang dijangkakan, inovasi positif dikaitkan dengan prestasi perniagaan. Dalam kes kesan pengantara, kajian ini membuat kesimpulan bahawa hubungan antara pengaruh budaya dengan prestasi perniagaan dipengaruhi oleh inovasi.

Dapatan kajian ini harus membantu pengamal dan ahli akademik memahami pautan di kalangan keluarga pengaruh, inovasi dan prestasi perniagaan lebih jelas. Ia menyediakan asas bagi penyelidikan yang berterusan ke dalam inovasi, perniagaan keluarga dan pengaruh sifat berkaitan keluarga dan pengurusan mereka.

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Chong Wei Ying

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Table of Contents

ORIGINAL LITERARY WORK DECLARATION	ii
ABSTRACT	iii
ABSTRAK	v
ACKNOWLEDGMENTS	vii
LIST OF FIGURES	xvi
LIST OF TABLES	xviii
LIST OF PUBLICATIONS	xxi
LIST OF APPENDICES	xxii
CHAPTER ONE:INTRODUCTION	1
1.1. Introduction	1
1.2. Background of the Study	1
1.2.1. Practical Background of the Study	3
1.2.2. Theoretical Background of the Study	4
1.3. Problem Statement	6
1.4. Significance of the Study	8
1.5. Research Objectives and Research Questions	9
1.6. Definition of Terms	10
1.7. Structure of this Thesis	12
1.8. Chapter Summary	12
CHAPTER TWO:LITERATURE REVIEW	14
2.1. Introduction	14
2.2. Some Characteristics of Public Listed Family Business in Malaysia	15
2.3. Overview of the Family Business Research Field	19
2.4. Defining Family Business	23

2.5.	Theories about Family Business	34
2.5.1.	Systems Theory	35
2.5.1.1.1.	F-PEC Scale	40
2.5.1.1.2.	F-PEC Validity and Reliability	44
2.5.2.	Agency Theory	47
2.5.3.	Stewardship Theory	51
2.5.4.	Differences between Agency Theory and Stewardship Theory	53
2.5.5.	Resource-Based View	55
2.6.	Overview of Innovation	57
2.7.	Defining Innovation	59
2.8.	Types of Innovation	64
2.9.	Innovation in Malaysia	67
2.10.	Family Influence, Innovation and Business Performance	71
2.11.	Chapter Summary	72

CHAPTER THREE: THEORETICAL FRAMEWORK AND HYPOTHESES

	DEVELOPMENT	73
3.1.	Introduction	73
3.2.	The Link between Family Influence and Innovation	74
3.2.1.	The Link between Power and Innovation	75
3.2.2.	The Link between Experience and Innovation	77
3.2.3.	The Link between Culture and Innovation	79
3.3.	The Link between Family Influence and Business Performance	82
3.4.	The Link between Innovation and Business Performance	84
3.5.	Research Questions and Hypotheses	87
3.6.	Control Variables: Firm Size and Firm Age	88

3.7.	Chapter Summary	90
CHAPTER FOUR:RESEARCH METHODOLOGY		91
4.1.	Introduction	91
4.2.	Theoretical Underpinnings, Assumptions and Approaches	92
4.2.1.	Objective Ontology, Objective Epistemology: Positivism and Neo-Positivism	96
4.2.2.	Subjective Ontology, Subjective Epistemology: Conventionalism and Postmodernism	98
4.2.3.	Objective Ontology, Subjective Epistemology: Critical Theory, Pragmatism and Critical Realism	102
4.3.	Research Design	106
4.4.	Justification of Research Design	109
4.4.1.	Sample Selection	111
4.4.2.	Data Source and Collection	112
4.4.3.	Research Instrument Design	115
4.4.4.	Operationalization of the Variables	117
4.4.4.1.	Independent/Mediating/Dependent Variable: Innovation	118
4.4.4.2.	Independent Variable: Family influence	124
4.4.4.2.1.	Power	124
4.4.4.2.2.	Experience	127
4.4.4.2.3.	Culture	129
4.4.4.3.	Dependent Variable: Family Business Performance	132
4.4.4.4.	Control Variables: Firm Size and Firm Age	136
4.4.5.	Pilot Test	136
4.4.5.1.	Pilot Test Results	138

4.5.	Response Rate for Final Study	141
4.6.	Statistical Techniques	142
4.6.1.	Models Evaluation	144
4.6.2.	Justification for Using SEM in This Study	146
4.7.	Chapter Summary	148
CHAPTER FIVE:RESEARCH FINDINGS		150
5.1.	Introduction	150
5.2.	Descriptive Statistics for the Final Study’s Sample	151
5.2.1.	Test of Non-Response Bias	151
5.2.2.	Respondent Profiles	153
5.3.	Preliminary Data Screening	158
5.3.1.	Outliners Linearity	159
5.3.2.	Homoscedasticity	160
5.3.3.	Multicollinearity	160
5.3.4.	Data Normality	161
5.3.5.	Sample Size Issues	164
5.3.6.	Common Method Bias	164
5.4.	Latent Variable Models and Confirmatory Factor Analysis	165
5.4.1.	Power Subscale	167
5.4.2.	Experience Subscale	169
5.4.3.	Culture Subscale	171
5.4.4.	Innovation	178
5.4.5.	Business Performance	182
5.4.6.	Family Influence	188
5.4.7.	Final Model Variables	195

5.5.	Hypothesized Model	198
5.6.	Hypotheses Testing	206
5.7.	Chapter Summary	213
CHAPTER SIX:DISCUSSION, CONCLUSION AND RECOMMENDATIONS		
FOR FUTURE STUDIES		214
6.1.	Introduction	214
6.2.	Research Overview	215
6.3.	Discussion of Key Research Findings	219
6.3.1.	RQ1. What is the extent of family influence on innovation?	220
6.3.2.	RQ2. What is the extent of family influence on business performance?	222
6.3.3.	RQ 3. What is The Role of Innovation on the Relationship between Family Influence and Business Performance?	224
6.3.4.	RQ 4. What is The Relationship between Innovation and Business Performance?	225
6.4.	Theoretical Contributions	226
6.4.1.	Innovation as a Mediating Role in the Family Influence – Business Performance Relationship.	226
6.4.2.	The Development of a Theoretical Framework That Linked Between Family Influence, Innovation and Family Business Performance	228
6.4.3.	This Study Tested the Applicability of F-PEC Scale, as Proposed by Astrachan, et al (2002), in Malaysia Context.	229
6.4.4.	The Study Suggests That a New Scale Could Be Developed Based on Innovation Assessment	231
6.5.	Practical Implications	232

6.5.1.	For Family Business Leaders	233
6.5.2.	For Family Business Consultants and Practitioners	234
6.5.3.	For Academics	235
6.6.	Limitations of the Study	236
6.6.1.	Use of A Single Theoretical Perspective to Understand The Link Between Family Influence, Innovation and Business Performance	237
6.6.2.	Definitional Problems that Plagued Family Business and Innovation	238
6.6.3.	Use of Survey Methodology	238
6.6.4.	Cross-Sectional Research Design	239
6.6.5.	Use of Perceptual Data	239
6.6.6.	Use of Self-Selected Sample	240
6.7.	Suggestions for the Future Research	240
6.7.1.	Use of Longitudinal and Multidimensional Study	241
6.7.2.	Use of Alternative Methodologies	241
6.7.3.	Use of Multi-Respondent Data Collection Method	242
6.7.4.	Use of Comparison Groups	243
6.7.5.	Use of Specific Business Type	243
6.7.6.	Exploring the Relationship between Family Influence, Innovation and Business Further	243
6.8.	Concluding Remarks of the Research	244
	REFERENCES	246
	APPENDICES	279
	Appendix A: Cover Letter	280
	Appendix B: Questionnaire	281
	Appendix C: Malay Questionnaire	287

Appendix D: Chinese Questionnaire	294
Appendix E: Respondents Who Consider the Business to be a Family Business	299
Appendix F: Summary of Research Objectives, Research Questions and Hypotheses	300
Appendix G: Box Plots	302
Appendix H: Scatter Plots	305

LIST OF FIGURES

Figure	Title	Page
2.1	An Intention-Based Approach	30
2.2	Family Universe Bull's Eye	32
2.3	Two-Circle-Model	36
2.4	Three-Circle-Model	38
2.5	The Three-Dimensional Developmental Model Of Family Business	39
2.6	The F-PEC Scale	41
2.7	Typology of Family Firms	50
2.8	General Resource-Based View Model of Familiness	57
2.9	Concepts and Ideas with Which Malaysians Associate Innovation	69
2.10	Types of Innovation that Malaysian Companies Engage In	70
3.1	Theoretical Framework of Family Influence, Innovation and Business Performance	73
3.2	Theoretical Framework of Family Influence, Innovation and Business Performance with Hypotheses	86
4.1	The Circularity of Epistemology	93
4.2	Reflexivity and Management Research	95
4.3	Burrell and Morgan's Four Paradigms	99
4.4	The Research Process Flow Chart	108
5.1	Initial Experience Construct Measurement Model	170
5.2	Final Experience Construct Measurement Model	170

5.3	Initial Culture Construct Measurement Model	172
5.4	Culture Construct Measurement Model 2	173
5.5	Culture Construct Measurement Model 3	175
5.6	Final Culture Construct Measurement Model	177
5.7	Initial Innovation Measurement Model	178
5.8	Innovation Measurement Model 2	180
5.9	Final Innovation Measurement Model	182
5.10	Initial Business Performance Measurement Model	183
5.11	Business Performance Measurement Model 2	184
5.12	Final Business Performance Measurement Model	187
5.13	Family goal related Business Performance Measurement Model	188
5.14	Family Influence CFA Model: Experience and Culture	191
5.15	Hypothesized Model	199
5.16	Experience, Culture, Innovation and Business Performance	210

LIST OF TABLES

Table	Title	Page
2.1	Some Definitions of Family Business	26
2.2	F-PEC Validity and Reliability	46
2.3	Comparison of Agency Theory and Stewardship Theory	54
2.4	Some Definitions of Innovation	62
4.1	Questionnaire Design	116
4.2	Source of Measurements for Innovation	120
4.3	Measures for Innovation	123
4.4	Measures for Family Influence - Power	125
4.5	Measures for Family Influence – Experience	128
4.6	Measures for Family Influence – Culture	131
4.7	Source Of Measurements for Business Performance	134
4.8	Measures for Business Performance	135
4.9	Reliability Analysis for Pilot Testing	140
4.10	Response Rate	142
4.11	Minimal Acceptable Value for The Indices	146
5.1	Results of Test of Non-Response Bias (Independent Sample T-test)	152
5.2	Characteristics of The Companies Participating In The Study (N=174)	155
5.3	Generations of Ownership and Management of The Participating Companies (N=174)	156

5.4	Characteristics of The Participants (N=174)	157
5.5	Correlation for Study Variables	160
5.6	Descriptive Statistics for Study Variables	163
5.7	Reliability Analysis	166
5.8	Results of Examination of Variables for Factor Analysis Suitability	167
5.9	Amos Output for Culture Construct Measurement Model 2: Modification Indices and Parameter Change Statistics	174
5.10	AMOS Output for Culture Construct Measurement Model 3: Modification Indices and Parameter Change Statistics	176
5.11	Square Multiple Correlation for Culture Construct Measurement Model 3	176
5.12	AMOS Output for Innovation Construct Measurement Model 2: Modification Indices and Parameter Change Statistics	181
5.13	AMOS Output for Business Performance Construct Measurement Model 2: Modification Indices and Parameter Change Statistics	185
5.14	AMOS Output for Family Influence CFA Model: Standardized Residual Covariances	192
5.15	AMOS Output for Family Influence CFA Model: Modification Indices And Parameter Change Statistics	194
5.16	Reliability Analysis for Final Scale	195
5.17	Validity and Reliability Index Values	197
5.18	AMOS Output for Hypothesized Model : Standardized Residual Covariances	201

5.19	AMOS Output for Hypothesized Model: Modification Indices And Parameter Change Statistics	202
5.20	.95 Bias-Corrected Bootstrapping Confidence Intervals	205
5.21	.95 Bias-Corrected Bootstrapping Confidence Intervals For Direct Effect	208
5.22	.95 Bias-Corrected Bootstrapping Confidence Intervals For Indirect Effect	209
5.23	Results of The Hypotheses Testing Using The Structural Equation Modeling	211

LIST OF PUBLICATIONS

Refereed Journals

Edward Wong Sek Khin, Chong Wei Ying and Lee Yow Fui (2012) Epistemological Approaches to Management Research. *Actual Problems of Economics*. (127), 358-366 (ISI-Cited Publication)

Chong Wei Ying, Aida Idris and Edward Wong Sek Khin (2013). A research framework for family influence on innovation and business performance. *Actual Problems of Economics*. (142), 550-555 (ISI-Cited Publication)

LIST OF APPENDICES

APPENDIIX	Title	Page
A	Cover Letter	280
B	Questionnaire	281
C	Malay Questionnaire	287
D	Chinese Questionnaire	294
E	Respondents Who Consider the Business to be a Family Business	299
F	Summary of Research Objectives, Research Questions and Hypotheses	300
G	Box Plots	302
H	Scatter Plots	305

CHAPTER ONE

INTRODUCTION

1.1. Introduction

Questions and concerns regarding family businesses have increased since the 1980's (Handler, 1989, p. 111) as family businesses have struggled to compete globally and to adapt to a rapidly changing world. While "innovation" has been touted as an essential ingredient for success in this turbulent era, there was little proof of a link between family influence, innovation and business performance. In this study, I sought to assess the extent and the quality of family influence on innovation and business performance, and to build on recent evidences that there is indeed a link between these three business phenomena.

This chapter consists of eight sections including this introduction. Section 1.2 presents the background of the study. Section 1.3 presents a statement of the problem under study. Next, in section 1.4, the significance of this study is reviewed. In section 1.5, the research objectives and questions of focus are introduced. Then, section 1.6 defines terms that are used to clarify issues of context relevant to this study. Section 1.7 outlines the structure of this thesis. The final part of the chapter, section 1.8, provides a brief summary of the chapter.

1.2. Background of the Study

Throughout the world, family business is a form of dominant economic organization (Poza, 2009). Many business ventures are created with family involvement

and through the pooling of a family's financial and human resources (Alderson, 2011). In Malaysia, family ownership constitutes over 43 percent of the main board companies of the Bursa Malaysia and more than 65 percent of the small and medium scale enterprises (Haslindar Ibrahim, 2009). Business families influence entrepreneurial activities as well as world economics through their values and aspirations (Wagner, 2010).

Due to increasing specialization, outsourcing and competition from globalization process, family businesses are under more pressure than ever to innovate and improve performance (Henry, 2008). The innovation side of family business is critical to businesses' survival and growth. Innovation is a social process and is embodied in people (Jain, 2010). There is an interaction between those who innovate and those who are affected by the innovations; and there is recognition that one's action will affect others and will be influenced by that action. Hence it can be expected that there are direct and indirect effects between the family influence, innovation and business performance.

Clearly, an understanding of family business and innovation is very important to practitioners as well as academics (Gersick, Lansberg, Desjardins, & Dunn, 1999; McConaughy, Matthews, & Fialko, 2001). Moreover, this topic is a growing interest today among academicians and practitioners (P. Sharma, 2004a). Hence, this study will examine both the practical background and theoretical background of the phenomenon respectively.

1.2.1. Practical Background of the Study

According to Loy (2010), more than 80% of Malaysia businesses are family owned. These businesses have dominated more than 60% of the market capitalization in Malaysia. Notwithstanding its importance, the family businesses in Malaysia are under more pressure than ever to innovate and improve performance.

As Loy (2010) posited less than one third of Malaysia family businesses survive into the second generation and even fewer – a tenth – survive to the third generation. Ensuring the longevity and success of family businesses in this technology and globalization era are the main concern among family businesses. Innovation is one of the key drivers for the successful development of competitive advantage and the survival of businesses. Indeed, Zahra and Covin (1994) emphasized that “innovation is widely considered as the life blood of corporate survival and growth”(p. 183).

Although both family businesses and non-family businesses are concerned with innovation and business performance, what differentiates family businesses from non family businesses is the variation in the relative importance of the factors affecting each decision. Family business decisions are more complex due to the fact that non-monetary motivation, such as passed on of their skills, knowledge and values to the next generation, influence the management decision (Alderson, 2011). Family business needs to appreciate the competitive strengths that have led to its success, while at the same time, attending to the need for change posed by new competitive conditions.

While numerous empirical studies (e.g., Damanpour, Walker, & Avellaneda, 2009; Prajogo, 2006) suggest that innovation enhances business performance, there

remains little understanding of the role of innovation in family business performance. Given the increasing interest of business families in innovation and business performance, it would be practical to examine the relationship between family influence, innovation and business performance.

1.2.2. Theoretical Background of the Study

Most researches in family business are done in the Anglo American area, and empirical data from other countries are lacking (Klein, 2000). The data concerning Malaysia family businesses are rather poor compared to those of other countries (Sa'adiyah Haji Munir & Mohd-Saleh, 2009), which is paradoxical, considering that the Malaysia economy depends on family businesses (Saleh & Ndubisi, 2006). One of the reasons for lack of momentum in Malaysia family business research is lack of research centers in Malaysia. In United States, there are several family business research centers and several major academic publications focus on this particular field. On the other hand, Malaysia has just only universities actively participating in the family business research field.

Although there are an increasing number of academic studies in family business area, the field of family business research remains fragmented in focus and findings (Casillas & Acedo, 2007; Chrisman, Chua, & Sharma, 2003). This is not surprising for a young and emergent field as family business research (Casillas & Acedo, 2007; Wortman, 1994). Indeed, family business research is in a preparadigmatic stage which is characterized by competing views of nature (Casillas & Acedo, 2007).

From review of the existing literature in family business research, it is clear that previous researches focus mostly on the artificial family versus nonfamily business dichotomy (e.g. Anderson & Reeb, 2003; Bird, Welsch, Astrachan, & Pistrui, 2002). However, in reality, family business is a “complicated phenomenon” (Lansberg, Perrow, & Rogolsky, 1988, p. 1). It is involved in a system composed of three major parts – the family, the management and the ownership (Tagiuri & Davis, 1996). Each of these three parts of a family business has different values, goals and expectations. The interaction of these three systems result various degrees of family involvement in a business. The involvement and pattern of family influences vary from business to business. Some families exert great power over the operation and organization of family business while others are passively involved as this may be due to the nature of the business or the family (Corbetta & Salvato, 2004). Seen in this light, the varying degree of owning family involvement should make the measure of family business as a continuum rather than dichotomous between family and non family business (Shanker & Astrachan, 1996).

The dominant research of family business field concentrate on a small segment of the field such as succession, governance and performance (Casillas & Acedo, 2007). While succession, governance and performance are the key issues critical to the sustainability of family business, there are other contributing factors such as entrepreneurship and innovation, culture and strategy creation. Zahra and Sharma (2004) pointed out that topics “such as goal and strategy formulation, innovation and professionalization of firms are routinely ignored and remain understudied” (p. 335). Poza (2009) argued that intergenerational transfer of ownership and other successor issues demand family businesses to embrace innovation to survive.

Although scholars are increasingly emphasizing the importance of innovation in driving family business performance (e.g. Beck, Janssens, Debruyne, & Lommelen, 2011; Llach & Nordqvist, 2010), scant attention has been given to family business innovation. Based on this, this study aims to get a better understanding of the role of innovation in family business performance in public listed companies in Malaysia. Theoretically, this will help our understanding of how the varying degree of family involvement affects their relative innovativeness which might lead to different business performance and set the future research direction.

1.3. Problem Statement

In a rapid change era such as present, companies that do not innovate, inevitably aged and decline. And, the decline will be fast. It is true that innovation is important for both family businesses and non-family businesses (Tidd & Bessant, 2011). However, the family businesses have to deal with the family variable in addition to other regular variables imposed by the external environment.

Until quite recently, research on family business and innovation focused on an ‘artificial’ family versus nonfamily business dichotomy (e.g., Bughin & Colot, 2010). This simplistic approach treats businesses as homogeneous entities although, in reality, family businesses are heterogeneous (Sharma & Nordqvist, 2008). The influence of family on business is multidimensional (Astrachan, 2010), and the involvement and pattern of family influences vary from business to business. Recent research indicates that taking account of different aspects of the heterogeneity of family businesses can explain innovation and performance in small family businesses (Spriggs, Yu, Deeds, &

Sorenson, 2013), and family involvement can play a critical role in formation of innovation and have an effect on family business performance (Laforet, 2012).

While research has examined how family involvement affects innovation and business performance, little research exists regarding the impact of the various dimensions of family influence on innovation and business performance. Family involvement and family influence are two closely intertwined elements in family business (Chrisman, Chua, Pearson, & Barnett, 2012). Family involvement exists in every family business but the degree of influence the family wields over a business differs (Klein, Astrachan, & Smyrnios, 2005a). For the involved family to have the ability to shape the business's strategic activities such as innovation, family influence must be present (Kellermanns, Eddleston, Sarathy, & Murphy, 2012). Lack of knowledge on how the various dimensions of family influence on innovation and business performance create a gap between what we know about the families' ability to influence innovation and business performance and how they do it.

The positive link between innovation and business performance is well established in the business literature (Damanpour, et al., 2009) and a similar link between innovation and family business performance is assumed by family business researchers who study innovation. A common argument is that innovation is important to family business performance in an increasingly challenging competitive landscape (e.g., Bergfeld & Weber, 2011). Other arguments explicitly link characteristics of the family business with business performance on the basis of empirical observations about the relationship of those characteristics with innovation (without testing the relationship between innovation and family business performance). Thus, innovation is claimed to enrich the value of family involvement in survival and growth of the business (e.g.,

Beck, et al., 2011) while Poza (2009) more specifically argued that intergenerational transfer of ownership and other successor issues demand that family businesses embrace innovation to survive. Thus, it is important to explore the relationship between family influences, innovation and business performance.

Furthermore, there is a general lack of empirical data about family influence on innovation and business performance. This study attempts to address these problems by empirically testing the relationship between family influence, innovation and business performance.

1.4. Significance of the Study

The significance of this study is three fold. The first area of significance regards the evident that previous studies have neglected the fact that family business is not a homogeneous group (Astrachan, Klein, & Smyrnios, 2002). A review of the literature reveals that previous family business studies mostly focused on the artificial family versus nonfamily business dichotomy (e.g. Anderson & Reeb, 2003; Bird, et al., 2002) to understand the interrelationships among family business performance and innovation. In this study, the multidimensionality, as well as the heterogeneity, of family business in an assessment of the nature of family influence on innovation and business performance is recognized. Specifically, a theoretical framework based upon F-PEC scale, as proposed by Astrachan, Klein, and Smyrnios (2002), is established. Hence, this study will lead to both improved theories of the family business and to a greater understanding of the most pervasive form of organization in the world (Alderson, 2011).

The second area of significance regards the fact that no research has been done to examine the links between family influence, innovation and business performance. Indeed, no study currently exists that provide a theoretical framework that includes family influence, innovation and business performance. The innovation as a mediating role is new. The results of this study will shed light on how innovation influences the family influence – business performance relationship. As such, this study contributes to the literature on family business research.

The third area of significance regards the fact that the use of publicly listed family businesses as the sample for this study provides insight beyond that afforded by previous small and medium size family business-based research. This study contributes to formal research in the field of family business in Malaysia, where there is a great need for information from empirical studies.

1.5. Research Objectives and Research Questions

This study seeks to identify the relationships between family influence, innovation and business performance in public listed family businesses in Malaysia. Particularly, this study focuses on the direct and indirect relationship among the variables. Furthermore, this study examines the mediating role of innovation among family influence and business performance. The research objectives can be summarized as follow;

RO1. To assess the extent of family influence on innovation and business performance.

RO2. To examine the mediating effects of innovation on the relationship between family influence and business performance.

The following questions guided this study:

RQ1. What is the extent of family influence on innovation?

RQ2. What is the extent of family influence on business performance?

RQ3. What is the role of innovation on the relationship between family influence and business performance?

RQ4. What is the relationship between innovation and business performance?

1.6. Definition of Terms

For the purpose of this study, the following definitions are used:

Family:

Family is defined as a group of persons including those who are offspring of a couple (regardless of generation) and their in-laws, as well as their legally adopted children (Klein, 2000).

Family business:

“a family business is a company that is influenced by one or more families in a substantial way. Influence in a substantial way is considered if the family either owns the complete stock or, if not, the lack of influence in ownership is balanced through either influence through corporate governance (percentage of seats in the Aussichtsrat, Beirat, or others held

by family members) or influence through management (percentage of family members in the top management team). For a business to be a family business, some shares must be held within the family” (Klein, 2000, p. 158).

First generation:

The founder who hold the ranks as CEO.

Second generation:

Family member(s) who succeed the founder as CEO.

Third generation:

Family member(s) who succeed the second generation as CEO.

Active family members

Family members involved in the company serving as a shareholders, board members or employees.

CEO:

Chief Executive officer.

Board of Directors

A group of people responsible for determine and execute corporate policy. They have the ultimate decision-making authority in running a company. They are held liable for the consequences of the firm’s policies, actions, and failures to act.

Management Board

Members of the business who are responsible for establish strategic directions and manage overall performance of the company.

Governance Board

Members of the business who responsible for control and govern the affairs of the company.

Top Management Team:

Members of the business who hold important key positions, for instance Chief Operating Officers (COO), executive directors, CEO, etc.

1.7. Structure of this Thesis

The structure of this thesis is as follows. Chapter one introduces the background of the study and scope of the study. Chapter two reviews the pertaining literature of family influence, innovation and business performance. Next, chapter three develops a research framework. This framework is shaped from the literature review in chapter two. Chapter four then discusses the research design and methodology applied to investigate the relationship between family influence, innovation and business performance. Chapter five walks through the analysis and findings. Lastly, chapter six explores the findings, limitations, contributions and future research directions.

1.8. Chapter Summary

This chapter provides an introduction and overview of the thesis. The scope of the research, research questions and research objectives, significant of the study, and structure of this thesis are presented. The background to the thesis shows family businesses is important contributors to world economies and that their main difference from non-family businesses lies in the interaction of the family system and business

system. Even with the emergence of family business organizations and increasing scholarly interest, family business research field is still in a preparamagtic stage; and, the field remains fragmented in focus and findings. Moreover, the chapter highlighted that there is a lack of research that specifically focus at the link between family influence, innovation and business performance and placed emphasis on the need for more research in this particular area.

The next chapter, chapter 2, offers a review of the literature relevant to the family business, innovation and business performance. Furthermore, justifications for this study as a sound contribution to current understanding of the link between the concepts are provided.

CHAPTER TWO

LITERATURE REVIEW

2.1. Introduction

The main objectives of this chapter are to clearly identify the gaps in the literature and to clarify the interconnection between family influence, innovation and business performance. Hence, relevant literatures are reviewed and the focus is on the family business research field, theories related to family business and innovation. Further, this chapter analyzes and maps the writing within the current domain of family business research paradigms; and, investigates questions raised within theories related to family business and innovation in family business literatures.

This chapter consists of eleven sections including this introduction. Section 2.2 introduces some characteristics of public listed family business in Malaysia. Section 2.3 presents an overview of the family business research field. Next, in section 2.4, the definitional problem of what constitutes a family business will be addressed. In section 2.5, the theories related to family business are introduced and explained. It starts with an overview of the system theory model of family business followed by the Family influence on Power, Experience and Culture (F-PEC) scale. The F-PEC scale will serve as the scale to conceptualize and operationalize the level of influence of the family on the business (Astrachan, et al., 2002). Then an overview of the agency theory in context of family business is presented. This is followed by a description of stewardship theory. Next, the difference between agency theory and stewardship theory is discussed. The Resource Based View is the final topic to be reviewed in section 2.5.

In section 2.6, an overview of innovation is presented and the importance of innovation in driving organizational performance is emphasized. Next, in section 2.7 the definitional problem of what constitutes innovation will be addressed. Then, in section 2.8 types of innovation are introduced and explained. In section 2.9, a brief overview on the types of innovation in Malaysia is presented. This is followed by section 2.10 where I integrate these disparate yet complementary streams, suggesting that there is a link between family influence, innovation and family business performance. The final part of the chapter, section 2.11, presents the chapter summary.

2.2. Some Characteristics of Public Listed Family Business in Malaysia

The family businesses have long existed and played a fundamental role in the economy of Malaysian society. Majority of the family businesses are in the small and medium-sized enterprise (SME) category (Saleh & Ndubisi, 2006). Public listed companies with family involvement are rare among family businesses. However, they have a unique importance (Boers & Nordqvist, 2011). The very fact that they have reached this stage means that they have successfully responded to challenges that scuttle other family businesses. Moreover, public listed companies as large corporations with some degree of monopolistic power could have an advantage to develop innovations. Compared to smaller enterprises, such large corporations have better resources and more market power (Damanpour, 2010). As this study uses a sample of public listed family businesses in Malaysia, the following defines these companies and identifies some of their basic characteristics.

Bursa Malaysia is the regulator of Malaysian capital market. It consists of main market (main board) and ace market (second board). All public listed companies and

their directors are regulated and supervised by Bursa Malaysia. In compliance with the rules and regulations set by Bursa Malaysia, public listed family businesses need to professionalize their management and governance bodies. The board of directors will be under market scrutiny and has to be accountable to minority share holders. Malaysia Code of Corporate Governance (2012) recommended that board of directors of a listed company must either contain at least two independent directors, or be one-third comprised of independent directors, whichever is the higher (The Securities Commission Malaysia, 2012) . Independent directors must declare their independence to the Bursa Malaysia by way of a statutory declaration and confirmation. The listing requirements define independent directors as directors who are independent of management and free from any business or other relationship that could interfere with the exercise of independent judgment or the ability to act in the best interest of a company seeking to be listed on Bursa Malaysia.

As can be seen by the preceding studies, a large number of the public listed companies in Malaysia are owned or controlled by families (Rahman, 2006; Sa'adiyah Haji Munir & Mohd-Saleh, 2009). The shares of the businesses are highly concentrated in the hands of a few shareholders (Górriz & Fumás, 1996). Thus, they have slightly smaller boards and lower board independence than non-family firms (S. Chen, Chen, & Cheng, 2008). The smaller board size may be due to a trade-off between growth and risk exposure faced by the businesses. In this study, the process of identifying public listed companies with family ownership was guided by family business definition by Klein (2000) , where

“a family business is a company that is influenced by one or more families in a substantial way. A family is defined as a group of people who are

descendants of one couple and their in-laws as well as the couple itself. Influence in a substantial way is considered if the family either owns the complete stock or, if not, the lack of influence in ownership is balanced through either influence through corporate governance or influence through management. For a business to be a family business, some shares must be held within the family” (Klein, 2000, p. 158).

In Malaysia, up to 2010, Bumiputra Equity ownership was only 23.09% (WGM, 2012). Majority of the public listed companies are owned by non bumi and a vast number of them are owned by Chinese families. For instance, the story of the Genting Group shows a well-planned succession in the family business. The late Tan Sri Lim Goh Tong appointed his second son, Tan Sri Lim Kok Thay, to ensure his huge business empire will continue. For Bumiputera companies, some of the notable Malay families in today’s market are the Melewar Group founded by Tunku Abdullah Tuanku Abdul Rahman and Sapura Holdings Bhd started by Tan Sri Shamsuddin Abdul Kadir. Both families are now in their second-generation (Ngui, 2002).

In a typical family business, family members often fill most management positions, and strong family cohesiveness is critical (H.-L. Chen & Hsu, 2009). From four dimension of the Hofstede model, the Chinese are very similar to Malay in term of high collectivism and high power distance (Idris, 2008). In other words, both the Chinese family businesses and Malay family businesses give high importance to the cohesiveness of the family and are expected to be obedient toward their parents. Nevertheless, Chinese are less risk averse than Malay (Syed Azizi, Saufi, & Chong, 2003). This could explain the preponderance of Chinese family businesses in Malaysia.

The book titled “Effective Corporate Governance” written by Rashidah Abdul Rahman (2006) shows the relevance of public listed family businesses in the Malaysia economy as well as their structure with respect to ownership, management and governance. Rashidah Abdul Rahman (2006) found that public listed companies in Malaysia have a high concentration of ownership as elsewhere in Asia. Indeed, it is very common that public listed companies in Malaysia have owner-managers: the post of Chief Executive Officer (CEO), chairman or executive director belongs to a nominee with large shareholders or a member of the controlling family (Rahman, 2006). Moreover, a study by Saleh and Ndubisi (2006) noticed that the mean shareholdings of the single largest shareholder was 31% and the mean shareholdings of the five largest shareholders of companies was 62%. The high concentration of ownership implied that majority of companies are related to the family of the controlling shareholder (Claessens, Djankov, & Lang, 2000). As a consequence of close control by owner and substantial shareholders, there has been no separation between dominant family owners, large shareholders and managers.

It should be noted that public listed companies in Malaysia with family involvement are mostly owned by private companies (Sa'adiyah Haji Munir & Mohd-Saleh, 2009). For instance, Poh Kong Holdings Berhad is directly owned by Poh Kong Sdn Bhd by 58.29% which is in turn owned by Choon family either directly or indirectly through other private companies. At the same time, it has been found that there are eleven members of Choon family sitting on the board of Poh Kong Holdings Bhd. In some companies, the members of proprietary families occupied only a small number of management positions which tend to mislead investigators into thinking that proprietary families have little or no control over management and governance body. For instance, the substantial shareholder of Sapura Resources Berhad is Sapura

Holdings Sdn Bhd. Sapura Holdings Sdn Bhd holds 51.03% of the Sapura Resources Berhad outstanding shares which is in turn owned by Tan Sri Dato' Seri Ir. Shamsuddin Bin Abdul Kadir's family. At the same time, it has been found that there are only two members of Tan Sri Dato' Seri Ir. Shamsuddin Bin Abdul Kadir's family sitting on the board. Indeed, this mechanism (holding companies) used by families in Malaysia to exert their influence over management is deliberately designed to keep the identities of shareholders hidden.

The tendency of secretive attitude behavior, particularly when talking about assets or financial issues, is common among family businesses (Dyer, Beckhard, & Hollander, 2009). Like other family businesses in the world, family businesses in Malaysia operated the businesses with a web of mechanisms, veiled in secrecy. The family patrimony and business assets are sometime not clearly separated, and the family members are only willing to reveal or make public this information to a certain extent in compliance with the rules and regulations set by Bursa Malaysia.

2.3. Overview of the Family Business Research Field

Family businesses are the oldest form of business yet the concept of family business did not readily appear in academia and business literature until the 1980s (Handler, 1989). To some extent, this is explainable by the fact that family business data is rather difficult to collect since majority of the business families are very keen on their privacy which restrict the families' communication on the involvement of the family in the business (Dyer, et al., 2009; Flören, 2002). Indeed, much of the early literature on family business is qualitative research and comes from the practitioners rather than scholars (Poutziouris, Smyrnios, Klein, & Academy, 2006).

The lack of the study of family business prior to 1980s is not surprising. Several reasons why scholars have neglected family business up to 1980s have been offered by Lansberg, Perrow, and Rogolsky (1988) in the first issue of *Family Business Review*. First, the prevalence of Berle and Means's (1932) belief that the professional managers not families will eventually control the modern corporations. Second, it is difficult for the scholars to study the family system and business system simultaneously. Third, the belief that the family system and business system exist as two distinct and self-contained systems is prevalent (Becker & Tillman, 1978; Levinson, 1971). The early day family business researchers focused primarily on the destructive power of family system on business system. Lansberg, Perrow, and Rogolsky (1988) argued that, in order to be successful, family businesses should move toward professional management.

The prediction of Berle and Means (1932) has been challenged by the fact that majority of all the companies in the world have at least some sort of family influence (IFERA, 2003). According to IFERA (2003), families' shares lie in a range of 50% to 96% of all companies depending on the country and the definition used. A similar result was found by Grant Thornton's (2002) study where 71% of the Asian respondents, 69% of the European respondents and 90% of the United States respondents perceived their businesses to be family businesses. A detailed overview of the Grant Thornton's study in 26 countries is given in Appendix E.

Although it remains difficult to study the family system and business system simultaneously, system theorists such as Davis (1983; 2001), Tagiuri and Davis (1996) questioned the notion that business and family should be viewed as distinct entities. They argued that the joint interaction between the family system and business system are the basic characteristics of family business. They further purported that the

overlapping between these systems defined its uniqueness. Their arguments and ideas have developed to the point that there is now reference to the “family business system”.

The family business system is widely accepted as a tool for understanding the interaction between family and business in the family business environment (e.g. Broderick, 1993; Carsrud & Brännback, 2011a). The family business system also helps family business researchers in identifying and understanding areas of potential concern such as role definitions, interpersonal conflicts and priorities in the family business (Distelberg & Sorenson, 2009; Ward, 2011). In contrast to the early day family business researchers (e.g. Becker & Tillman, 1978; Levinson, 1971), who see the interaction of family and business system as destructive and unfavorable, the more recent system perspective researchers focus primarily on the inherent strength of the family business. Agency theory (e.g. Duh, 2010; William, Michael, Richard, & Ann, 2001), stewardship theory (e.g. Eddleston, Kellermanns, & Zellweger, 2012; Shaker A. Zahra, Hayton, Neubaum, Dibrell, & Craig, 2008) and the resource-based view (e.g. Habbershon, Williams, & MacMillan, 2003; Tokarczyk, Hansen, Green, & Down, 2007) have been used by recent family business researchers to investigate the inherent strength of family business.

The emergence of Family Firm Institute (FFI) in 1986 and the creation of *Family Business Review* in 1988 have increased the academia and scholarly awareness and sensitivity to family business issues. *Family Business Review* has broadened the family business research field topic to include the need for theoretical foundation for family business research (Berrone, Cruz, & Gomez-Mejia, 2012; Wortman, 1994), goal of family business (Debicki, III, Kellermanns, & Chrisman, 2009), human resource practices (Astrachan & Kolenko, 1994; Danes, Stafford, Haynes, & Amarapurkar, 2009)

and managing changes (Gersick, et al., 1999; Parada, Nordqvist, & Gimeno, 2010). Although *Family Business Review* is the most important review for the family business research field, research on family business has appeared in many other journals across disciplines. With the maturation of the field, there are other family business organizations focusing their research on this field, like the Family Business Network (FBN) founded in 1990 and Family Enterprise Research Academy (IFERA) founded in 2001. All these organizations are dedicated to advance the field and assist families in business, to understand and attend the challenges face in the nature of the business.

With the emerging of family business organizations and increasing scholarly interest, family business research began to appear more frequently. Indeed, it is a growing interest today among researchers and practitioners (P. Sharma, 2004a). A review of the literature suggests that succession (e.g. Alcorn, 1982; Poutziouris, et al., 2006), performance (e.g. Fishman, 2008; Miller & Le Breton-Miller, 2005) and governance (e.g. Neubauer & Lank, 1998; Ward, 2011) are the three most important topics studied in family business research. This is not surprising, given the fact that they are key issues critical to the sustainability of family business.

The body of knowledge on family business has expanded greatly and increased in sophistication. As Bird, Welsch, Astrachan, and Pistrui (2002) stated that “ family business research is becoming increasingly empirical and more rigorous in recent years with large sample sizes, more systematic samples, more independent and dependent variables, and more use of multivariate statistical tools” (p. 338). Nevertheless, research on family business has not progressed as systematically as it could have. Academic research is plagued by lack of unified paradigm (Poutziouris, et al., 2006; Wortman, 1994) and disagreements regarding the definition, operationalism and measurement of

the phenomenon (Astrachan, et al., 2002; P. Sharma, 2004a). Further, the dominant research of the field concentrate on a small segment of the field such as succession, governance and performance (Casillas & Acedo, 2007). This concentration on small segment of the field resulted rich description of family businesses but little generalizable information which could benefit business families in strategic thinking as they struggle with these both internal and external business challenges.

Hitherto, many challenges in family business field remained unsolved or in the process of being solved. One of the main challenges is the definition of family business. It was a salient subject in IFERA's 2003 research conference with the research study titled "Towards the validation of the F-PEC scale of Family Influence"; yet, hitherto it remained as an unsolved challenge (Astrachan, 2010). The following section discusses the problem of family business definition.

2.4. Defining Family Business

The field of family business is relatively young and emergent in organizational research (Handler, 1989). Furthermore, the family business concept is rooted in and lies at the intersection of several social science, sociology, anthropology, social psychology and organizational behavior, and reflects some of the biases of each (Alderson, 2011). Hence unlike other concepts, family business has no single unanimously accepted definition (Astrachan, 2010; Astrachan, et al., 2002; P. Sharma, 2004a).

The definitional problems have plagued family business research since inception of the field (Handler, 1989). Lansberg, Perrow, and Rogolsky (1988) in the first issue of *Family Business Review* have pointed out that " a variety of definitions are being used

in the field” (p. 7). Almost every writer has his or her own definition. Nevertheless, it is generally accepted by researchers that family involvement differentiates family business from non-family business (Miller, 2003).

Hitherto there is no concise, measurable and uniform family business definition (Astrachan, 2010). The disagreement regarding the concept, however, does not stop with definition. There is little agreement on what family business does, what it impacts, and what impacts it. A rather broad definition and related measure have been used in family business research (Astrachan, et al., 2002). The lack of common definition of what constitute a family business resulted difficulty in identifying family business and the economic contribution from family business (Carsrud & Brännback, 2011b).

Two approaches are existing in defining family business: uni-dimensional approach (e.g. Beckhard & Dyer, 1983; Churchill & Hatten, 1987) and multi-dimensional approach (e.g. Litz, 1995; Shanker & Astrachan, 1996). Table 2.1 gives an overview of some of the dimensions used in defining family business. The table clearly shows that there is no consensus among researchers on the definition of family business. Indeed these different approaches give rise to the lack of conceptual clarity. There are nevertheless commonalities among most of the definitions. Commonalities of the definitions include percentage of ownership, involvement of multiple generation, power over strategic decision, voting control and active management by family members (Poutziouris, et al., 2006). Five different criteria can be identified in Table 2.1:

- I. Ownership- management, which comprises definitions about the distribution of the ownership among family and non-family members and the participation of family in management activities;

- II. Family involvement, which includes definitions for the degree of family involvement on any level of the company and the commitment of the family to the business;
- III. Self-perception, which includes the definition about the self-perception of the business owner/managers;
- IV. Succession, which comprises definitions about the transference of power or ownership from one generation to another;
- V. Multiple conditions.

All these criteria can be observed either separately or in combination in the cited definitions.

Table 2.1 Some Definitions of Family Business

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Ownership – Management

“Controlling ownership rested in the hands of an individual or of the members of a single family.” (Barnes & Hershon, 1976)

“A business in which the members of a family have legal control over ownership.”
(Lansberg, et al., 1988)

“In our research, we created a range of possible family business definitions from a broad, inclusive definition to a narrow and more exclusive one. The level of inclusiveness depends on the perceived degree of family involvement in the business. Our broad definition, the outer circle of the “bull’s-eye,” is the most inclusive and requires only that there be some family participation in the business and that the family have control over the business’ strategic direction....Our middle definition narrows the field by requiring that the business owner intends to pass the business on to another member of his or her family and that the founder or descendant of the founder plays a role in running the business.....our narrowest definition, may involve a grandparent/founder as chairman, two or three siblings in top management, one sibling with ownership but no day-to-day responsibilities, and younger cousins in entry-level positions.” (Astrachan & Shanker, 2003)

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Table 2.1, continued

Table 2.1, continued

.....
Family Involvement

“A family business has a profit making concern that is a proprietorship, a partnership, or a corporation. If part of the stock is publicly owned, the family must also operate the business.”(Alcorn, 1982)

“Is the interaction between two sets of organizations, family and business, that establishes the basic character of the family business and define its uniqueness” (P. Davis, 1983)

“Family businesses are economic enterprises that happen to be controlled by one or more families and a degree of influence in organizational governance is sufficient to substantially influence or compel action.” (Dreux, 1990)

“Those firms having two or more individuals with the same last name listed as officers of the firm were designated as family-managed firms.” (C. M. Daily & Dollinger, 1993)

“The directors in the company had a family relationship.” (Binder Hamlyn, 1994)

Self-Perception

“Family business means a firm's ownership are dominated by members of an emotional kinship group” (Carsrud, 1994)

.....
Table 2.1, continued

Table 2.1, continued

Succession

“What is usually meant by "family business", however, and the factor which most sharply differentiates family from owner-managed businesses, is either the occurrence or the anticipation that a younger family member has or will assume control of the business from an elder.” (Churchill & Hatten, 1987)

“A family business is defined here as an organization whose major operating decisions and plans for leadership succession are influenced by family members serving in management or on the board.... This definition indicated that current family involvement in the business, even though these family members may not necessarily be in line for succession, would qualify the organization as a family business.” (Handler, 1989)

“A business that will be passed on for next generation to manage and control.” (Ward, 2011)

Multiple Conditions

“A family business satisfied one or more of the following conditions: a) the principals are related by kinship or marriage, b) business ownership is usually combined with managerial control and c) control is passed from one generation to another within the same family.” (Gasson, et al., 1988)

Table 2.1, continued

Table 2.1, continued

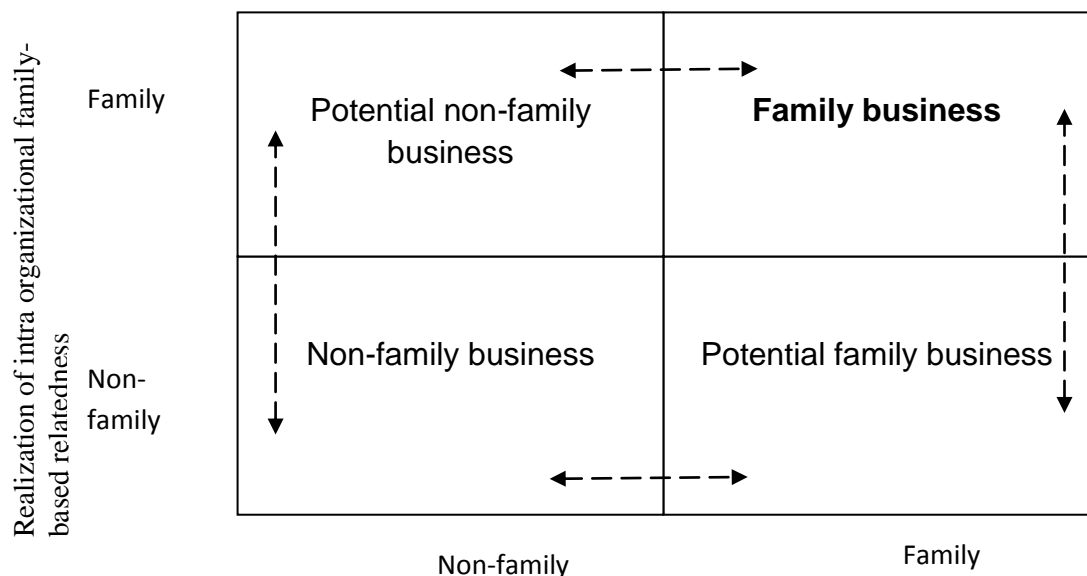
.....
“A family business satisfied one or more of the following conditions: a) more than 50% of the shares are owned by one family; b) one family can exert considerable control over the business; c) a significant number of top managers are drawn from one family.” (Cromie, Stephenson, & Monteith, 1995)

“The family business is a business governed and/or managed with the intention to shape and pursue the vision of the business held by a dominant coalition controlled by members of the same family or a small number of families in a manner that is potentially sustainable across generations of the family or families.” (Chua, Chrisman, & Sharma, 1999)

“To categorize a company as a family firm, two criteria based on ownership (Chua, Chrisman, and Sharma,1999) and self-definition (Westhead and Cowling, 1998) were used: (a) the family owns at least 50% of the shares and (b) this firm is considered a family firm by the CEO.” (Beck, et al., 2011)

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Source: Above noted readings.

Recognizing the diversity of family business, Litz (1995) identified two main approaches in defining family business: a structural-based approach (intra-organizational family-based relatedness) and an intentional-based approach. Litz (1995) pointed out that structural approach which considers family business in terms of ownership and management has an obvious shortcoming. This approach is unable to recognize the full worth of intra-organizational preference toward family-based relatedness. Hence, the structural approach has to integrate with the intentional approach which focuses on the realized and unrealized value preferences of the organization's upper echelons and family members. The integration of these two approaches resulted with a definition in which a business may be considered as a family business if its ownership and management are concentrated within a family unit, and if its members strive to achieve or maintain intra-organization family-based relatedness. This approach is presented schematically in Figure 2.1.



Intentionality toward intra-organizational family-based relatedness

Figure 2.1 An Intention-Based Approach

Source: Litz(1995), p.77

Based on Litz's approaches, Chrisman, Chua, and Sharma (2005) further extended two approaches for defining a family business: components-of-involvement and essence approaches. Chrisman et al. (2005) suggested in their components-of-involvement approach that merely family involvement is enough to define a business as a family business. However, on the other hand, in the essence approach they purported that merely family involvement is not sufficient condition to define family business. Family involvement needs to be directed toward behaviour that produces a certain distinctiveness in order to consider a business as a family business. A behaviorally based approach is essential to study the phenomenon of family business and to understand why and how they differ from non-family business. In this light, both approaches are essential in expanding the body of knowledge in the field of family business. Nevertheless, previous research evidence proved that researchers prefer approaches based on family-involvement more than behavioural approaches (e.g. Distelberg & Sorenson, 2009; Venter, Kruger, & Herbst, 2007).

A review of the literature reveals a myriad of studies that have focused mostly on the artificial family versus non-family business dichotomy (e.g. Allouche, Amann, Jaussaud, & Kurashina, 2008; Beckhard & Dyer, 1983). The researchers have dichotomized their samples into family and nonfamily business in various ways. Shanker and Astrachan (1996) were among the first to point out that family business is multidimensional and continuous rather than belonging to dichotomous category. Their "bulls-eye" typology, as shown in Figure 2.2, categorized family business according to the degree of family involvement: little direct involvement, some family involvement and a lot of family involvement. With these definitions, family business can be grouped as *broad, middle* and *narrow*.

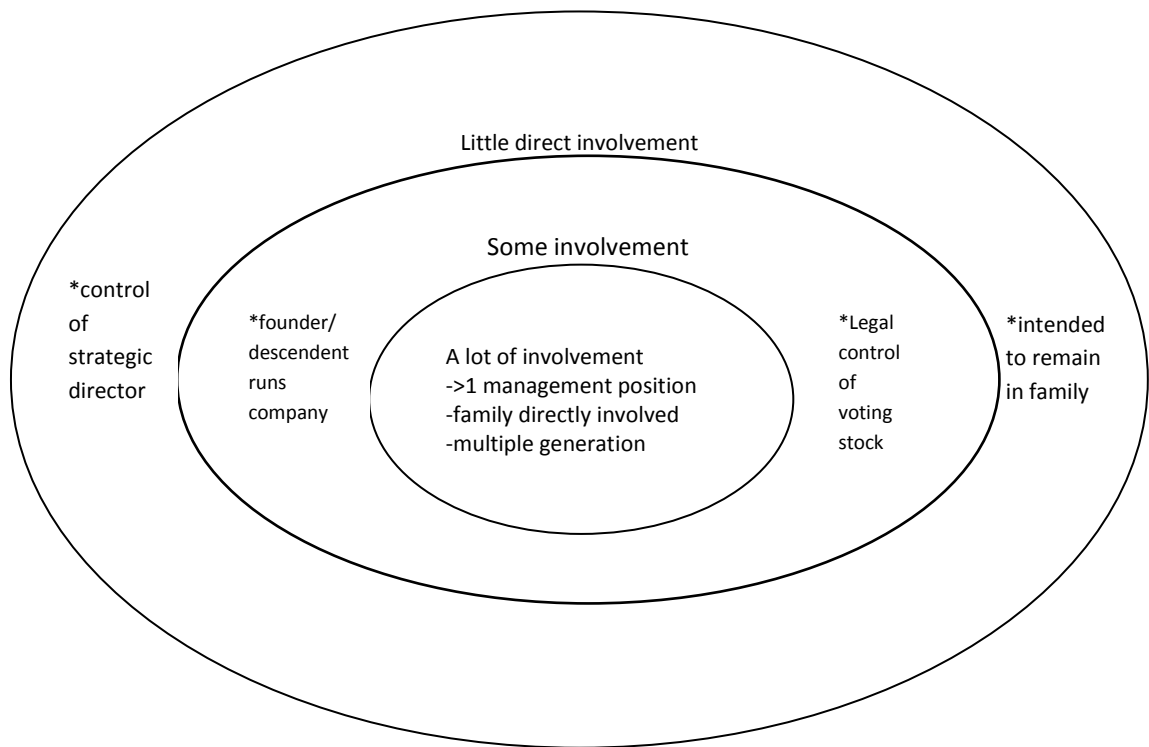


Figure 2.2 Family Universe Bull's Eye

Source: Shanker and Astrachan (1996), p.109

The *broad* definition requires a family has some degree of strategic control over the business and that the business is at least intended to remain in the family. It implies that the family may have little or no direct involvement in the business daily operation but has influence over business strategic decision making, perhaps through board membership or significant stock ownership. The *middle* definition includes all the criteria in the *broad* group and stresses the intention of generation succession. To be categorized as a family business in this group, the founder, or a descendent, has to play a key role in running the business. The *narrow* definition includes all the criteria for

middle definition and requires the business has direct family involvement in daily operations, multiple generations' involvement and more than one family member has significant management responsibility.

As shown in Figure 2.2, the three rings of the “Bull’s Eye” demonstrated how the size of the family business can be affected by definitions. More businesses and greater economic impacts will ultimately be included as definitions become loosen. Definitions used by researchers can affect the sampling and research outcome (Shanker & Astrachan, 1996; Westhead & Cowling, 1996). Indeed, when different definitions are used, the percentage of family business in one sample can range from 15% to 81% (Westhead & Cowling, 1996). The inconsistency in defining the bounds of the family business has led to skewed statistics and interpretations. Moreover, research sampling is very difficult without a congruent articulations of the family business definition (Handler, 1989). Indeed, this definitional problem causes difficulties in comparison among researcher studies and it is one of the main reasons why more extensive quantitative research has not been accomplished (Shanker & Astrachan, 1996).

Without a clear and common family business definition, the researchers have problems to generalize sample finding to the greater population of family business; thus, accumulation of knowledge in the field of family business is slow through time. Therefore, it become obvious that a clear and common definition of what constitute a family business is crucial for the advancement of the field (Chrisman, et al., 2003).

2.5. Theories about Family Business

In addition to the aforementioned definitional ambiguities, multiple streams, levels and categorizations have been used to comprehend the family business domain (Carsrud & Brännback, 2011a). However, these diverse streams of researches have increased the ambiguity of family business research. Resulting from the streams of diversity, abundant theories about family business have emerged (Ibrahim, Angelidis, & Parsa, 2008): systems theory (Tagiuri & Davis, 1996), agency theory (Karra, Tracey, & Phillips, 2006), stewardship theory (Bammens, Van Gils, & Voordeckers, 2010; Davis, Schoorman, & Donaldson, 1997) and resource based view (Habbershon, et al., 2003). All these theories viewed the family businesses from different perspectives.

This section discusses various theories related to family business. It is important to understand these theories in family business context because each predicts other performance effects. This section will start with an overview of system theory in general, followed by F-PEC scale. The F-PEC scale serves as the model in this study to conceptualize and operationalize the level of family influence on the business. Then, an overview of agency theory will be presented. Next, a brief description of stewardship theory is followed by a comparison between agency and stewardship theory. Agency and stewardship theories have been applied to identify the sources of conflicts and explain the governance issues in family business. The resource based view is discussed in the final part of this section. Resource based view has been used to examine the acquisition, identification, and strategic use of resources for family business.

2.5.1. Systems Theory

The systems theory is based on the premise that the family-business interaction contains separate but not necessary competing systems (Distelberg & Sorenson, 2009). It proposed that family-business interaction is a system composed of three major parts – the family, the management and the ownership (Tagiuri & Davis, 1996). The interaction of these three major parts may either inhibit effective business management or build on the inherent strength of the family business. Events in one part of the system are likely to have ramification for other parts (Rutherford, Muse, & Oswald, 2006). It recognized that family business is a complex phenomenon (Westhead & Cowling, 1998).

The family business systems theory was originally a two-circle model (Holland & Boulton, 1996; Hollander & Elman, 1988). The two-circle model, as shown in Figure 2.3, provides the foundation for understanding the combinations of, and interactions between family and business. One circle representing the family and the other representing the business. The overlap between these two circles represents the potential for conflicts that appear to hinder family business, such as generational and sibling rivalry (Gersick, et al., 1999), nepotism (Becker & Tillman, 1978) and unprofessional management (Levinson, 1971). Conflicts are inevitable because each of these two “circles” has its own value structures, membership rules and organizational structures (Tagiuri & Davis, 1996).

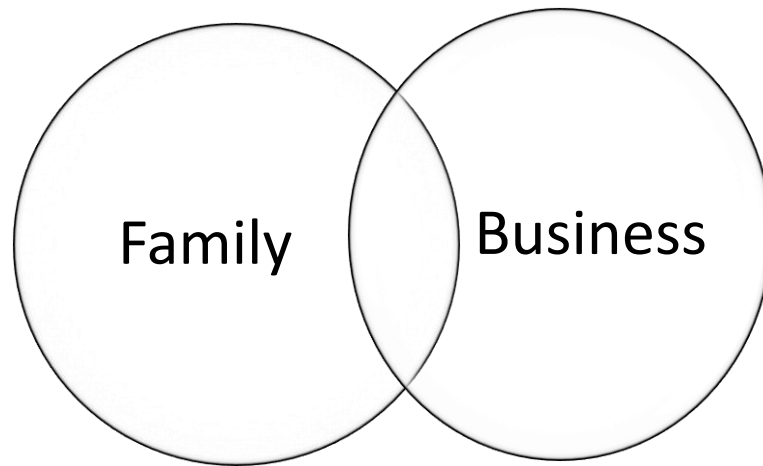


Figure 2.3 Two-Circle-Model

Source: Tagiuri and Davis (1996)

Tagiuri and Davis (1996) have expanded the two-circle model into a three-circle model. They argued that the three-circle model portrays the full range of family businesses more accurately. The three-circle model, as shown in Figure 2.4, has then being the primary conceptual model of family business (Distelberg & Sorenson, 2009). The three-circle-model conceptualized the integration of family, ownership and management. It describes the family business system as three independent but overlapping subsystems. It views that the unique characteristics of a family business resulted from the interaction between these three subsystems, where each of these characteristics can be a source of strength and weakness for the individuals involved in family business. It helps to explain the complexity and conflicts of the family business.

The interaction between these three subsystems makes the family business unique, where each of the system can either energize or stymie family business performance. The numbers in Figure 2.4 refer to the various sectors in the three-circle model. Seven sectors are formed by the overlapping circles of the subsystems. Any individual in a family business can be placed in one of the seven sectors. Individuals belong to different sectors in the family business system have different points of view toward the business. Family members who are not involved in the family business are positioned in sector 1. They are neither owners nor employees of the family business. Business investors or shareholders who are neither family members nor employees are in sector 2. Sector 3 refers to employees who are neither family members nor owners. Family members who own shares but are not employed in the business belong to sector 4. Alternatively, family members who are employed in the business but do not own any shares are positioned in sector 5. Owner-managers who are not family members are placed in sector 6. Finally, family members who own and run the business are in sector 7.

These three subsystems are traceable in any family business. Each of these circles has their own values and objectives. For instance, individuals in sector 1 valued family unity and harmony more than profits and productivity while individuals in sector 2 have contrast objectives. The overlap between the three groups often leads to different points of view between individuals depending on their position in the three circles. To manage a family business successfully, families involve in business must manage issues within and across these three overlapping groups shown in Figure 2.4.

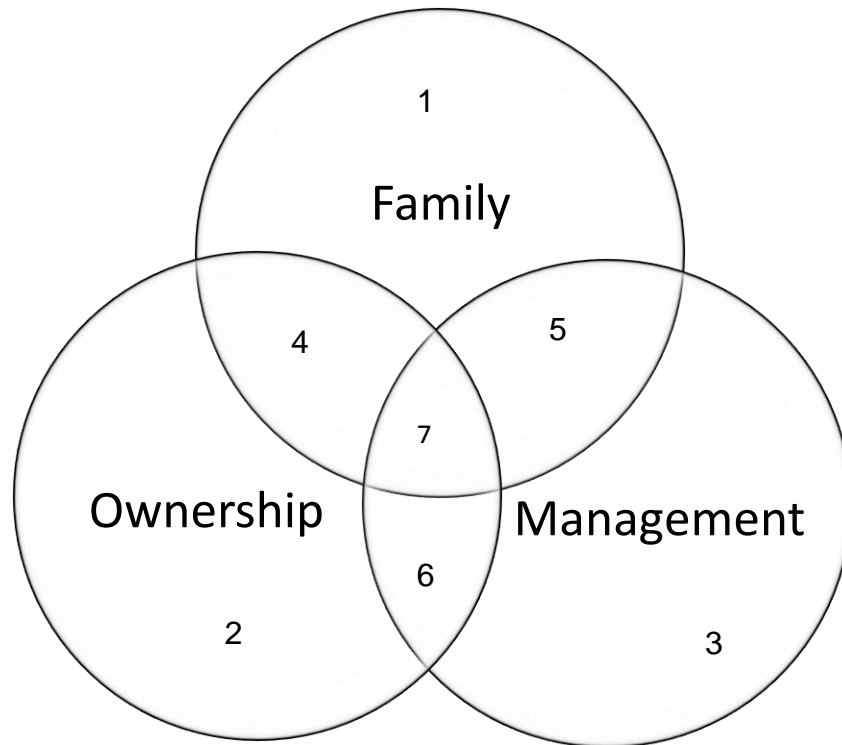


Figure 2.4 Three-Circle-Model

Source: Taguiri and Davis (1996)

Later, in an effort to address changes in the family business over generations, Gersick, et al. (1999) presented a three-dimensional developmental model of family businesses. By adding development over time to the three-circle model, Gersick, et al. (1999)'s model demonstrated the structural changes to be expected and planned as the three subsystems progress through their lifecycles. As Dunn (1999) noted that “whether taking a static cross section of the family business system, or considering their dynamic changing needs, complexity and conflicts are considered inevitable and predictable” (p. 42). The three-dimensional developmental model of family businesses, as shown in Figure 2.5, conceptualizes the integration of the lifecycle of the subsystems of ownership, family and business.

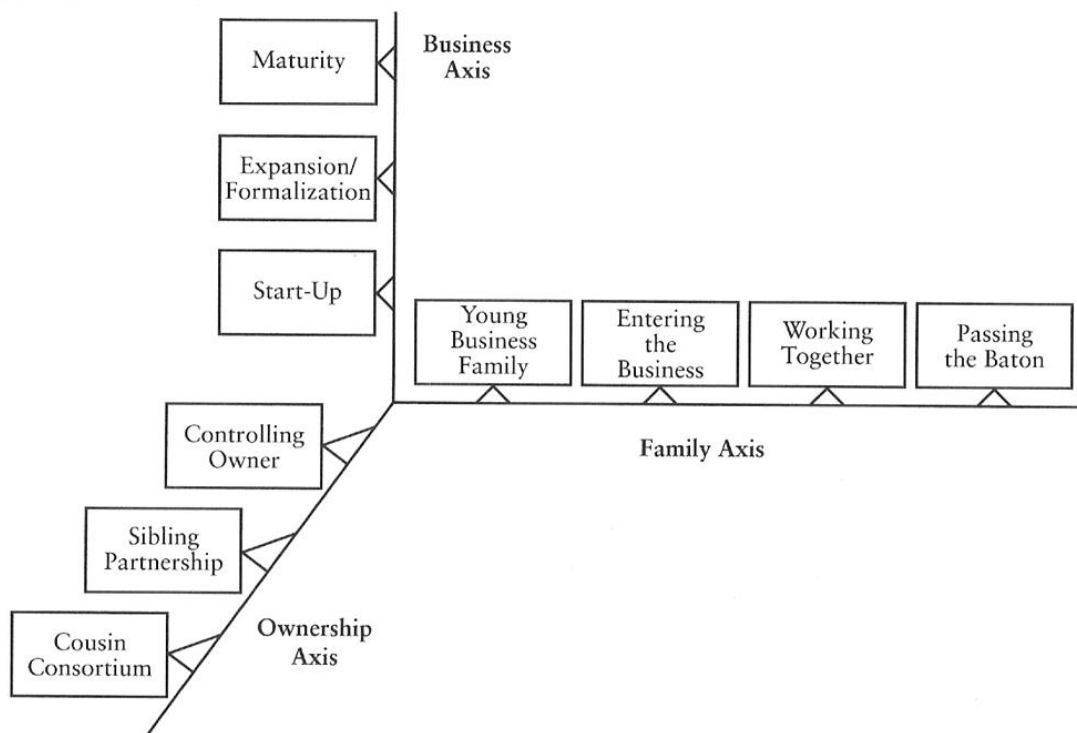


Figure 2.5 The Three-Dimensional Developmental Model Of Family Business

Source: Gersick, et al. (1999)

The systems approach has analyzed family business by identifying various degrees of family influence in a business. The three-circle model shows the complexity in the family business system by illustrating the many competing self-interest to be served at any snapshot in time. The three-dimensional developmental model shows that, by defining how family, business and ownership structures will inevitably change over single and multiple generations. Seen in this light, the measure of family business should be a continuum rather than dichotomous between family and non-family business. The family business system provides the foundation or understanding of the interactions between family and business in the family business environment (Broderick, 1993; Gersick, et al., 1999; Tagiuri & Davis, 1996).

2.5.1.1.1. F-PEC Scale

Recognizing the heterogeneity of family business and the dominant role of owning family in the business, Astrachan, et al (2002) introduced the Family influence on Power, Experience and Culture (F-PEC) scale as a measurement instrument to capture the degree of family influence in the family businesses. This scale is also meant to solve the definitional problems associated with family research.

Rather than defining family businesses dichotomously, the F-PEC scale offers a continuous scale of how much the family influences the business. It is used to assign a grade of family influence to a business. This represents a shift in the current artificial family versus non-family business dichotomy definitional approach. The F-PEC scale clearly shows that family businesses are not a homogeneous group but that the channels of influence vary across families and businesses. It provides a mean to explore all businesses along a continuum from intensive family involvement to no family involvement at all.

There are three important dimensions in F-PEC scale: power, experience, and culture. Each dimension comprises some elements as it is presented in Figure 2.6. In brief, power subscale comprises ownership, governance, and management; experience subscale includes generation of ownership, generation active in management, generation active on the governance board, and number of contributing family members; and culture subscale comprises shared family and business values and commitment.

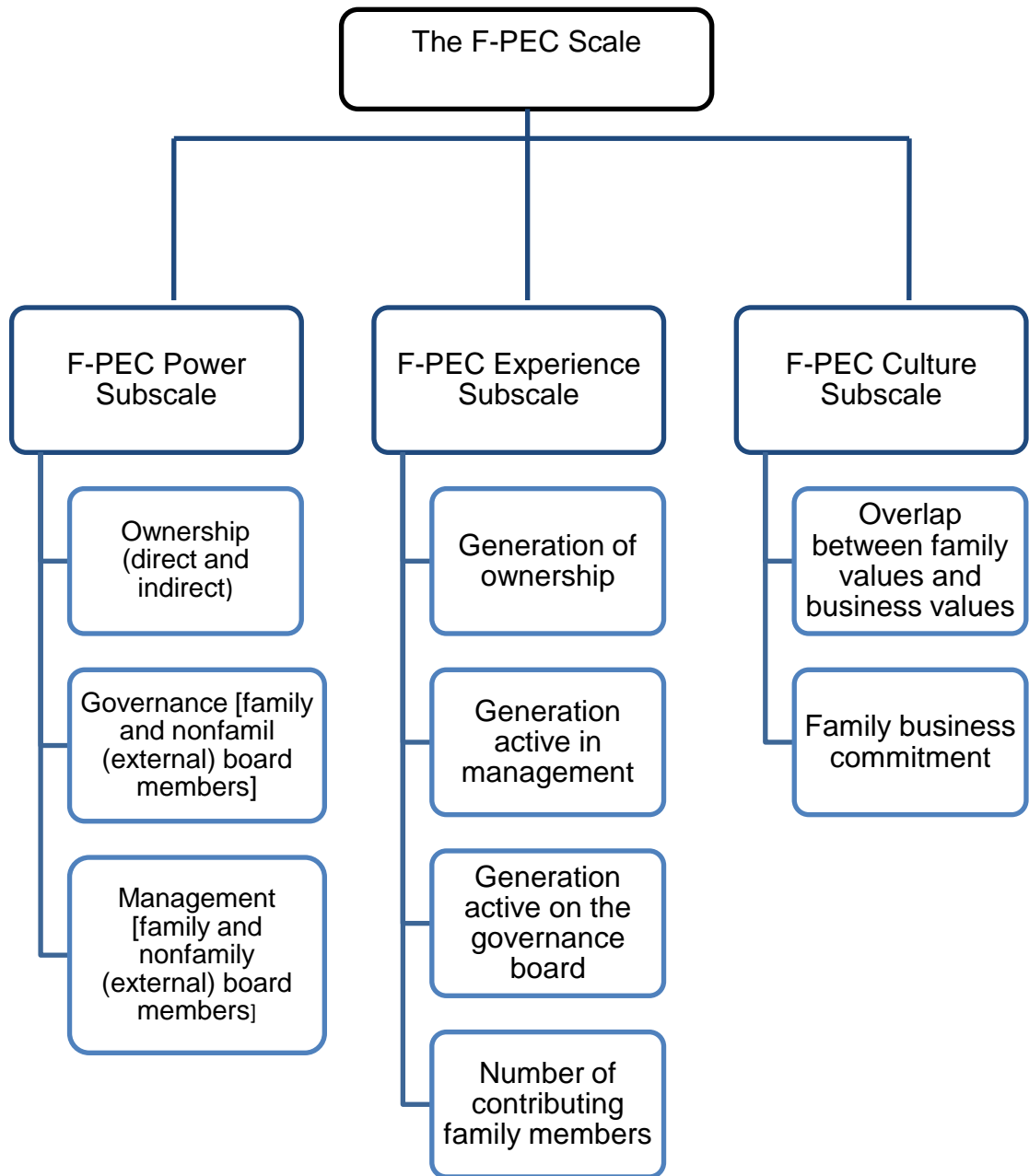


Figure 2.6 The F-PEC Scale

Source : Astrachan, Klein, and Smyrniotis (2002), p.47

Following the framework of F-PEC, power examines the extent to which the family can influence the company either directly or indirectly via ownership, governance, and participation in the management of the organization. Ownership element quantifies the number of shares owned by family and nonfamily members. Governance element records the number of family members as well as nonfamily members who are participating in the governance board. Finally, management element includes the numbers of family members and nonfamily members who are participating on the management board. Due to the fact that the F-PEC scale was created as an instrument for comparison of international studies, it is not based on a country's specific legal system (Astrachan, et al., 2002). Therefore, the influence of the family through the board and management is calculated as the percentage of family representatives who serve on the board of directors and management.

The power dimension is drawn from definitions of family businesses proposed by other researchers (Barkema & Pennings, 1998; Donckels & Fröhlich, 1991; Holland & Boulton, 1996). In Holland and Boulton's (1996) work on power in the family business, they identified that ownership, governance and management have given the business family ultimate decision making. Thus, influence the relationship between the family and the business. Barkema and Pennings' (1998) studies further confirmed that overt power from ownership is supported by covert power derived from participating in the governance and management board.

The second dimension, experience, refers to the skills, knowledge and values family passed on from generations to generations within the business. It includes the generations in charge and number of family members associated with the business. Many scholars in the family business field have considered generation as a definitional

factor (Churchill & Hatten, 1987; Handler, 1989; Ward, 2011). Through succession, family can learn to influence a business more efficiently and minimize potential threatening mistakes (Cabrera-Suárez, Saá-Pérez, & García-Almeida, 2001; Perricone, Earle, & Taplin, 2001).

Gersick, Lansberg, Desjardins and Dunn (1999) stressed in their book, *Generation to Generation*, the need for understanding how the family business changes overtime. Gersick, et al.(1999) expanded the three-circle model, as shown in Figure 2.5, into a three dimensional development model, as shown in Figure 2.6, to reflect the dimension of time. With time and change being accounted for within the model, the transition of change among generations and influence of the family on the business grows with every generation involved in the business are better understood. The interaction of family system and business system may lead to distinct resources (Habbershon & Williams, 1999; Sirmon & Hitt, 2003) and behavior (Chua, et al., 1999).

The culture dimension refers to the shared family and business values as well as the family's commitment to the firm. It measures the degree to which the value system of the business is influenced by the family. A large overlap between family values and business values indicates a significant influence of the family on the business. This dimension is originated from Carlock and Ward (2001).

Carlock and Ward (2001) postulated that the value of owning family will have impact on the family's commitment to the business and family business performance. They further argued that the family's commitment is affected by three factors. First, personal belief and support toward the business's goals and vision determine the level family members willingness to commit to the business (Lyman, 1991). Second, the

willingness of family members to contribute to the business is positively associated with business performance (Klein & Mühlebach, 2004). Finally, the greater the business families desire to relate with the business, the better the family business to achieve and sustain competitive advantage over time (Martínez, Bernhard, & Bernardo, 2007; McConaughy, et al., 2001).

Based on these three dimensions, the size of the family influence can be measured. The F-PEC scale provides an objective and standardizes measurement across investigation and facilitates comparison. Further, the three dimensions – power, experience and culture can be used as separate variable: dependent, independent or moderating (Astrachan, et al., 2002).

2.5.1.1.2. F-PEC Validity and Reliability

Although the reliability and validity of the F-PEC scale were not fully demonstrated in the initial application (Astrachan, et al., 2002), it is presently tested and validated by researchers in the family business field (e.g. Alexander, 2003; Holt, Rutherford, & Kuratko, 2010; Klein, Astrachan, & Smyrnios, 2005b). Alexander (2003) tested the validity of the F-PEC scales with a sample of 452 family businesses. An important aspect to mention is that the power construct was dropped due to missing data. This aspect is consistent with the expected secretive behaviour of family business members, particularly when talking about financial issues (Dyer, et al., 2009). The validity of the F-PEC scale was assessed using Structural Equation Modeling (SEM). Alexander's (2003) findings supported F-PEC scale as a reliable and valid instrument measuring the different types of family influence (experience and culture) in family business.

Klein, Astrachan, and Smyrnios (2005b) tested F-PEC scale rigorously, utilizing a sample of more than 10000 randomly selected family businesses, through the application of Exploratory Factor Analysis (EFA) and Confirmatory Factor Analysis (CFA). They have concluded that the scale demonstrates high level of reliability. Holt, Rutherford, and Kuratko (2010) presented the finding regarding the validity of the F-PEC scale in their research paper titled “Advancing the field of family business research: Further testing the measurement properties of the F-PEC”. In this study, the F-PEC scale was applied to a population of 831 family businesses. Data are analyzed to assess the measure’s construct validity using EFA and CFA techniques. The results are consistent with Klein, Astrachan, and Smyrnios’ (2005b) study and revealed an initial level of convergent validity.

As Table 2.2 shown, F-PEC scale has been well tested and its development is continuing. Thus, it is a reliable and valid instrument. Nevertheless, aggregation of all F-PEC items in a final family influence score is not an easy nor standardized process. As illustrated in Alexander’s (2003) study, sometimes all these items need to be used independently.

Table 2.2 F-PEC Validity and Reliability

Author (year)	Source	Sample size	Response rate	Cronbach Alpha			Number of items		
				Power	Experience	Culture	Power	Experience	Culture
Alexander Di Pofi (2003).	Effects of family influence on satisfaction with financial performance in family business. Auburn University, Auburn Alabama.	452	39%	N/A (Lack of response)	0.60	0.91	N/A	4	11
Klein, S. B., Astrachan, J. H., and Smyrniotis, K. X. (2005).	The F-PEC scale of family influence: construction, validation, and further implication for theory. Entrepreneurship: Theory and Practice, 29(3), 321(319).	831	11.60%	0.75	0.96	0.93	3	3	12
Holt, D. T., Rutherford, M. W., and Kuratko, D. F. (2010).	Advancing the field of family business research: Further testing the measurement properties of the F- PEC. Family Business Review, 23(1), 76-88.	200	24%	0.61	0.94	0.87	2	3	7

2.5.2. Agency Theory

The agency theory was provided by initial insights from Jensen and Meckling's (1976) study. The agency theory attempts to understand and explain how method and system – and their consequences – that arise to try to align the interest of the principals (owners) and agents (managers) (William, et al., 2001). According to agency theory, conflict of interests between the agent and the principal may arise if the two parties have different interests and asymmetric information. Thus, agency control mechanisms are needed to align the interests and actions of agents with the interests of the principals.

Theoretically, family businesses should have less need to control agency problem because of the shared interest of principals and agents (Duh, 2010). In family business, the principals (owners) and agents (managers) are normally related or members from the same family. Theoretically, goals of the principals should be align with the agents. Thus, the cost of reaching (James, 1999), monitoring and enforcing agreements through align goals of the principals with the agents (Chrisman, Chua, & Litz, 2004; Dyer, 2006) should be lowered. Specifically, when agents hold an equity stake in the business, their personal involvement assure that agents will not expropriate principals' wealth through the consumption of perquisites and misallocation of resources (Chrisman, et al., 2004). Moreover, implicit contractual relationships among family members are pre-existent of business involvement and may often result in relatively low agency cost than formal explicit relationship in nonfamily business (James, 1999).

Field studies concluded otherwise. As Oswald, Muse, and Rutherford (2009) observed, family involvements have incurred significant agency costs which have negatively affected business performance. In a family business, agency cost could result from the potential of a self-serving interest of the family members to win over profit-motive interest of other stakeholders. Furthermore, agency cost in family business could be due to the conflicts (Dyer, 2006; Levinson, 1971) that accompany family involvement. As Levinson (1971) and Dyer (2006) observed that family businesses are “plagued by conflicts”. Family members may have competing goals and values which may lead to conflicts among family members.

In family business agency problems arise not only due to conflicts among family members, but also due to asymmetric altruism (Schulze, Lubatkin, & Dino, 2003; Stark & Falk, 1998). Asymmetric altruism between family members makes it difficult to enforce the explicit and implicit contracts between principals (family owners) and agents (family members) when the latter engage in opportunistic behavior such as free riding and shirking (Chua, Chrisman, & Bergiel, 2009). Moreover, asymmetric altruism makes each family member employed by the company believes that they have a residual claim on the family’s business (Stark & Falk, 1998).

Recognizing that family business is not a homogenous group, Dyer (2006) proposed four types of family businesses using agency theory and resourced based view in the context of explaining family business and performance. As shown in Figure 2.7, four quadrants which suggesting four types of family firms are created with three dimensions – agency cost, family assets and family liabilities (Dyer, 2006). Certain agency costs are associated with each type. For instance, both agency cost and family assets are high in professional family firm as compared to the other three types of firm.

As Dyer, Beckhard, and Hollander (2009) observed professional family business resides in quadrant of professional family firm has a professional culture. The relationship and governance in it are based on professional codes of conduct. The family implements formal monitoring mechanism in order to avoid the problem of nepotism (Becker & Tillman, 1978) and opportunism (Miller & Le Breton-Miller, 2005) that plague many family businesses. With this professional control system, the family resources are protected and not squandered by the family. As Dyer (2006) suggested the tighter the family ties, such as high degree of trust and shared values, the lower the agency cost and hence the better the performance.

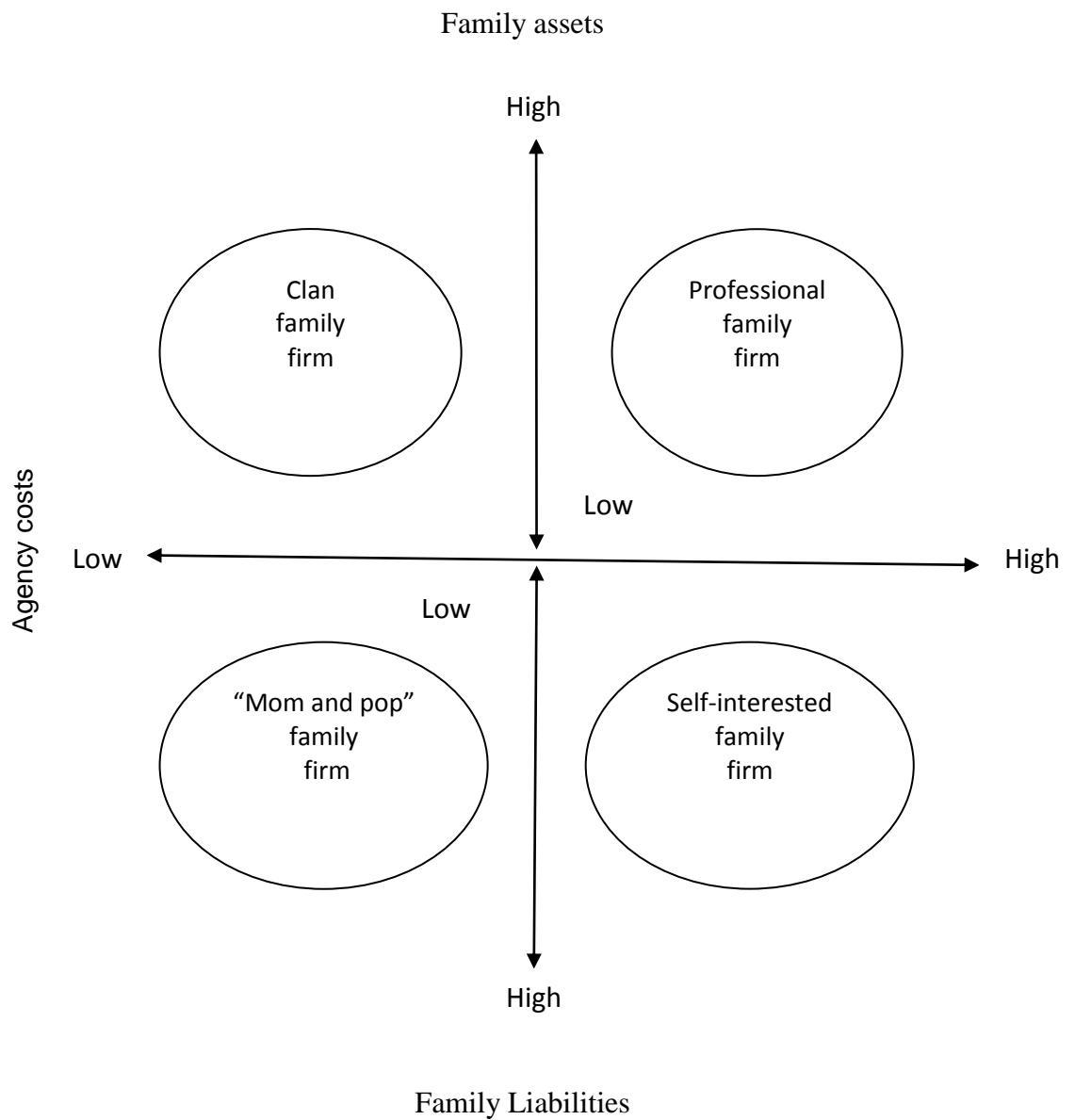


Figure 2.7 Typology of Family Firms

Source: Dyer (2006), p. 266

2.5.3. Stewardship Theory

Empirical research has shown compelling yet incongruent results of agency relationship and costs within family business (e.g. Schulze, et al., 2003; William, et al., 2001). Reason for these incongruent results may rest in family business characteristics. Family businesses are often depicted as relying on mutual trust, collectivistic behavior and altruism (Chirico, Ireland, & Sirmon, 2011; Corbetta & Salvato, 2004). Family relationships cement loyalties, increase trust and generate unusual motivation (Tagiuri & Davis, 1996). Indeed, Davis, Schoorman, and Donaldson (1997) have observed that family businesses' managers, in contrast to agency theorists belief, will not trade self-serving behavior for cooperative behaviors and are motivated to act in the best interest of their principals.

Agency theory is useful in explaining the “dysfunctional” behavior in family business (Chrisman, et al., 2004). However, agency theory failed to explain the pro-organizational and collective behaviors in family business specifically in time when the interest of the manager and the owner are not aligned. Hence, stewardship theory, as an alternative perspective, is proposed in explaining the pro-organizational and collective behaviors in family business specifically at the time when the managers maximize their own utility by acting in their organization's best interest to attain organization's objectives (Davis, et al., 1997).

According to stewardship theory, managers in family businesses are “based on a steward whose behavior is ordered such that pro-organizational, collectivistic behaviors have higher utility than individualistic, self-serving behaviors” (Davis, et al., 1997, p. 24). Stewards believe that by working toward organizational goals, their personal needs

are met. Moreover, they believe their interests are aligned with that of corporation and its owners. Nevertheless, not all managers in family businesses will act as a steward. Stewardship theorists suggest that the performance of a steward is affected by the structural situation in which the steward is located facilitating effective action (Bammens, et al., 2010). Family members can be encouraged to behave as either “ the self-serving, economically rational man postulated by agency theory, or the self actualizing, collective serving man suggested by stewardship theory” (Corbetta & Salvato, 2004, p. 357).

Eddleston, Kellermanns, and Zellweger (2012) pointed out in their study that steward’s behaviour is closely linked with control concentration in family business and can help to explain the steward’s pro-organizational behavior. Control concentration is defined as the level of power held by family business members (Gersick, et al., 1999). The degree of control concentration greatly varies among family businesses. When the power in the family business is widespread among many individuals, the level of control concentration is low. On the other hand, when the power in the family business is limited to a select few, the level of control concentration is high. Although family business is characterised by high control concentration, a lower level of concentration is desirable. Competitive advantage ensues when the horizons of decision makers are broadened due to commitment to long-term support of the family (James, 1999). In line with stewardship theory, the sharing of power among family members will motivate them to participate in strategic decision making , fulfill organizational goals and to maximize business performance (Eddleston & Kellermanns, 2007). Empowering structures and mechanism are more appropriate than control mechanism in motivating the pro-organizational behavior of a steward.

Altruism is a key component of the stewardship perspective of the family business (Shaker A. Zahra, et al., 2008). In an altruistic family business, family members are highly dedicated and obligated to see the business prosper (Cabrera-Suárez, et al., 2001). Accordingly, altruistic family members can be seen as stewards of the organization. In line with stewardship theory, altruistic families are characterized as collectivists, trustworthy and pro-organizational (Corbetta & Salvato, 2004; Davis, et al., 1997). Altruism is expected to promote family bond and encourage the family members to place organizational objectives ahead of their own (Shaker A. Zahra & Covin, 1994). Indeed, “a high degree of altruism influences individual conduct in family firms and helps strengthen family bonds” (Corbetta & Salvato, 2004, p. 358). Furthermore, research evidence suggests that a stewardship philosophy is commonly found among successful family business (Eddleston, et al., 2012). In successful family business, family members are motivated to act as stewards of their organization and to maximize business performance.

2.5.4. Differences between Agency Theory and Stewardship Theory

Both agency theory and stewardship theory have been used to explain the effects of relationships among organizational (family and nonfamily related) actors on “efficiency” (Corbetta & Salvato, 2004). However, agency theory contrasts directly with stewardship theory. Agency theory assumes human are motivated by self-interest and inclined to present value maximization (Jensen & Meckling, 1976) while stewardship theory argues that humans are not motivated only by self interest, but also by altruism, generosity and service to others (Davis, et al., 1997). Moreover, as opposed to the agency theory beliefs that human are homo economicus, stewardship theory accepts the tenet that wealth creation is not necessary the only or even the primary goal

of human. Self actualization which can be fulfilled through personal values and aspirations (Muth & Donaldson, 1998) is pivotal function of personal motivation in stewardship theory. In conclusion, agency theory is largely focused on extrinsic and enforced by institutional rewards and sanctions while stewardship theory is focused on intrinsic and enforced by a function of personal motivation.

All the above discussion on the differences between the agency and stewardship theories provide a better understanding of both theories. The differences are summarized in Table 2.3.

Table 2.3: Comparison of Agency Theory and Stewardship Theory

Element of Differences	Agency Theory	Stewardship Theory
Motivation	Extrinsic rewards	Intrinsic rewards
Organizational Identification/ Commitment	Low level of commitment	High level of commitment
Model of man	Homo economicus and self serving man	Self-actualizing and collective serving man

It is important to note that exclusive reliance on either one theory is neither sufficient nor accurate to explain the broad spectrum of family business complexity. Thus, the agency theory and stewardship theory utilized in the family business studies are expected to be complementary rather than contradictory in nature (Caers, et al., 2006; Daily, Dalton, & Cannella, 2003; Davis, et al., 1997).

2.5.5. Resource-Based View

The resource-based view has a long antecedent (Henry, 2008). It first appeared in the early writing of Bernard in 1953. However, the development and acceptance of resource-based view in the field of strategic management was driven by Penrose (1995), Wernerfelt (1984) and Barney (1991). Later, Habbershon and Williams (1999) applied resource-based view to family business resources and set forth that involvement of family members in a business established a comparative advantage to the business.

The resource-based view provides a theoretical framework to explain and understand how family businesses can achieve and sustain competitive advantage over time (Eddleston, Kellermanns, & Sarathy, 2008; Habbershon & Williams, 1999). According to resource-based view, competitive advantages of businesses are largely attributable to their resources and capabilities (Penrose, 1995). Further, resources and capabilities are heterogeneously distributed across businesses (Habbershon & Williams, 1999). According to Barney (1991), a resource must have the following attributes for achieving competitive advantages:

“(a) It must be valuable, in the sense that it exploits opportunities and/or neutralize threat in a firm’s environment, (b) it must be rare among a firm’s current and potential competition, (c) it must be imperfectly imitable, and (d) there cannot be strategically equivalent substitutes for this resource that are valuable but neither rare or imperfectly imitable..... Firm resources can be imperfectly imitable for one or a combination of three reasons: (a) the ability of a firm to obtain a resource is dependent on *unique historical conditions*, (b) the link between the resource possessed by a firm and a firm’s sustained

competitive advantage is *casually ambiguous*, or (c) the resource generating a firm's advantage is socially complex" (pp. 106 - 107).

As evidence from the research thus far, the relationship between resources and performance suggested by resource-based view has been supported (e.g. Eddleston, et al., 2008; Tokarczyk, et al., 2007). However, resources alone might not be sufficient to sustain competitive advantage (J. B. Barney & Clark, 2007). Distinct capabilities are needed to integrate different resources and enable them to be deployed advantageously (J. Barney, 1991; Sirmon & Hitt, 2003). Effective integration and deployment of resources bundles can create entry barriers and increase the possibilities for businesses to sustain their advantages for longer period of time.

It is generally accepted that family businesses are unique in terms of their resources and capabilities (Chirico, et al., 2011; Uhlaner, Tan, & Meijaard, 2007). Examples of these resources and capacities are family members' commitment towards a long-term orientation (Hiebl, 2012), relationship-oriented culture (Miller & Le Breton-Miller, 2005; Stavrou, Kleanthous, & Anastasiou, 2005), family members' shared vision and strong sense of mission (Arregle, Hitt, Sirmon, & Very, 2007; Le Breton-Miller & Miller, 2006), and the necessity to continue the business as a family economic unit (D. Miller, Le Breton-Miller, & Scholnick, 2008). Scholars have bundled all these resources and named it "familiness" (Habbershon & Williams, 1999). Familiness, which results from interaction among the business, family and individual members, helps family businesses to gain competitive advantage over non-family businesses (Habbershon & Williams, 1999). It is generally accepted that familiness made family business unique (Habbershon, 2006). Nevertheless, it is important to note that familiness may vary in family businesses and not all familiness provide a competitive advantage in all cases.

Grant (1991) has pointed out that it is equally important in managing, maintaining and upgrading them if it is to provide a sustainable competitive advantage. The value of family business is enhanced due to access to family resources, especially when access to other capital is limited. Figure 2.8 illustrates the general resource-based view model of familiness which is adapted from Habbershon and Williams (1999).



Figure 2.8 General Resource-Based View Model of Familiness

Source: Habbershon and Williams (1999).

Family businesses operate in a dynamic environment that is full of challenges. In a turbulent environment like today's business world, being able to innovate will provide an opportunity for family businesses to survive and achieve prosperity (Tidd & Bessant, 2011). The next section will look at innovation, which can be viewed as the critical capacity of business operating in a dynamic environment.

2.6. Overview of Innovation

Studies of innovation have a long academia lineage. As far back in 1928, the study of innovation has debuted in Joseph Schumpeter's *instability of capitalism*. In his studies, Joseph Schumpeter labeled the process of innovation as "creative destruction". He pointed out that innovation as a dynamic process, in which new technologies

replaced the old, drive the economic development. He further explicated that major disruptive changes are driven by “radical” innovations while “incremental” innovations continuously advance the process of change (Schumpeter, 1934). His work has greatly influenced theories of innovation. Since then subsequent scholars have focused on exploring the concept of innovation in the context of economic entities (e.g. Damanpour, et al., 2009; Jain, 2010; Neely & Hii, 1998) and have confirmed that innovation is associated with superior performance (e.g. Bhaskaran, 2006; Bowen, Rostami, & Steel, 2010; Damanpour, et al., 2009). Indeed, scholars such as Damanpour, Walker and Avellaneda (2009) noted that “The study of innovation hardly needs justification as scholars, policy makers, business executive’s, and public administrators maintain that innovation is a primary source of economic growth, industrial change, competitive advantage, and public service”(p. 650).

The field of innovation has been described as broad and complex (Jain, 2010). It is subjected to different interpretations within its different strands (Baregheh, Rowley, & Sambrook, 2009). Researchers have proposed that innovation is a prime activity of businesses and that an important business strategy for creating value is to create new products or services and then commercialize them (J. Bessant & Tidd, 2011). Thus, the innovation literature focuses predominantly on the link between innovation and business performance (Damanpour, et al., 2009; Neely & Hii, 1998; Strecker & Salomo, 2009). In this strand the unit of analysis is the family business performance, and this study’s main purpose is to explore the role of innovation in family business performance.

Existing studies suggest that there is a close link between innovation and business performance (Damanpour, et al., 2009). This existing literature has emphasized that successful innovation has provided a sustainable competitive advantage and is

critical for long term commercial survival of any business family or corporate (Drucker, 2007a). There is clear evidence that innovation plays a crucial role to long term profitability and growth in businesses, and there can be little doubt that today's businesses must be able to move positively in the world of business innovation. The successful businesses will be businesses that fully understand the premise that innovative businesses differ from non-innovative businesses in that the agility, nimbleness, and responsiveness of the innovative are superior to the hesitant and non-innovative who will be left behind as reactive instead of pro-active business people in this increasingly volatile world.

As the driving force of performance in a market economy, innovation creates wealth and reward risk-taking (Drucker, 2007b). It “represents the core renewal process in any organization. Unless it changes what it offers the world and the way in which it creates and delivers those offerings, it risks its survival and growth prospects” (John Bessant, Lamming, Noke, & Phillips, 2005, p. 1366). It pertains directly and exclusively, to observable market activities and outcomes. It opens up new market, extends the product range and service available to consumers with lower price (Drucker, 2007a). It aims to meet the needs of consumers more efficiently (R. E. Morgan & Berthon, 2008). It is about more than ideas; it is about how the economic system transforms ideas into outcomes, outcomes that continue changes and embodies the entrepreneurial spirit (Neely & Hii, 1998).

2.7. Defining Innovation

The concept of Innovation is broad and complex (Jain, 2010). A review of literature suggests that the field of innovation subjects to different interpretations within

its different strands (Baregheh, et al., 2009). The definitions of innovation range from imitative to novel, from incremental to monumental, from minor to dramatic. Further, innovation goes beyond the actual physical output of new product/service, but encompasses the process of creation and idea generation (Janssen, 2000, 2005). As Lam (2006) asserted: “ There is no single coherent conceptual framework for understanding the phenomenon of organizational innovation”(p. 138). There is disagreement on how it should be observed and measured (Damanpour, 1987; Jain, 2010; Moos, Beimborn, Wagner, & Weitzel, 2010) and how it should be defined. These disputes taken on even greater importance as businesses increasingly embrace innovation as a means to survive and prosper.

Although formal definitions of innovation appear diverse (see Table 2.4), one common element in all definitions of innovation is novelty (Camison-Zornoza, Lapiedra-Alcami, Segarra-Cipres, & Boronat-Navarro, 2004; Hellstrom, 2004). Indeed, Camison-Zornoza, Lapiedra-Alcami, Segarra-Cipres, and Boronat-Navarro (2004) pointed out that “ one common element in all definitions of innovation is that it is a new idea that put into practice while paying special attention to its usefulness” (p. 334). Others have explained that innovation is the process by which new products or new services are introduced (Avlonitis, Papastathopoulou, & Gounaris, 2001; Cooper, Easingwood, Edgett, Kleinschmidt, & Storey, 1994; Damanpour, 2010). Litz and Kleysen (2001) purported that innovation in the family context is “ the intentional generation or introduction of novel process and or products resulting from the autonomous and interactive efforts of members of a family”(p. 336).

Coupled with the numerous articulation of innovation, there are multiple strands and resulting innovation measures (Rogers, 1998). The variety and number of

innovation measures further augments the ambiguity shrouding innovation. Although there is no single measure of innovation, there are several dominant measures of innovation used. These include number of innovations adopted by the corporation (Camison-Zornoza, et al., 2004), number of patents (Griliches, 1990), RandD expenditure (Raymond & St-Pierre, 2010), the number of new product launches (Avlonitis, et al., 2001) and frequency of innovation (Danneels, 2002). Regardless of the measure applied, most measures of innovation include the concept of intentional change, introduction of new product/process or new ideas generation (Lam, 2006; Rogers, 1998). Hence, this study focuses on innovation in terms of new products and process and innovative behavior which entails the actual generation of new ideas. This study reports on the characteristic of innovation follows an ‘outcome-oriented approach’ by drawing attention to the direct impact of innovation on business performance.

Table 2.4 Some Definitions of Innovation

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“ A new idea, which may be a recombination of old ideas, a scheme that challenges the present order, a formula, or a unique approach which is perceived as new by individuals involved” (Vandeven, 1986)

“Innovation is the intentional introduction and application (within a role, group or organization) of ideas, processes, products or procedures which are new to the relevant unit of adoption, designed to significantly benefit the individual, the group, organization or wider society.” (West & Farr, 1990)

“Innovation is defined as adoption of an internally generated or purchased device, system, policy, program, process, product, or service that is new to the adopting organization. This definition is sufficiently broad to include different types of innovation pertaining to all parts of organizations and all aspect of their operation.” (Damanpour, 1991)

“The commercially successful exploitation of new technologies, ideas or methods through the introduction of new products or processes, or through the improvement of existing ones. Innovation is a result of an interactive learning process that involves often several actors from inside and outside the companies” (European Commission, 1996)

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Table2.4, continued

Table 2.4, continued

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“An innovation is the implementation of a new or significantly improved product (good or service), or process, a new marketing method, or a new organizational method in business practices, workplace organization or external relations.” (OECD, 2005)

“Innovation is the specific instrument of entrepreneurship. It is the act that endows resources with a new capacity to create wealth. Innovation, indeed create a new resource.” (Drucker, 2007a)

“Innovation can be defined as the effective application of processes and products new to the organization and designed to benefit it and its stakeholders”(Wong, Tjosvold, & Liu, 2009)

“Innovation is a process of turning opportunity into new ideas and of putting these into widely used practice.” (Tidd & Bessant, 2009)

“An innovation is the process of creative and novel idea to put it into some practical use; and an innovation in a work organization implies change in status quo.” (Jain, 2010)

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Source: Above noted readings.

2.8. Types of Innovation

Correspond to the numerous definitions of innovation, there are multiple strands and resulting typologies. Damanpour (1991) emphasized that distinguishing types of innovation is crucial for identifying the determinants of innovation and understanding organization behavior. The studies of innovation types have been covered by many scholars, for instance Joseph Schumpeter (1934), Miller and Friesen (1983), Abernathy and Clark (1985), Damanpour (1991, 2010) and Tidd and Bessant (2011), which revealed a base for different types of innovation. There are two main dimensions to categorize innovation: what is changed and the degree of change.

In early literature in the field, Schumpeter (1934) proposed one of the first innovation typologies. Schumpeter's innovation typology categorized innovation into five different types:

1. Introduction of new products;
2. Introduction of new methods of production;
3. Opening of new markets;
4. Development of new sources of supply for raw materials or other inputs;
5. Creation of new market structures in an industry.

Similarly, Miller and Friesen (1983) discussed four dimensions related to innovation:

- I. New product or service innovation;

- II. Method of production or rendering services;
- III. Risk taking by key executives;
- IV. Seeking unusual and novel solutions.

Later, Abernathy and Clark (1985) categorized the capacity of an innovation to influence the established production and marketing into four types:

- I. Architectural
 - Radical innovation, for instance new technology, that creates new industries and reforms the old ones.
- II. Niche
 - Incremental innovation, for instance improvement of existing technology, that creates new market opportunities.
- III. Regular
 - Incremental innovation that creates to serve and sustain existing markets and customers.
- IV. Revolutionary
 - Radical innovation that creates to disrupt the existing industries or make existing technologies obsolete, for instance digital camera has obsolete film camera.

Recently, Tidd and Bessant (2011), based on the perceived extent of change created by innovation, distinguish innovation into three types:

I. Transformational

-New technology or process is applied to change the existing paradigms or technologies.

II. Radical

-Involving changes that restructure the existing customers/suppliers relationship and market segments. Existing products may replace by entirely new product categories.

III. Incremental

-Improvement of existing process or technology to serve customers better.

Among numerous typologies of innovation in the literature, Damanpour (1991, 2010) noted that the following three have gained most attention:

I. Administrative and technical;

II. Product and process ;

III. Radical and incremental.

A review of the extant literature evidence that previous scholars used a dichotomous labeling system which cannot reflect the multifaceted, complexity of innovation (Garcia & Calantone, 2002). Indeed, Garcia and Calantone (2002) argued that the multiple typologies of innovation have led to creating “ inconsistencies in labeling innovation types” (p. 118). Hence, this study does not measure the type or level of innovation. Instead, this study conceptualizes and operationalizes innovation as encompassing product innovation and process innovation, fuel by innovative idea

generation. A discussion concerning the innovation that exists in Malaysia is offered next.

2.9. Innovation in Malaysia

In Malaysia, not many companies reported on their research and development spending as well as innovation activities in their annual reports (Goh & Lim, 2004). Innovation activities in Malaysia are largely driven by public funding and decision making (Felker, Jomo, & Rasiah, 2002). Although national surveys of innovation and research and development have been routinely carried out in Malaysia manufacturing sector since the mid-1990s, there are relatively few reports and survey on innovation in Malaysia (Felker, et al., 2002). Indeed, there is a general lack of innovation information in Malaysia family businesses. The latest Malaysia innovation survey report was done on 2009 by Pawanchik and Sulaiman on selected industries. Although it might not be representative of the innovation in Malaysia, it gave a glimpse of the scenario.

Based on Malaysian innovation climate survey report 2010, as shown in Figure 2.9, Malaysians have a tendency to equate innovation with high technology. Majority of Malaysians associated innovation with creativity, research and development (R&D), technology and mindset; and, least associated with processes and risks. Nevertheless, the very same survey also revealed that Malaysians do not incorporated innovation into their everyday works and felt no responsibility to innovate (Pawanchik & Sulaiman, 2010).

Despite the low awareness of Malaysians toward the culture of innovation, majority of companies in Malaysia do innovate (e.g. Hobday, 1996; Tan, Chong, Lin, &

Eze, 2009; Yunos, 2002). Based on Malaysian innovation climate survey 2009, as shown in Figure 2.10, companies in Malaysia largely engage in service innovation, product innovations and operational innovation (Pawanchik & Sulaiman, 2010). The result is expected since Malaysia's focus is on the service sector and more than 50% of Malaysia's Gross Domestic Product (GDP) were contributed by the service sector in 2009 (Department of Statistics, 2009).

Based on the reports and previous studies, Malaysia lags behind in innovation, especially in terms of , research and development (R&D) and Technology, as compared to the west (Pawanchik & Sulaiman, 2010). Nevertheless, Malaysia companies have strength in operational innovation and services innovation. For instance, AirAsia is recognized for its innovative approach in branding and marketing (Chu, 2008). In 2008, Wall Street Journal (Fernandez, 2008) listed ten most innovative companies in Malaysia. The list is as follows: DiGi, Nestle, Public Bank, Astro All Asia Network, UMW Holding, Genting, Malayan Banking, Parkson Holdings, Malaysian Airlines and YTL Corporations. Among these ten companies, three of them - Genting, Parkson Holdings and YTL Corporations are public listed family businesses. A discussion concerning the controversy that exists regarding the link between family influence, innovation and business performance is offered next.

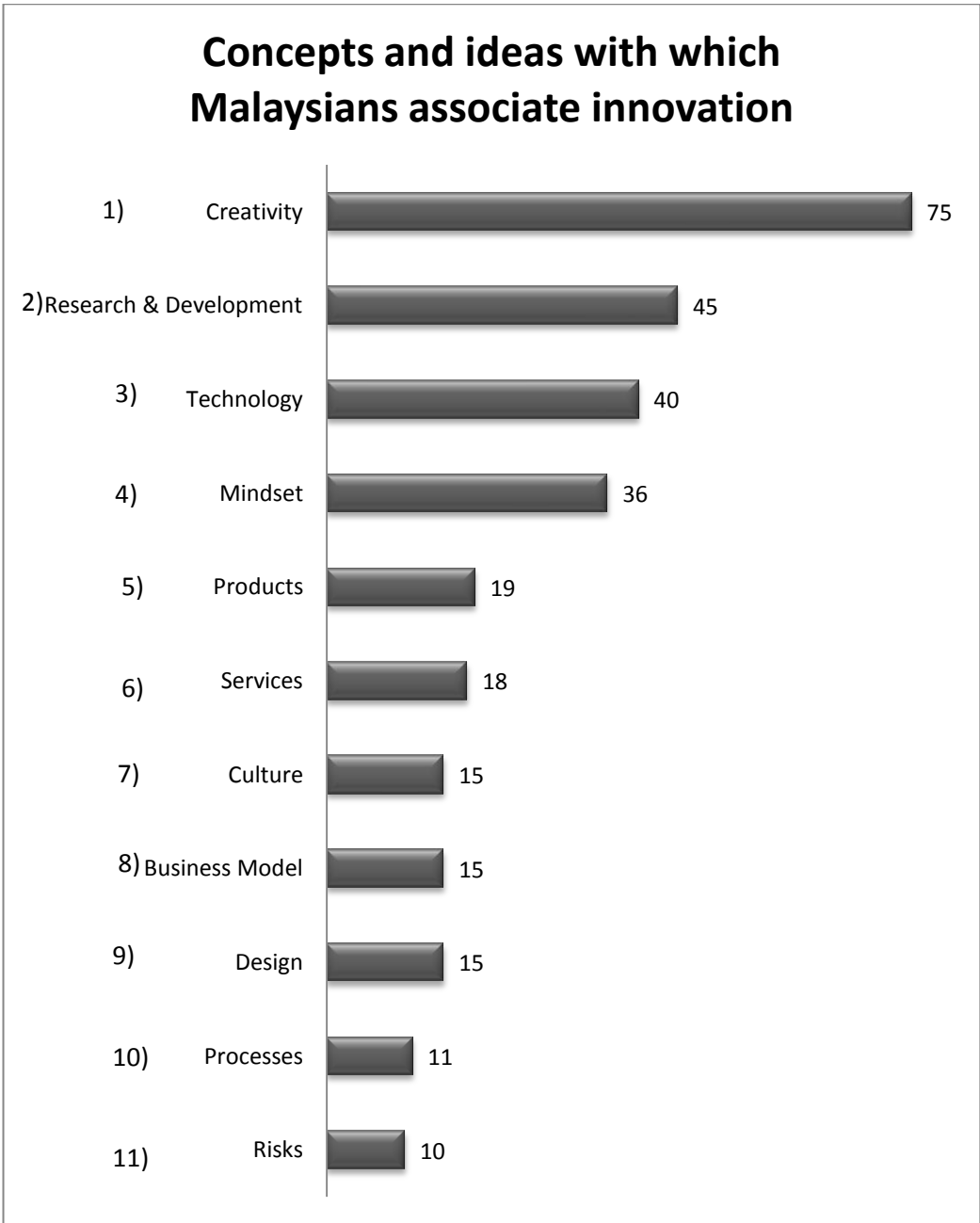


Figure 2.9 Concepts and Ideas with Which Malaysians Associate Innovation

Source: Pawanchik and Sulaiman (2010), p.18

Types of innovation based on company size

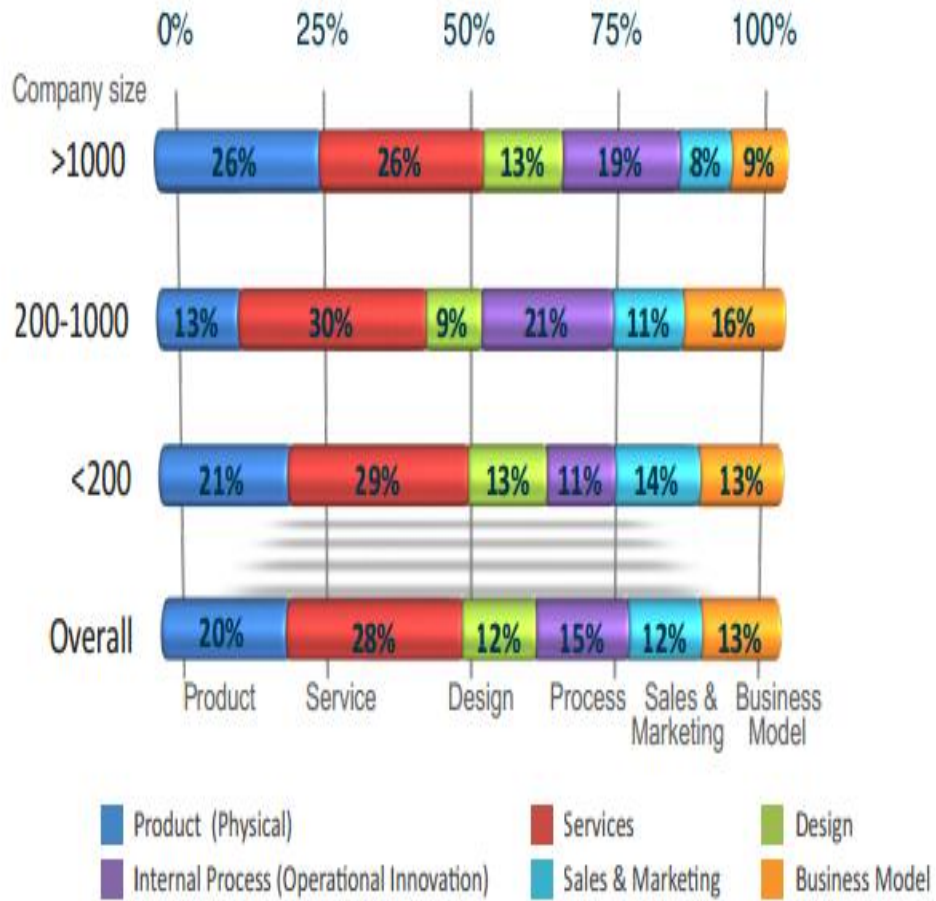


Figure 2.10 Types of Innovation That Malaysian Companies Engage In

Source: Pawanchik and Sulaiman (2010), p.20

2.10. Family Influence, Innovation and Business Performance

The innovation side of a family business is critical to its survival, prosperity and continuity (Poza, 2009). Litz and Kleysen (2001) pointed out that innovation in the family context is “ the intentional generation or introduction of novel process and or products resulting from the autonomous and interactive efforts of members of a family” (p. 336). A review of literature clearly shows that family concerns and preferences can either drive or stymie innovation. Agency relationship and costs within family businesses may make the family reluctant to invest in new ventures (Cabrera-Suárez, et al., 2001), limit the propensity of family businesses to induce change (Carlock & Ward, 2001) and assume risk (Ward, 2011). Nevertheless, research also revealed that unique family-based characteristics such as kinship ties (Shaker A. Zahra, et al., 2008), reciprocal altruism (Eddleston & Kellermanns, 2007) and social capital created by familial character and values (Shaker A. Zahra, Hayton, & Salvato, 2004) have helped family businesses to become innovative. Zahra, Hayton, and Salvato (2004) posited that family influence together with the cultural dimension of external orientation lead to innovation. Furthermore, Salvato (2004) found that family businesses with an active second generation have greater likelihood to turn opportunity into an actuality, hence innovation. Finally, Litz and Kleysen (2001) found that altruism and pro-organizational culture support family businesses’ innovation.

In general there is no consensus among researchers on the impact of family influence on the business performance (e.g., Martínez, et al., 2007; Olson, et al., 2003). While Martínez, et al.(2007) emphasized that impact of family influence in business performance is favorable, Olson, et al.(2003) concluded otherwise. There are also studies that give evidence that family influence has no impact on business performance

(e.g. Chrisman, et al., 2004; Westhead & Howorth, 2006). The disagreement and uncertainty on previous studies should make clear that the heterogeneous character of the family business should be taken into consideration in order to make a better understanding of the link between family influence and business performance (Miller & Le Breton-Miller, 2006).

2.11. Chapter Summary

In this chapter, the literature pertaining to family business, innovation and business performance are reviewed. The first part of this chapter examines the family business literature. It starts with a brief description of some specific characteristics of Malaysia public listed family business. Then it looks at the evolution of the family business research field, the definitional problem that plague the field, and theories related to the field. Next, the unique characteristics and heterogeneity nature of family business caused by family influences are highlighted. Subsequently, three variables to measure family influence are identified: power, experience and culture.

The literature on the innovation is extensively discussed in later part of the chapter. It starts with an overview of the innovation literature and the importance of innovation in driving organizational performance is emphasized. Then it looks at the various definitions of innovation. Types of innovation in general and types of innovation in Malaysia are discussed. Furthermore, the literature on the link between innovation and family business are explored. In the following chapter, the connections of these multiple literature streams are applied to formulate the expected relationships of the variables.

CHAPTER THREE

THEORETICAL FRAMEWORK AND HYPOTHESES DEVELOPMENT

3.1. Introduction

The main objective of this chapter is to develop a theoretical framework and several hypotheses to address the research questions posed in chapter one. While numerous empirical studies suggest that innovation enhances business performance, there remains little understanding of the role of innovation in a family business. In this study, a theoretical framework is developed to explore the relationship between (a) family influence and innovation, (b) family influence and business performance, (c) innovation and business performance and, (d) the intervening effect of innovation between family influence and business performance. Figure 3.1 presents the theoretical framework of the study.

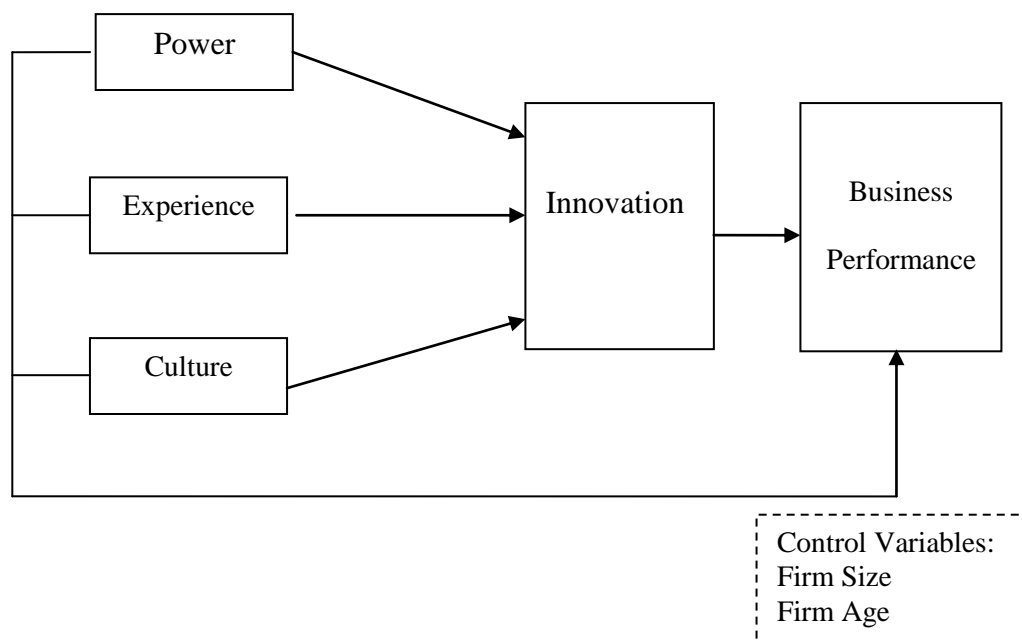


Figure 3.1 Theoretical Framework of Family Influence, Innovation and Business Performance

The framework, as illustrated, is developed to illustrate the links between the constructs. The framework comprises three main elements: family influence, innovation and business performance. Within the element of family influence, the framework proposes three key constructs: power, experience and culture. A direct relationship between the three dimensions of family influence, innovation and business performance is proposed

This chapter consists of seven sections including this introduction. In section 3.2, the link between family influence on F-PEC scale and innovation is explicated and hypotheses which based on the review of literature are formulated. It begins with an overview of the link between power and innovation followed by the link between experience and innovation. The link between culture and innovation is the final part of this section. Next, in section 3.3, the link between family influence and business performance is presented. Then, in section 3.4, the link between innovation and business performance is discussed and the theoretical framework which depicts the relationships of the hypotheses developed in this study is presented. In section 3.5, the specific research questions and the hypotheses which are based on the review of literature are stated. In section 3.6, the control variables are described. Finally, section 3.7, presents the chapter summary.

3.2. The Link between Family Influence and Innovation

The concept of family business is broad and multifaceted. Several researchers have developed a number of instruments to measure it. Acknowledging that family businesses are heterogeneity group of organizations (Corbetta & Salvato, 2004) and family businesses are affected by kinship involvement to various extents and in various

ways, Astrachan, Klein, and Smyrnios (2002) sought to solve the definitional problems associated with family research by offering a multidimensional view of family influence - the F-PEC scale. This multidimensional view assesses the degree of family influence and involvement that the owning family wields over a business. It consists of power, experience, and culture (Astrachan, et al., 2002).

In this study, I pursued Astrachan, et al.'s (2002) dimension of family influence and tried to “ tap the primary means by which a family can exert influence over a business” (J. E. Cliff & P. D. Jennings, 2005, p. 342). Below, I explained how each family influence dimension is expected to influence innovation in family business as well as business performance.

3.2.1. The Link between Power and Innovation

Power refers to the extent to which a family can influence a business via the extent of its ownership, governance and management involvement (Astrachan, et al., 2002). As a family's ownership, governance, and participation in the management increase, business is motivated to maximize financial wealth as well as preserve the family's socioeconomic wealth (Ward, 2011).

The business families will make key decisions with an eye on their personal and family long term goals and strategies which allow the business to bring forth innovative ideas and implement them in a timely fashion. The long tenures and the formal and informal power wielded by the extensive family's ownership and participation in the management make family business more apt to invest in building relationship (Sørensen & Stuart, 2000), and the systems and infrastructure (Shaker A. Zahra, et al., 2008)

necessary to make high rate of innovation possible. Moreover, the extant researchers have found that family businesses are more innovative (e.g. Beck, et al., 2011) because of better alignment between the owner and the business (S. A. Zahra & Covin, 1993). The higher the ownership, the greater is this alignment (Duh, 2010). This alignment is likely to encourage the exploration of innovative ideas, and as observed, family businesses have the incentives and the power to support innovation that enhances business performance.

While family ownership, governance, and participation in the management might stimulate innovation from efficiencies and quality decision making, it might also stifle innovation because of altruism (Schulze, et al., 2003) and conflicts (Dyer, 2006). As family ownership increases, owner managers may place their own needs ahead of the well-being of their business. They might favor prearrangement for their own children and other family members, such as privileges and benefits; but reluctant to invest in innovations. Further, owner managers involved in businesses do not know whether an innovation they pursued will succeed in creating value or not. This uncertainty associated with the implementation of innovations may indicate the owner managers have a less positive feeling towards innovation. Also, family members may be comfortable with the current market, its existing products and ready-made solutions to daily problems. Consequently, owner managers might be conducive to strategic conformity and compliance with industry norms and practices, rather than upsetting the status quo through new innovation. The desire to protect the business's non-economic goals and conservatism might support no action and avoid investing in the time consuming and seen-as-risky innovation.

As evidence from previous literature, there is no consensus among researchers on the impact of power in innovation. While Beck, et al (2011) emphasized that the impact of power in innovation is favorable, Dyer (2006) concluded otherwise. That is, although it is clear that power has direct effect on innovation, the direction of effects is uncertain. Thus, the following hypothesis is suggested.

Hypothesis 1: The extent of the family's influence on the power affects the extent of the innovation in the business

3.2.2. The Link between Experience and Innovation

Experience refers to the skills, knowledge and values that family businesses pass on to the generations within the business (Astrachan, et al., 2002). This dimension includes the generation in charge and number of family members associated with the business. Many scholars in the family business field have considered generation as a definitional factor (Ward, 2011). Through succession, a family business can learn to influence the business more efficiently and minimize potential threatening mistakes (Cabrera-Suárez, et al., 2001). The interaction of family system and business system may lead to distinct resources (Habbershon & Williams, 1999) and behavior (Chua, et al., 1999; Ingram, 2011).

In family business, family members are linked and involved in the business together. There is a bond between them (Ward, 2011). They are bounded by informal social ties such as shared common history, commitment, common languages and informal rules for decisions, communicating and interpreting knowledge. These informal social ties allow family members to collect and gather information collectively

through informal discussion and coordination between family members. Furthermore, collective learning and knowledge sharing within the company are also enhanced. These combinations of informal social ties and their associated spillover effects, permit the family business members to exchange information and knowledge, particularly concerning those vague and difficult to codify situations, better than those in non-family businesses

Information and knowledge are widely recognized as key inputs to innovation (e.g. Yuan, Soo-Hoon, Xiyao, & Yi, 2010) . Hence, these informal social ties are said to benefit a family business during the incubation period of an innovation. As observed, informal social ties allow and enhance family businesses to orchestrate, nurture and support promising innovation.

At first sight, the informal social ties are highly persuasive. The cooperative activities among family members tend to reduce uncertainties and are likely to assist a family business during the incubation period of one or more innovations. From this, it seems plausible that these familial social ties will nurture and support higher rates of innovation.

One of the problems of informal familial social ties is how their highly desirable relationships arise in the first instance. As revealed from previous research, family businesses relationships are stressful and complicated (Ward, 2011). Not all family members can communicate openly, resolve conflicts, and support each other's decisions. There are siblings' rivalries, nepotism and conflicts of interest in a family business. Moreover, competition may arise among family members regarding the opportunities available for them and their own children. Group conflict developed from

conflicting goals among the different branches of the family and nepotism may lead to unwillingness to share vital information. This can deprive the firm of important sources of information that can stimulate innovation.

As evidence from previous literature, there is no consensus among researchers on the impact of experience in innovation. While Cabrera-Suárez, et al. (2001) emphasized that the impact of experience in innovation is favorable, Ward (2011) concluded otherwise. The disagreement on the previous studies resulted difficulty in determining the direction of relationship between experience and innovation. Nevertheless, it is generally accepted by researchers that experience has direct effect on innovation. Thus, the following hypothesis is suggested.

Hypothesis 2: The extent of the family influence on the experience affects the extent of the innovation in the business.

3.2.3. The Link between Culture and Innovation

Culture refers to shared family and business values, along with the family's commitment to the firm (Astrachan, et al., 2002). (Astrachan, et al., 2002). It measures the degree to which the value system of the business is influenced by the family. Both popular and academic literatures have long spread the notion that organization culture may have a significant effect on innovation (e.g. Bammens, et al., 2010). Nevertheless, there seems to be a paradox that organizational culture can stimulate or hinder innovation (Martins & Terblanche, 2003).

Carlock and Ward (2001) suggested that the value of the owning family has an impact on the family's commitment to the business and its performance. Indeed, Carlock and Ward (2001) established three principal factors of commitment:

- I. a personal belief and support of the firm's goals and visions,
- II. a willingness to contribute to the firm, and
- III. a desire for a relationship with the firm.

To successfully carry out innovation in the family business, the family and the business must be willing to make a long-term commitment to be innovative and reach consensus about their objectives. Strongly family-influenced businesses can be more innovative than businesses with little or no family influence because of better alignment between the owner and the business (e.g., Bammens, et al., 2010). The greater the ownership, the greater is this alignment (Duh, 2010). Alignment is likely to encourage the exploration of innovative idea, and as observed, family businesses with a strong sense of shared ownership and group identity have the incentives and the power to support innovative effort that enhances business performance (Shaker A. Zahra, et al., 2008).

Both popular and academic literature have long spread the notion that organizational culture has a significant effect on innovation in family business (e.g. Bammens, et al., 2010). Nevertheless, there seems to be a paradox that organizational culture can stimulate or hinder innovation (Martins & Terblanche, 2003). Unique family-based characteristics such as kinship ties (Shaker A. Zahra, et al., 2008),

reciprocal altruism (Eddleston & Kellermanns, 2007) and social capital created by familial character and values (Shaker A. Zahra, et al., 2004) have helped family businesses to become innovative. The kinship ties and reciprocal altruism in the family business may generate higher levels of intragroup communication (Eddleston & Kellermanns, 2007), increased commitment (Goncalo, 2004) and decreased conflict (Gioia, 1999). Open communication, decreased conflict, and increased commitment encourage the pro-organizational behavior of family members (Eddleston, et al., 2012). Indeed, Litz & Kleysen (2001) found that altruism and pro-organizational culture facilitate effective innovation in family businesses. Zahra, Hayton, & Salvato (2004) posited that family influence, together with the cultural dimension of external orientation, lead to innovation.

While business altruism and long term management tenure by family members make a family business more apt to explore an innovation idea, they might also inhibit innovation. Family businesses, particularly established family businesses, are conventional (Shaker A. Zahra, et al., 2008), inclined toward order for survival (Berrone, et al., 2012), and prioritize providing careers and financial security for family members (Bertrand & Schoar, 2006) as well as being risk averse (Gomez-Mejia, Cruz, Berrone, & De Castro, 2011). This unique organizational culture of family businesses may make the family reluctant to invest in new ventures (Cabrera-Suárez, et al., 2001), limit the propensity of family businesses to introduce change (Carlock & Ward, 2001) and assume risk (Ward, 2011). Thus, the family business might embrace an apparently consistent reality than tolerate the odd and disruptive ways that innovation brings to the business.

Thus, there is a general consensus that culture has an effect on innovation in family business, and we hypothesize:

Hypothesis 3: The extent of the family influence on the culture affects the extent of the innovation in the business.

3.3. The Link between Family Influence and Business Performance

Scholars posit that family influence can either lead to negative business performance (e.g. Kets de Vries, Carlock, & Florent-Treacy, 2010; Olson, et al., 2003) or potential driven performance and sustainability (e.g. Jon I. Martínez, et al., 2007; Ward, 2011). There are also possibilities of family influence having no impact on business performance (e.g. Chrisman, et al., 2004; Westhead & Howorth, 2006). There is no consensus on how family involvement influences business performance. Indeed, it is a topic of ongoing debate among researchers (IFERA, 2003).

Family businesses are often motivated by factors other than straightforward profit maximization. Family values frequently influence business decision-making and are often deemed more important than economic concerns (Alderson, 2011). Agency relationship and costs, for instance a self-serving interest of the CEO to win over profit-motive interest of other stakeholders, within family business may make the family influence bad to business performance (Schulze, Lubatkin, Dino, & Buchholtz, 2001). Although some early family business researches (Chaganti & Damanpour, 1991; Schulze, et al., 2001) focused on the potential for problems resulting from family influence, some other researches (Bammens, et al., 2010; Habbershon & Williams, 1999) focused on the potential for benefits resulting from family influence.

Based on the resource-based view, Habbershon and Williams (1999) set forth that family influence, as the “unique bundle of resources a particular firm has because of the systems interaction between the family, its individual members, and the business” (p. 10), establishes a competitive advantage for family businesses. Further, as suggested by Bammens, et al. (2010), the potential stewardship culture in family business may make the family influence good to business performance. It is important to mention, that not all of the above characteristics, positive or negative, are present in every family. Nevertheless, they are commonly observed in family businesses.

As evidence from previous literature, there is no consensus among researchers on the impact of family influence on business performance. While Jon I. Martínez, et al. (2007) emphasized that the impact of family influence on business performance is favorable, Schulze, et al. (2001) concluded otherwise. In addition, some researchers found family influence has no impact on business performance (e.g. Chrisman, et al., 2004; Westhead & Howorth, 2006). That is, although it is clear that family influence has direct effect on business performance, the direction of effects is uncertain. Thus, the following hypotheses are suggested.

Hypothesis 4: The extent of the family’s influence on the power affects the extent of the performance in the business.

Hypothesis 5: The extent of the family influence on the experience affects the extent of the performance in the business.

Hypothesis 6: The extent of the family influence on the culture affects the extent of the performance in the business.

3.4. The Link between Innovation and Business Performance

To this point of the study, several direct relationships between the components of family influence and innovation and business performance have been drawn based on the literature. In this section, I argue that innovation, at least partially mediates, the effects of family business on business performance.

The positive link between innovation and business performance is well established in the business literature (Damanpour, et al., 2009) and a similar link between innovation and family business performance is assumed by family business researchers who study innovation. A common argument is that innovation is important to family business performance in an increasingly challenging competitive landscape (e.g., Bergfeld & Weber, 2011). Other arguments explicitly link characteristics of the family business with business performance on the basis of empirical observations about the relationship of those characteristics with innovation (without testing the relationship between innovation and family business performance). Thus, innovation is claimed to enrich the value of family involvement in survival and growth of the business (e.g., Beck, et al., 2011) while Poza (2009) more specifically argued that intergenerational transfer of ownership and other successor issues demand that family businesses embrace innovation to survive. These works, themselves, do not indicate the nature of the relationship between family influence and innovation that affects business performance. It is just that they work together to have a positive effect on performance.

I proposed that, if family influence affects innovation, as hypothesized in hypotheses 1 to 3, and innovation in turn affects family business performance, as argued by other family business researchers, family influence has an indirect effect on family business performance. I further argue that this effect does not fully account for the direct effects of family influence on family business performance, hypothesized in hypotheses 4 to 6. The reason for proposing, in this way, that innovation partially mediates the effect of family influence on family business performance is based on the breadth and complexity of the effects of power, experience and culture on business performance; they seem too extensive to be fully accounted for by a single mediator, even a mediator as powerful as innovation is believed to be. To test the partial mediating effect of innovation, the following set of hypotheses were established:

Hypothesis 7: The influence of power on business performance is mediated by innovation.

Hypothesis 8: The influence of experience on business performance is mediated by innovation.

Hypothesis 9: The influence of culture on business performance is mediated by innovation

Hypothesis 10: The influence of innovation on business performance is positive.

The theoretical Framework which depicted the relationships of the hypotheses developed in this study is schematically presented in Figure 3.2.

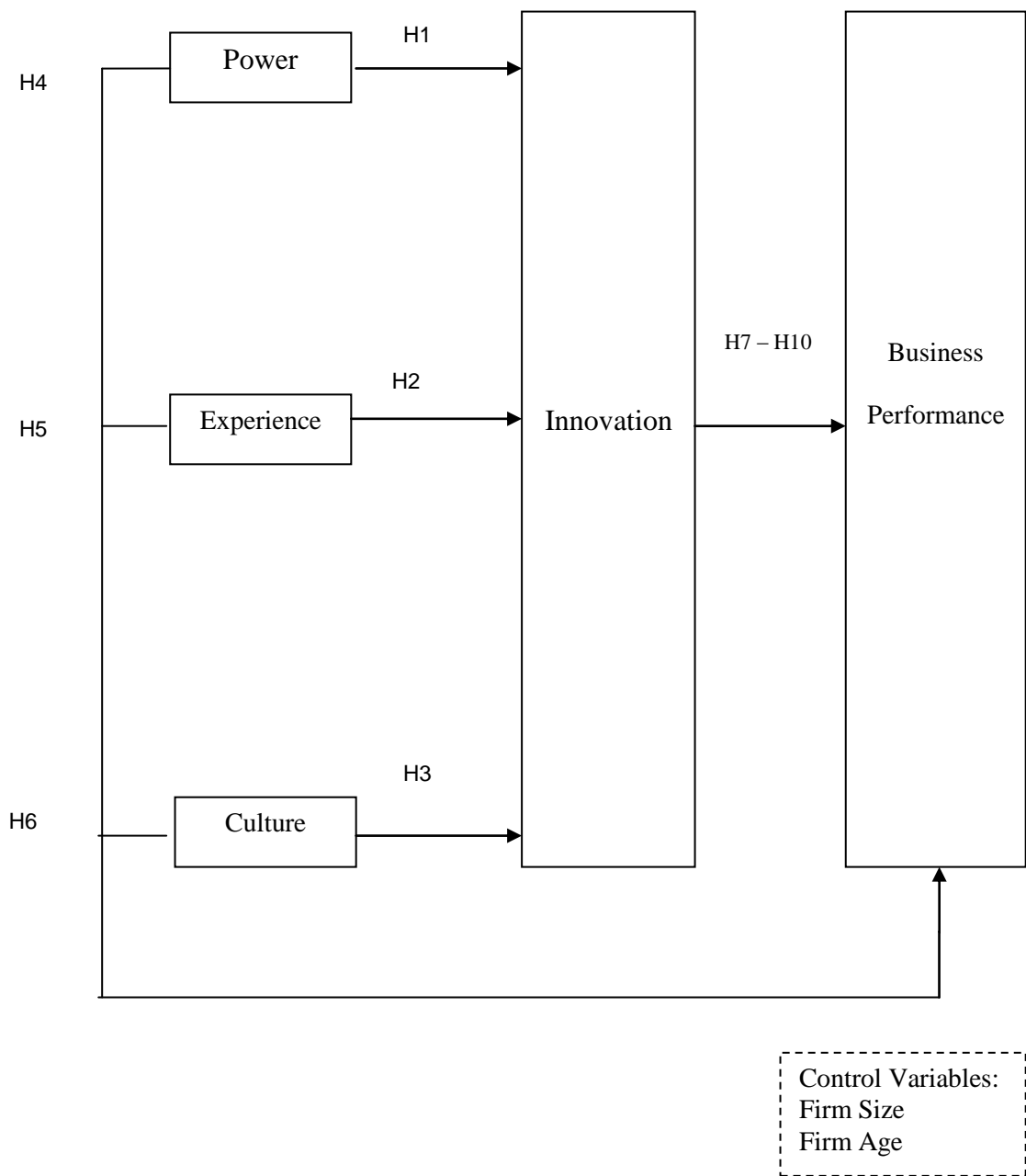


Figure 3.2 Theoretical Framework of Family Influence, Innovation and Business Performance with Hypotheses

3.5. Research Questions and Hypotheses

In order to evaluate the proposed relationships between the various variables included in this study, the following research questions and hypotheses were formulated:

RQ1. What is the extent of family influence on innovation?

Hypothesis 1: The extent of the family's influence on the power affects the extent of the innovation in the business.

Hypothesis 2: The extent of the family influence on the experience affects the extent of the innovation in the business.

Hypothesis 3: The extent of the family influence on the culture affects the extent of the innovation in the business.

RQ2. What is the extent of family influence on business performance?

Hypothesis 4: The extent of the family's influence on the power affects the extent of the performance in the business.

Hypothesis 5: The extent of the family influence on the experience affects the extent of the performance in the business.

Hypothesis 6: The extent of the family influence on the culture affects the extent of the performance in the business.

RQ3. What is the role of innovation on the relationship between family influence and business performance?

Hypothesis 7: The influence of power on business performance is mediated by innovation.

Hypothesis 8: The influence of experience on business performance is mediated by innovation.

Hypothesis 9: The influence of culture on business performance is mediated by innovation.

RQ4. What is the relationship between innovation and business performance?

Hypothesis 10: The influence of innovation on business performance is positive.

The relationships between research objectives, research questions and hypotheses have been summarized in Appendix F.

3.6. Control Variables: Firm Size and Firm Age

Firm size and age are used as control variable to control firm effects on innovation and performance. First, this study controls the size of firm. Firm size is usually considered to be important in the context of innovation and business performance. However, the investigations of the effects of firm size on innovation

reveal a mixed impact. While some researchers have shown that there is a positive effect of firm size on innovation (e.g. Damanpour, 1992; Damanpour, 2010; Sørensen & Stuart, 2000), others have found a negative effect (e.g. Chandy & Tellis, 2000; Degner, 2011; Martinez-Ros & Labeaga, 2002) or no effect at all (e.g. Wesley M Cohen, Levin, & Mowery, 1987; Jefferson, Huamao, Xiaojing, & Xiaoyun, 2006). Cohen and Levin (1989) concluded that: “the most notable feature of the considerable body of empirical research on the relationship between firm size and innovation is inconclusiveness” (p. 1069).

The investigations of the effects of firm size on business performance reveal a mixed impact. While some researchers have shown that there is a positive effect of firm size on business performance (e.g. Richard, 2000), others have found a negative effect (e.g. Hansen, 1992; Storey, Keasey, Wynarczyk, & Watson, 1987) or no effect at all (e.g. Wolff & Pett, 2000).

Second, this study also used the age of firm as a control variable. Researchers have shown the existence of a relationship between firm age and business performance (e.g. Gaur & Gupta, 2011) as well as firm age and innovation (e.g. Calantone, Cavusgil, & Yushan, 2002; Thornhill, 2006). Considering the fact that older firms might have better established system and procedures than younger firms, they might perform better. Also, the established system and procedures make older firms more apt to the exploration of innovation idea. Yet, some scholars argued that as firms matured, they are more resistant to changes which lead to less innovation (e.g. Rao & Drazin, 2002).

There is a vast but inconclusive body of empirical work on the effect of firm age on innovation and business performance. The investigations of the effects of firm age on

innovation reveal a mixed impact. While some researchers have shown that there is a positive effect of firm age on innovation (e.g. Calantone, et al., 2002), others have found a negative effect (e.g. Baldwin & Gellatly, 2003; Rao & Drazin, 2002) or uncertainty effect (e.g. Cefis & Marsili, 2005; Hannan, Carroll, Dobrev, & Han, 1998). In addition, inconclusive empirical works on the effect of firm age on business performance are easily observed in the previous studies. While some researchers have shown that there is a positive effect of firm age on business performance (e.g. Lewis & Churchill, 1983; Storey, et al., 1987), others have found a negative effect (e.g. Durand & Coeurderoy, 2001; Levinthal & Fichman, 1988) or uncertainty effect (e.g. Calantone, et al., 2002).

3.7. Chapter Summary

This chapter leverages the multiple literature streams in an attempt to develop a theoretical framework of family influence, innovation, and business performance. Ten hypotheses are developed based on the theoretical framework and previous literature. The hypotheses describe relationship between family influence, innovation and business performance in three steps. First, the direct effect of innovation on performance of family businesses is of interest. Second, the direct effect of family influence on business performance is discussed, as well as the mediating role of innovation. Then, the hypotheses look at the intervening effect of innovation between family influence and business performance. The link between the research questions and hypotheses are summarized and stated in Appendix E. Finally, the control variables are identified and discussed. In the following chapter, the research design and methodology used to answer the research questions of this study are discussed.

CHAPTER FOUR

RESEARCH METHODOLOGY

4.1. Introduction

The purpose of this study is to propose a research framework to understand the role of innovation in family business performance with a focus on family influence. Thus, it is important to determine the methodology that will be applied to achieve the research objectives, to explain the way in which the variables will be measured, and present the research design including data analysis technique. Furthermore, the suitable choices of procedures and methods are essential to improve the reliability and the validity of the study results.

Hence, the research methodology adopted for this study is discussed in this chapter. This chapter consists of six sections including this introduction. Section 4.2 explicates the theoretical underpinnings that inform the research approach embedded within this study and within the field of management research. It aims to clarify the selection of the research methodology and methods that have been used. Section 4.3 gives an overview of the research design. This is followed by section 4.4, the justification of research design. This section justifies the adoption of the method used in this study which includes sample selection, research instrument design and operationalization of the variables. Section 4.5 explains the statistical techniques employed in the research. Finally, section 4.6 summarizes the chapter.

4.2. Theoretical Underpinnings, Assumptions and Approaches

Every researcher is inextricably embedded in commitments to a version of knowing the world (epistemology) and to a particular version of the world (ontology). Indeed, our epistemology and ontology positions implicitly or explicitly influence our thinking, beliefs and justification (Alvesson & Deetz, 2000; Easterby-Smith & Malina, 1999). A research instrument and method is inextricably intertwined with its philosophy, for as a research tool it operates only within a given set of assumptions about the nature of society, the nature of human beings, the relationship between the two and how they may be known. Thus, it is important for researchers to consider their own thinking processes in order to understand themselves (Johnson & Dubberley, 2003).

This study theoretically attempts to introduce the F-PEC Scale as the independent variables on the relationship between innovation and family business performance and empirically seeks to verify the theoretical framework on innovation and family business performance. It is aimed at understanding how the practices and institutions of management are developed and legitimized within the relations of power and domination. In brief, I intend to make explicitly what intellectual positions that I have taken from the palette of options available and to explain why I have done so. This I believe shall explain and defend the position that this study adopts: positivist and legitimating the arguments pertinent to this study.

To comprehend and assess the discipline of management research, one must understand the applicable epistemological standards of the time. The circularity of epistemological issues, as shown in Figure 4.1, is a hopeless situation. In this

circularity, epistemology becomes the condition of knowledge. The problem with the circularity is that no secure foundation for knowledge is provided. Indeed, it implies that epistemological commitment cannot detach itself from philosophical derivation and reflexivity.

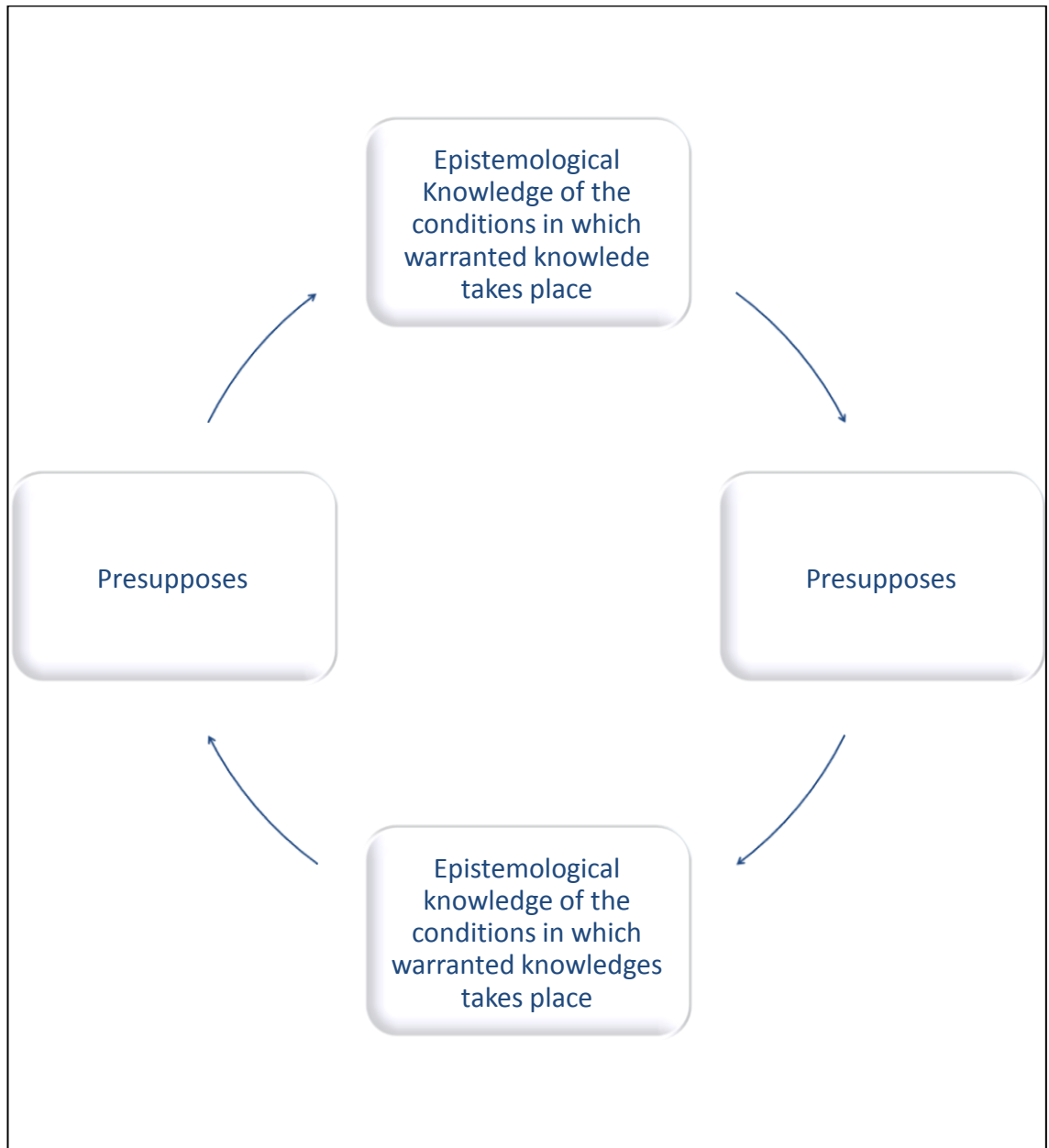


Figure 4.1 The Circularity of Epistemology

Source: Johnson and Dubberley (2000), p.4

Reflexivity is an essential human process (Holland, 1990). There are two forms of reflexivity: methodological and epistemic (Harding, 1987). Methodological reflexivity aims to improve research practice through monitoring researcher behavioral impacts upon the research setting to represent a more accurate reality. While epistemic reflexivity focuses on the researcher's belief system and systematically analyzing the research outcomes and challenging researcher meta-theoretical assumptions (Bourdieu, 1990). Reflexivity in management research will allow us to apprehend the relationship between a researcher and an object of research. It is a continuous, intentional and systematic self-introspective process (May & Perry, 2010).

The matrix in Figure 4.2 illustrates the combinations of constitutive assumptions about ontology and epistemology. Here, possible approaches to reflexivity are constituted by objective and subjective assumptions about epistemology and ontology. To paraphrase Johnson and Dubberley, "an objective view of epistemology presupposes the possibility of a theory-neutral observational language. In contrast, a subjective view of epistemology denies the possibility of a theory-neutral observational language. Meanwhile, an objective view of ontology assumes that social and natural reality have an independent existence prior to human cognition, whereas a subjective ontology assumes that, what we take to be reality is an output of human cognitive process" (2000, p. 180).

An objective epistemology must combine with objective ontology. It will be incoherence to say that one perceived external realities objectively and yet assert that the realities are dependent to human activity. On the other hand, a subjective epistemology can combine either with objective or subjective ontology. The epistemic

and methodological reflexivity of these different combinations of epistemology and ontology will be explored in the following sections.

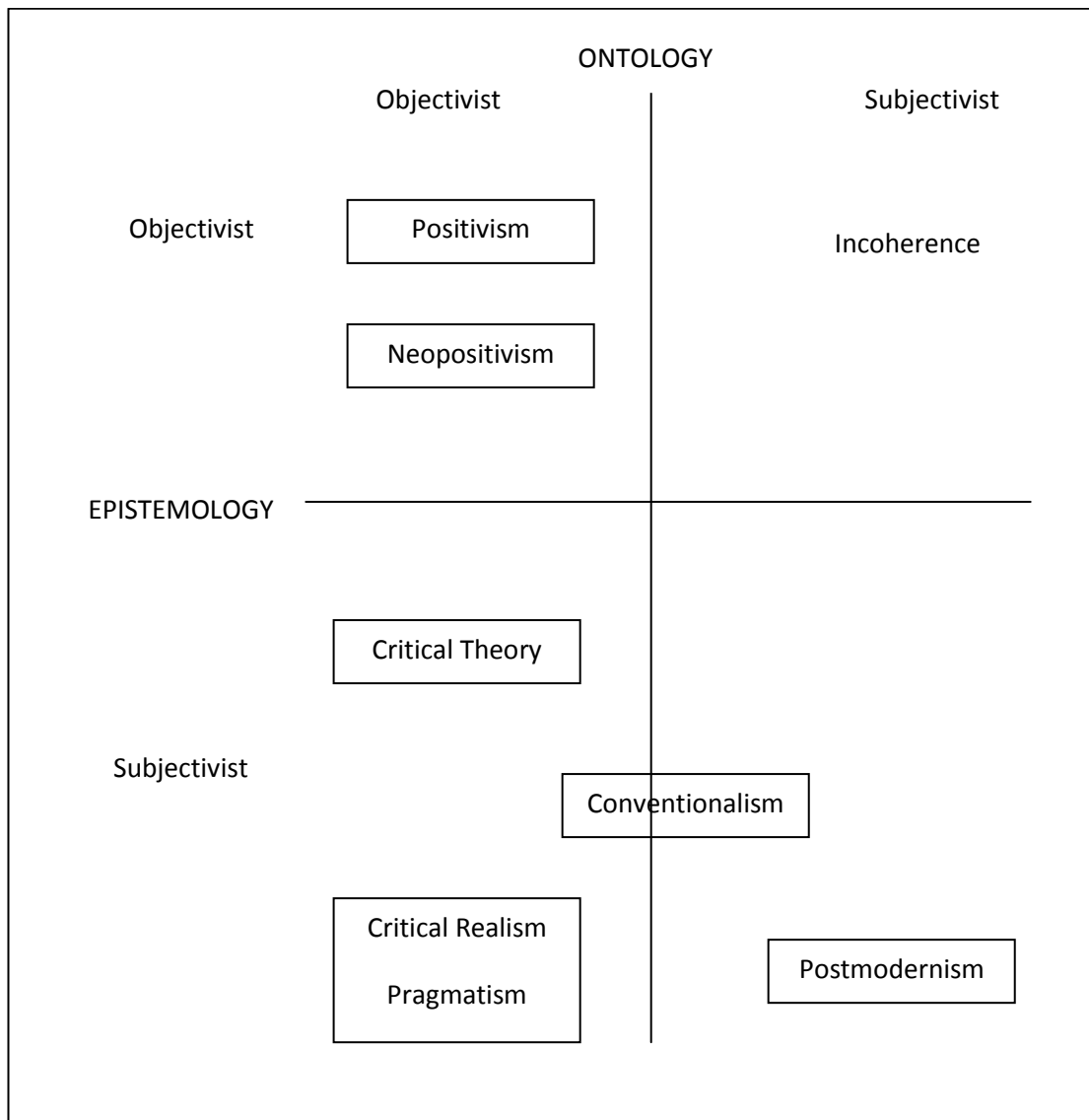


Figure 4.2 Reflexivity and Management Research

Source: Johnson and Dubberley (2000), p.180

4.2.1. Objective Ontology, Objective Epistemology: Positivism and Neo-Positivism

The combination of objective ontology and objective epistemology have produced the dominant epistemology in management research – positivism and neo-positivism. Both presuppose the possibility of a theory-neutral observation language. They claim that knowledge is acquired by science and that metaphysical speculation has no validity (Shanker, 2003). The differences between these two approaches are their understanding of what can only be obtained through information sourced from observable experience as opposed to metaphysical considerations (Makumba, 2005).

Positivism is a non-metaphysical philosophy, as its sources are found in rationalism and empiricism. As an epistemology, positivism uses a model that excludes metaphysics from what is taken to be warranted knowledge and the scientific method is the best way to achieve results using this model (Comte & Martineau, 1853), and its use is justified by the discovery of casual relationship between phenomena. Positivists explain human behavior in an organization via Erklaren - an apriori external reality is imposed upon human behavior in order to explain it (Johnson & Dubberley, 2000). In contrast, neo-positivists purport that researchers should analyze human behavior in an organization from an a posteriori understanding – a process called Verstehen (Johnson & Dubberley, 2000). Human experiences, unlike natural science, have subjective capacities and are influenced by cultural experiences as well, it is important to access the culture and experience of actors who are being studied.

Both these approaches are located in a Cartesian dualism. Positivism resides in subject-object dualism and attempts to differentiate the knower-researcher from the

known-observed. On the other hand, neo-positivism resides in subject-subject dualism, that is knower-researcher will be differentiated from his/her description of the known-observed cultural experiences (Alvesson & Deetz, 2000). Since both dualism rest on the notion that an observer can objectively describe the external world and view scientific inquiry as a matter of inductive reference and generalization from the results of empirical observation and experiment (Comte & Martineau, 1853), the reflexivity unfolding is a methodological reflexivity. Methodological reflexivity is used to justify methodology deployed and evaluated using technical aspect of research process. It helps to nurture management researcher and sustain their objective inquiry (Mulkey, 1992).

Positivism is the position that I support and have adopted in this thesis. It best reflects my personal beliefs and values as well as my intellectual bias in relation to advancing knowledge in the social science. I accept the central tenet that there is an objective external reality; and, knowledge of facts can be systematically discovered in an objective manner and 'dualism' is implicit. I believe that the scientific method is the best way to achieve results using a model that excludes metaphysics and to discover the casual relationship between phenomena. There is possibility of objective truth and natural certainty; therefore, that findings are considered true and generalizable (Guba, 1990). Moreover, evidence from empirical-based research will lead to the discovery of laws in a casual and predictive form, which will enable human intervention to alter social conditions to achieve desired outcomes.

Positivism has been accused to generate narrow-focused studies that do not reflect the true complex situation (Johnson & Dubberley, 2003). Nevertheless, the development of sophisticated statistical technique such as Structural Equation Modeling (SEM) facilitates the analysis of complex research framework which involves direct and

mediating relationships. These sophisticated techniques enable the generalizability of the empirical research that will generate greater insight and have greater power of prediction.

4.2.2. Subjective Ontology, Subjective Epistemology: Conventionalism and Postmodernism

As illustrated in Figure 4.2, postmodernism and much of conventionalism deploy subjective ontology and subjective epistemology. Indeed, conventionalism swings between subjective and objective ontology. As Holland (1999) pointed out, conventionalism can either adopt a subjective ontology where an incommensurability thesis is supported (Feyerabend, 1993; Kuhn, 1974) , or adopts objective ontology that supports a synchronic view of social science paradigm – different incommensurable paradigms can exist simultaneously (Burrell & Morgan, 1979), with a result that is a potential variable of epistemic reflexivity.

According to Kuhn (1974) and Feyerabend (1993), different paradigms are incommensurable because they cannot be translated one into the other. Incommensurability implies that from the perspective of one paradigm, the alternative is not simply false, but makes no sense at all. Kuhn builds his argument around untranslatability and the adoption of subjective ontology.

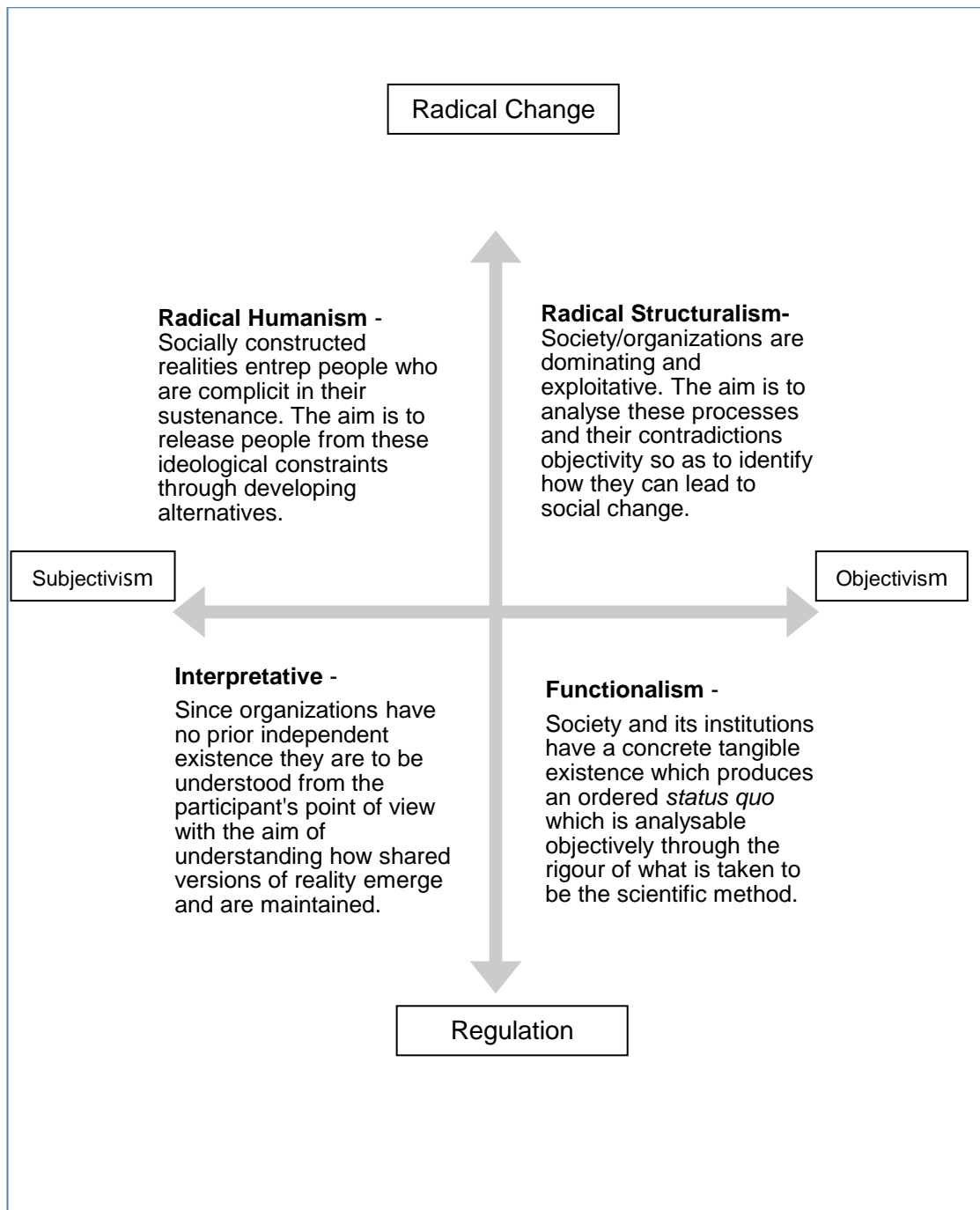


Figure 4.3 Burrell and Morgan's Four Paradigms

Source: Johnson and Dubberley (2000), p.80

Burrell and Morgan (1979) have a synchronic view of social science paradigm that different incommensurable paradigms can exist simultaneously. A 2 X 2 matrix scheme based on four major paradigms as shown in Figure 4.3 is developed to classify

existing sociology theories. Their metatheoretical assumptions are based upon the nature of social science and the nature of society. According to Morgan (1983, 2006), all theories of organization and management can be analyzed through an implicit metaphor. Metaphors are vital in understanding and highlighting aspects of organization. Tsoukas (1991) further expanded this by suggesting that metaphors bridge the gap between macro level of a paradigm and micro level of organizational applications. However, as Alvesson (1996), Willmott (1998) and Chia (1996) observed, while metaphors are important in the development of new management knowledge, they can constrain knowledge by creating conceptual inertia.

Postmodernism replicated the subjective themes of conventionalism. It is characterized by critical, strategic and rhetorical practices that employ concepts such as difference, repetition and simulacrum (O'Donnell, 2003). It is inherently relativistic and skeptical to the positivist's universal generalizable statement and methodology, as it adds ambivalence and indeterminacy. Postmodernism rejects boundaries and emphasizes deconstruction (Best & Kellner, 1991). The fragmentation and multiplicity of postmodernism offer an alternative way to research in management.

Postmodernists believe that realities are changeable social artifacts. Realities are plural and relative, knowledge is the product of sociolinguistic construction (Best & Kellner, 1991; O'Donnell, 2003). Empirical work in postmodernism is focused on gaining understanding rather than providing access to universal truth. Postmodernists reject the notion that intersubjective communication implies a universal consensus. They encourage dissent and intend to end all 'totalities by presenting a relativist totality' (Johnson & Dubberley, 2000, p. 216).

Postmodernism has influenced how we judge the organization of knowledge in today's business world. The focus in postmodernism societies is who decide what knowledge is and who know what need to be decided. Whether knowledge is true or false is no longer important. As Jeffcutt (1993) and Gergen (1992) observed, organization of knowledge follows the paradigm of language games. There will be no standard worthy of universal respect indicating knowledge or truth, leading to the situation that previously suppressed voices may well be heard.

Postmodernism challenges several aspects of management's positivist orthodoxy. First, it rejects the notion of epistemic certainty. Second, it decentralizes the subject. Third, it emphasizes the role of language and power. Foucault and Gordon (1980) proposed that subjectivation is a formative power of the self, surpassing the structures of knowledge and power out of which it emerges. Human beings are able to problematize their living condition due to the power of thought.

Postmodernism argues that all knowledge is indeterminate. It challenges the positivist's objective truth and the possibility of natural certainty through observational language with a "linguistic turn". The linguistic turn emphasizes the role of language, power relations and motivation (Lyotard, 1984; Rorty, 2009). It involves the belief that language is never innocent. Different people will interpret realities according to their interest and intention. Indeed, realities as a social artifact are subject to change inherent to culture and experience (Lyotard, 1984; Rorty, 2009).

I have great reservation about postmodernism which has two equally problematic alternatives. Firstly, relativism might create endless reflexive loops – hyper-reflexivity. We might become passive and introspective which is unappealing in

management research. Secondly, fear of relativism might drive us to commit positivist non-reflexive empiricism – silent reflexivity. The epistemic reflexivity that underlies management research is emphasizing the knowledge enhancement rather than present a more accurate reality about management (Gergen, 1992; Lyotard, 1984; Parker, 1992).

4.2.3. Objective Ontology, Subjective Epistemology: Critical Theory, Pragmatism and Critical Realism

To apprehend the combination of objective ontology and subjective epistemology, one should be aware that knowledge entails both social construction and the transaction of the human knower with an independent reality (Bhaskar, 2008; Margolis, 2007). Thus the epistemologies, critical theory, pragmatism and critical realism, which reside in this paradigm, aim to emancipate human in the form of knowledge and regard epistemic reflexivity as emancipatory.

Critical theory focuses upon social sciences and humanities, as it asserts that knowledge can only be warranted through Habermas' ideal speech situation. Therefore, critical theory is a form of socio-rationalist (Gergen, 1992) and knowledge is an outcome of social consensus. Nevertheless, the ideal speech situation is difficult to sustain in a social relationship. In practice, critical theories are inclined toward a foundationalist position.

Habermas' works resonate within the traditions of Kant through his acceptance of a phenomenalist position (Outhwaite, 2009). He emphasizes the potential of transforming society to be more humane, just and egalitarian through the human potential for reason. He examines and criticizes society and culture issues such as

exploitation, asymmetrical power relations, distorted communication and false consciousness (Alvesson, Bridgman, & Willmott, 2009). He believes that language is intertwined with social and cultural experiences. For Habermas, external reality exists independently from human subjectivity and only becomes knowledge through our interest in socio-historical contexts. Hence, Habermas adds a third form of critical science through his critique of Gadamer (1977). This form of knowledge emphasizes the emancipatory interest that seeks to enlighten people and liberates their rational capabilities.

Habermas believes that society must be understood as a mix of three major interests: work, interaction and power. Reality is only knowable through engagement in the operation of the interest-laden mode. McCarty (1981) remarks that Habermas was involved with relativism and rejected the notion of objectivity through tying knowledge to society, nevertheless, Habermas tried to escape from relativism. He eschews the positivism's objective illusions and replaces empiricism with constructivism. He purports that reality can only become an object of human knowledge through identification and evaluation. For knowledge to be warranted, Habermas believes that relational inter-subjective consensus can be achieved in a required ideal-speech condition. This concept gives a role to epistemic reflexivity in critical theory, where knowledge should be accessible and includes mutual consensus of the public rather than privilege of the authorities few.

Social order naturally leads to power distribution; yet, a natural interest in being freed from domination also comes from the application of power. Power leads to distorted communication, but by becoming aware of the ideologies that dominate in society, groups can themselves be empowered to transform society. Habermas attempts

to resolve the systematically distorted communication through the notion of the ideal speech situation. In ideal speech situation, everybody has equal chances to take part in a discourse. However, he acknowledges that ideal speech situation is difficult to obtain in everyday social interaction.

Habermas proposes that no aspect of life is interest free. Knowledge is influenced by values and interests. The aims of Habermas' critical theory are to emancipate society from any institutionalized domination and seek to investigate how distorted communicative actions shape the society(Grice & Humphries, 1997). The role of epistemic reflexivity in critical theory is to enable the construction of new interpretation and the achievement of consensus.

At a glance, critical theorist and pragmatic-critical realists look similar; however, there are some significant differences between them. For instance, pragmatism sees no fundamental difference between practical and theoretical reason, nor any ontological difference between facts and values. The critical elements of pragmatic-critical realism emphasize on praxis and enable emancipation through self-reflexivity.

Pragmatic-critical realism is an epistemology that seeks the meaning of practice and asserts that truth is pre-eminently to be tested by the practical consequences of belief. It entails general skepticism about reality and rejects scientific inquiry as a presumption. It presents an interrelated philosophical terrain that transcends the positivist's totalizing grand narratives and contrasts with the relativist's nihilism. It is frequently associated with Roy Bhaskar, as he combines transcendental realism and critical naturalism to describe the interface between natural and social.

Pragmatic-critical realists raise a series of questions regarding management knowledge. They are interested in how knowledge is evaluated by whom, how successful it is in the realization of particular objectives, and the importance of praxis. Some critical theorists attempt to present an interrelated philosophical terrain that transcends the positivist's totalizing grand narratives and contrast the relativist's nihilism (Harvey, 2008). Five key insights arise from the epistemological and ontological stance of pragmatic-critical realism. First, as Bernstein (1983) remarks, pragmatic-critical realism has been caught in the Descartes' either/or dichotomy – either foundationalism or relativism. Second, external reality occurs within a social culture. The world exists only in consciousness, and it could not identify the consciousness in which the world exist with our present consciousness. Thirdly, the aim of social scientific inquiry is to produce causal explanation which enable better prediction and improve social condition by dealing with practical problems. Fourthly, a reflexive political praxis is required to evaluate pragmatic-critical realism's projects. Lastly, this epistemology enables human emancipation through self-reflexivity rather than by certifying particular theoretical claims.

One of the main issues of critical theory is its inability to have a clear methodological explanation on the interpretive process (Denzin, 2003; Yin, 2009). Critical theory seems to suggest that researchers are either in favor of emancipation or against it (Morrow & Brown, 1994). It conceptualizes organizational life in an oppressor/oppressed model. There are problems in this concept where the oppressor/oppressed model may not be able to reflect the complexities of organizational life. Moreover, critical theory has been criticized for its intellectualism. As argued by Fay (1987), society is the sequence of suffering – critical investigation – reflection - emancipation without any problem as suggested by Habermas. In fact the power of

reason is inherently limited by our experiences and our understandings of the present. The ability to attend ‘ideal speech situations’ in the Habermasian approach also undergoes a series of criticisms since society still remains confined within the boundaries of domination.

All three theoretical frameworks have been discussed in detailed. My choice of this thesis is the use of quantitative focused techniques such as questionnaire and survey instrument with a positivism theory edge which I will justify in the next section.

4.3. Research Design

Research design is used to structure the research. It is the rational sequence that links the empirical data to a study’s research questions and to its conclusions. As shown in Figure 4.4, steps included in this research are literature review, research design, data collection, data analysis and conclusions.

Research design specifies how the samples, measures, procedures for acquiring the information needed and all the major parts of the research work together to address the research questions. Hence, the selection of research design is an important aspect in determining the ability of the findings to address the research questions and to determine the extent of robustness of the research process. There are two categories of research design: exploratory and conclusive (Malhotra, 2010). The exploratory research intends to comprehend and provides insight into the nature of the situation. It is unstructured and qualitative in nature because formal research protocols and procedures are not employed. Focus group interview, secondary data analyzed in a qualitative manner, case studies and survey of experts are some commonly used approaches

(Malhotra, 2010). The sample selected is generally small and non representative. Therefore, the findings of exploratory research are normally regarded as tentative and may serve as input to further research.

The insights gained from exploratory research might be quantified by conclusive research. It tries to explain the relationship between different factors through hypothesis testing (Malhotra, 2010). It is essentially more structured and formal than exploratory research because information needed is clearly defined; and, formal research protocols and procedures are employed. Questionnaire surveys, panels and secondary data analyzed in quantitative manner are some commonly used methods. The sample is generally large and representative. Therefore, the findings are generally conclusive and can be generalized to the whole population. The conclusive design approach has its philosophical roots in positivism – based in the belief of the existence of an objective external reality – to identify casual relationships for providing generalizable explanations and theories that will both explain and predict human interaction and behavior. Based on the facts that this study aims to understand and establish a relationship between family influence and business performance, taking into account the mediation effect of innovation, this study employs a conclusive design which aligned with its philosophical stance.

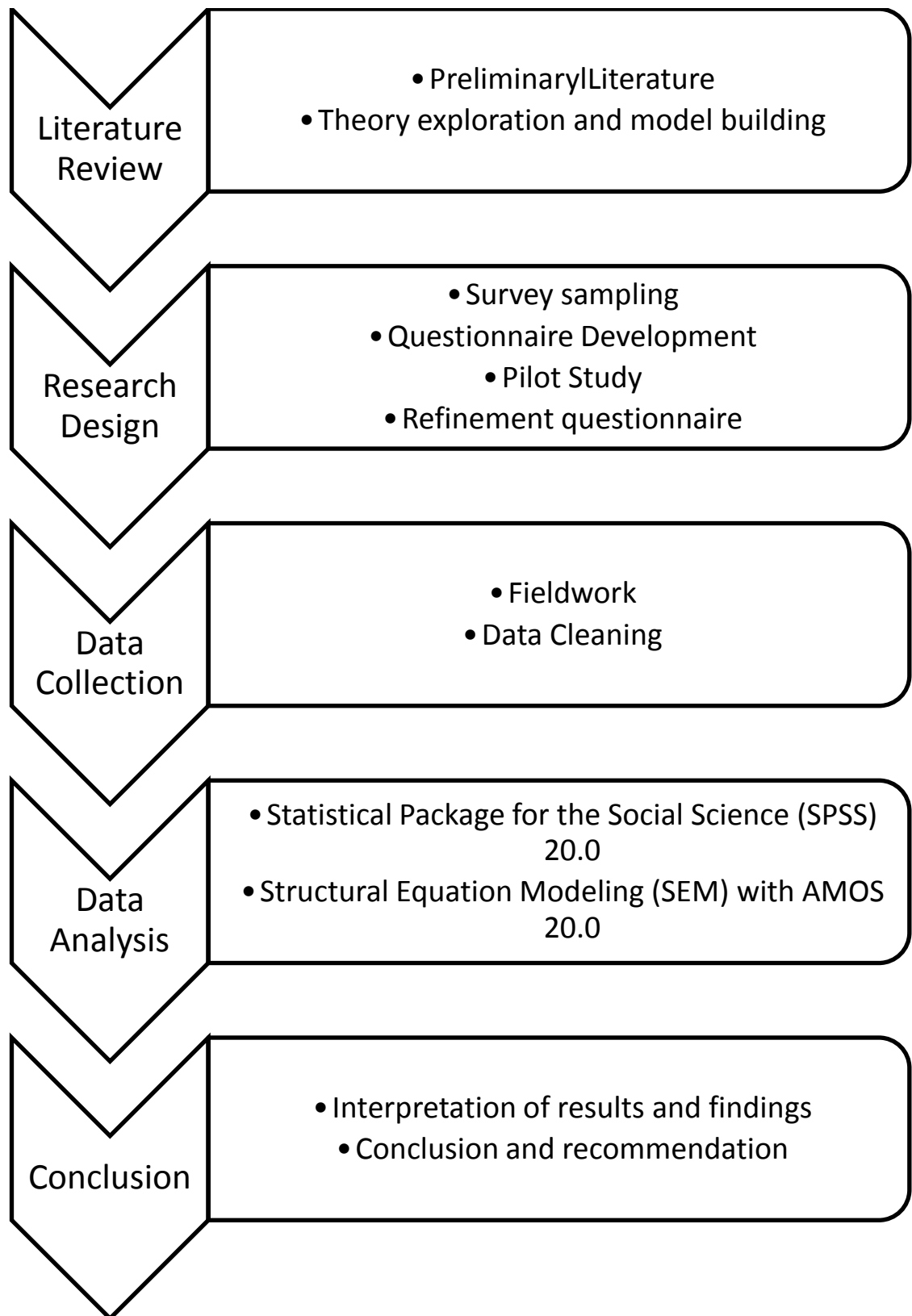


Figure 4.4 The Research Process Flow Chart

4.4. Justification of Research Design

Drawing on the relationship established by previous literature and integrated research framework that aim to understand relationship between family influence, innovation and business performance, this study requires a large sample in order to make some degree of generalization in the findings; a non-experimental study which utilized survey methodology is known to be the best method (Bryman & Bell, 2007). The questionnaire survey technique serves as the main data collection tool for this study. Survey research is a method for studying and describing large population. It gathers data from respondents that are assumed to be representative of the population, and the instrument used is composed of structured or open-ended items.

The survey approach has several advantages. First, the questionnaire survey study especially in the form of mailed survey is its ability to obtain information from a large sample over a relatively short period of time. Hence, made it a more practical and cost effective method of data collection. Second, survey design allows investigation of direct and indirect effects, and examination of causal processes (Malhotra, 2010). It enables researchers to develop and test explanation for particular relationships or social patterns (Bryman & Bell, 2007). The effectiveness of this approach is further facilitated and extended by the development of sophisticated statistical techniques such as Statistical Package for the Social Science (SPSS) and Structural Equation Modeling (SEM). The joint qualities of method and statistical techniques facilitate the analysis of complex research frameworks which involve direct and mediating relationships. Furthermore, the overall fitness of the theoretical framework and findings are strengthened by statistically-justified conclusions.

Beside of the above said advantages, survey design allows replication in different settings or same context at a different time (Bryman & Bell, 2007). Since most of the instruments applied are extracted from other mailed questionnaire surveys (e.g. Astrachan, et al., 2002; Cooper, et al., 1994), it is therefore justified and practical to use the same approach to suit to the characteristics of these instruments. Replication of measurements used in different settings will further refine the measurement and enhance the scale reliability (Bryman & Bell, 2007).

Another advantage of survey design is its practicability and feasibility in approaching top management members in large amounts. Although in-depth interviews, observations, and case studies provide greater insight into the research issue, these methods require intensive fieldwork from the researcher and commitment and co-operation from the respondents. This study's focal respondents are family business members who are the top management team. They are usually busy with their schedule and often difficult to be reached. The mailed questionnaire is suitable as a mean of contact since it requires minimum involvement from the respondents.

The survey approach has several limitations. First, survey approach may not be able to tap into conflicting views because respondents may be unwilling to respond if the information requested is sensitive. Second, survey approach has been criticized for artificially forcing respondents to form opinions. Respondents may not be consciously aware of their motives or behavior intentions hence they might not provide accurate answer to their questions. Finally, survey approach may elicit unconscious biases within each respondent. Yet despite these disadvantages, it remains the popular method for studying and predicting behavior (Malhotra, 2010). Furthermore, the extensive use of

mailed questionnaires in previous family business research (e.g. Minichilli, Corbetta, & MacMillan, 2010; Olson, et al., 2003) justifies the adoption of this method in this study.

4.4.1. Sample Selection

The sampling frame for this study was public listed family businesses in Malaysia. A family business in this study was defined according to Klein (2000) as

“a family business is a company that is influenced by one or more families in a substantial way. A family is defined as a group of people who are descendants of one couple and their in-laws as well as the couple itself. Influence in a substantial way is considered if the family either owns the complete stock or, if not, the lack of influence in ownership is balanced through either influence through corporate governance or influence through management. For a business to be a family business, some shares must be held within the family” (Klein, 2000, p. 158).

The sample is developed from Bursa Malaysia database in 2011 which has a listing of 962 registered companies. Among these 962 public listed companies, 437 of them fulfilled the Klein’s definition of family business and revealed family relationship in the board of directors and shareholders in their annual reports. In other word, they are the family businesses. All of them were chosen. The sample ranged across Peninsular Malaysia, Sabah and Sarawak. The unit of analysis for this study is top managers.

4.4.2. Data Source and Collection

Public listed companies with family involvement are rare among family businesses. However, they have a unique importance in our model. The very fact that they have reached this stage means that they have successfully responded to challenges that scuttle other family businesses. The focus on public listed companies is due to the fact that they are expected to have in place, the finance, people and routines to implement more innovation effort than smaller companies (e.g. Vaona & Pianta, 2008). According to Schumpeter (1934), innovation and technological change of a nation come from big corporations which have the resources and capital to invest in research and development.

Public listed family businesses are different from non-public listed family businesses. In order to be listed, there are legal rules and regulations to follow. On one hand, public listed family businesses are very similar to public listed non-family businesses. They need to professionalize their management and governance bodies, under market scrutiny and have to be accountable to minority share holders. With this “public market conditions” pressure (Martínez, et al., 2007), they can succeed by becoming more result oriented, and overcome their traditional weakness such as owner opportunism (William, et al., 2001) and nepotism (Gersick, 1997). While on the other hand, they intend to maintain their family influence and values (Tāpies, Ward, & Empresa, 2008). Their inherent nature made them an interesting research subject.

In choosing key informants, this study employs the sampling strategy advocated by Seidler (1987) that suggested the selection of the same kind of key informants in all of the sampled companies. This will reduce the bias resulting from the use of perceptual

measures that depend highly on the characteristics of key informants. Therefore, the questionnaire is specifically addressed to the board of directors who have family relationship with other directors or shareholders. The directors, CEOs or family members involved in top management of the companies know their organizations well. Thus, they are the best person to provide relevant information about the degree of family influence and organizations' innovation position. They are identified as the most appropriate persons to answer questions on the firm's level (Hsu, Chen, & Lin, 2008).

The questionnaire (Appendix B) is sent with a covering letter (Appendix A) that provided a brief introduction and a general explanation of the study's intention, and a postage-paid return envelope. It is emphasized in the covering letter that it is critical that the respondents must not only be a member of the top management team but he/she must also be a family member. In the case of the intended respondent is not able to participate, other family members who are involved in top management team are encouraged to participate. This questionnaire is given to multiple family generations from founder to the current successor generation. Multiple respondents are sent to increase response rate. Each respondent is given approximately 6 weeks to return the questionnaire.

A week after mailing the questionnaires, respondents on the list were contacted via telephone to confirm receipt of the questionnaire. A follow-up questionnaire was sent if they have not received the questionnaire. A week before the due date, a reminder call is made to every respondent that has not responded to the requested participation of the survey.

Due to the fact that the response rate from the first mailing did not fulfill the sample size requirement of SEM, a follow-up mailing with a duplicate copy of the questionnaire and a return self-addressed envelope is conducted in respect of respondents that have yet to respond. Each respondent is given approximately 6 weeks to return the questionnaire. A week after mailing the questionnaires, respondents on the list are contacted via telephone to confirm the received of the questionnaire. A follow-up questionnaire was sent if they have not received the questionnaires. A week before the due date, a reminder call is made to every respondent that has yet to respond to the requested participation of the survey.

The analysis technique for this research is SEM, which is very sensitive to sample size and less steady when estimated from small samples (Tabachnick & Fidell, 2012). The literature review indicated that there is no generally accepted criteria for determining an exact sample size using SEM. However, general guidelines have been proposed by Hair, Black, and Babin (2010). When models containing five or fewer constructs, each with more than three items with high item communalities (0.6 or higher), minimum sample size is 100; when models containing seven or fewer constructs and modest communalities (0.5), minimum sample size is 150; when models containing seven or fewer constructs, each with fewer than three items with low communalities (0.45), minimum sample size is 300. It is generally regarded that 100 is the practical minimum size for using SEM (Hair, et al., 2010).

4.4.3. Research Instrument Design

A structured questionnaire is used as the main tool to collect data for this study. This study applies several encouragement techniques to increase response rate by promising to send an executive summary of the findings of the study to the respondents, having a cover with University of Malaya Logo and address, high quality printing, only six pages, and not lengthy questionnaire.

For the purpose of hypothesis testing in this study, open-ended items and multi-item scales are adopted from previous studies for the measurement of the constructs. For example, the power dimension of the F-PEC scale has open ended items, such as "Please indicate the proportion of the share ownership held by family and non family members". Although most of the constructs have already been used and validated in prior studies in family business research (Astrachan, et al., 2002), innovation (Avlonitis, et al., 2001; Cooper, et al., 1994; Janssen, 2000) and business performance (Kelly, Athanassiou, & Crittenden, 2000; Von Buch, 2006), a thorough literature review helps in the selection and refinement of each item, to form a meaningful measure for each construct.

This questionnaire (Appendix B) is divided into four sections. As summarized in Table 4.1, Section A presents the demographic-related questions to gauge the background of the respondent such as gender, ethnic, age, level of education, relation with the company's founder, and position in the company. This section also serves as a screening section. Respondents who are either not related to the company's founder or not involved in the top management team will be considered as inappropriate respondents. Section B measures the extent of family influence. Section C measures the

level of innovation in the company. Finally, Section D measures the business performance of the company which includes both family goal performance and financial performance.

Table 4.1 Questionnaire Design

Section	Measurement	Number of Items
Section A	Demographic	7
Section B	Family Influence	19
Section C	Innovation	7
Section D	Business Performance	10

In this study, family influence is measured using the F-PEC scale developed by Astrachan, et al. (2002). The F-PEC scale measures the extent of family influence based on 19 items in section B. This is followed by 7 items to measure innovation in section C. Business performance in section D is measured using 10 items where the respondents are required to indicate their family goal and financial performance on a 5-point Likert-type scale.

It is important to note that the questionnaire is translated into Chinese and Malay languages (Appendix C and Appendix D). Although English is widely used in Malaysia companies and majority of the directors will have no problem in understanding English,

respondents in the pilot testing inclined to respond to the presented questionnaire with the language they are most familiar with. Hence, three sets of questionnaires with different languages are mailed to respondents to increase response rate.

The forward–backward translation method is used to develop the Malay version and Chinese version of the questionnaire. As Bekes, et al. (2012) pointed out, a questionnaire that is translated from one language to another should be back translated into the original language. Further, they argued that those doing back translation should be familiar with both languages involved. Following the above guidelines, two translators, bilingual in English and Malay, separately translated the English version of the items into Malay (forward translation). These translators are instructed to retain the meaning of the items as closely to the original as possible. The resulting items are then compared to assess the item-by-item similarity across the two translations. In the case of discrepancies, or disagreements, the translators discussed and revised the items until consensus are reached. When the Malay translation is finalized, the items are then back-translated (from Malay to English) by two other bilingual in English and Malay, following the same comparison and revision process. The same procedure applied to the Chinese version questionnaire.

4.4.4. Operationalization of the Variables

Several researchers (e.g. Gils, Voordeckers, & Hagedoorn, 2008; Yaron, Dinar, & Voet, 1992) have contended that family influence has an effect on innovation and business performance. Similarly innovation research (e.g. Becheikh, Landry, & Amara, 2006; Damanpour, et al., 2009) highlights the effect of innovation on business performance. In this section, I will describe how the independent (family influence),

intervening (innovation), and dependent (business performance) variables that are illustrated in the conceptual framework are operationalized. In addition, firm size and age that are likely to control the relationship between constructs in the model are discussed.

4.4.4.1. Independent/Mediating/Dependent Variable: Innovation

Innovation is the intervening variable in this research. An intervening variable is one that intervenes the relationship between the independent and dependent variables, which helps in explaining the influence of the independent variable on the dependent variable (Sekaran & Bougie, 2010). The variable innovation is used in multiple ways in this study. It is used as the dependent variable in the first research question, as a mediating variable in the third research question, and as an independent variable in the fourth research question.

As discussed in chapter two, innovation is hard to measure because of its multi-dimensional character (Neely & Hii, 1998). This study defines innovation according to definition prescribed by European Commission, “the commercially successful exploitation of new technologies, ideas or methods through the introduction of new products or processes, or through the improvement of existing ones. Innovation is a result of an interactive learning process that involves often several actors from inside and outside the companies” (1996, p. 54). Based on this, measurements by several authors in different studies are adopted and extended to measure innovation in this study.

As innovation is reflected in the degree of innovation in product, process and idea generation prevailing in the company, the operationalization of this construct is based on the organizational mechanism associated with innovation as used in studies by Avlonitis , Papastathopoulou and Gounaris (2001), Cooper, et al. (1994), and Onne Janssen (2000). As illustrated in Table 4.2, the operationalization of innovation is based on items that measure product and process innovation (Avlonitis, et al., 2001), being ‘first’ to the market (Cooper, et al., 1994) and innovation idea generation (Janssen, 2000).

Table 4.2 Source of Measurements for Innovation

Q	Measure	Author
C1	Our business is one of the first to market with innovative products and services.	Avlonitis, Papastathopoulou, and Gounaris. (2001)
C2	Our business is more effective than our competitors at taking existing ideas and making them into something better.	
C3	Our business is better than our competitors at developing products services to meet customer need.	Cooper, Easingwood, Edgett, Kleinschmidt, and Storey (1994)
C4	Our business is perceived by the customers as more innovative than our competitors.	
C5	Transforming innovative ideas into useful applications	Janssen (2000)
C6	Introducing innovative ideas in a systematic way.	
C7	Thoroughly evaluating the application of innovative ideas.	

The items of product and process innovation, and being ‘first’ to the market are operationalized through asking the family members who are involved in the top management team to assess the business innovation by indicating the extent to which they agree with the following:

- i. our business is one of the first to market with innovative products and services;
- ii. our business is more effective than our competitors at taking existing ideas and making them into something better;
- iii. our business is better than our competitors at developing products services to meet customer needs; and,
- iv. our business is perceived by the customers as more innovative than our competitors.

The respondents answered through a 5-point Likert-type scale, with 1 being strongly disagree and 5 being strongly agree.

Onne Janssen (2000) developed a reliable scale to measure innovation idea generation. It is operationalized through asking the family members who are involved in the top management team to assess the frequency of innovation idea generation by indicating the extent to how frequent the followings happened:

- i. transforming innovative ideas into useful applications;

- ii. introducing innovative ideas in a systematic way; and,
- iii. thoroughly evaluating the application of innovative ideas.

The score of the seven items of the innovation are added and the arithmetic means represent the aggregated measure of the innovation variable. The measurement strength of the innovation construct is interval data. Table 4.3 presented measures for innovation.

Table 4.3 Measures for Innovation

		Strongly Disagree	Disagree	Neither Agree Nor Disagree	Agree	Strongly Agree
C1	Our business is one of the first to market with innovative products and services.	1	2	3	4	5
C2	Our business is more effective than our competitors at taking existing ideas and making them into something better.	1	2	3	4	5
C3	Our business is better than our competitors at developing products services to meet customer needs	1	2	3	4	5
C4	Our business is perceived by the customers as more innovative than our competitors.	1	2	3	4	5
		Never	Not So Often	Often	Very Often	Always
C5	Transforming innovative ideas into useful applications.	1	2	3	4	5
C6	Introducing innovative ideas in a systematic way.	1	2	3	4	5
C7	Thoroughly evaluating the application of innovative ideas.	1	2	3	4	5

4.4.4.2. Independent Variable: Family influence

Family influence is the independent variable in this research. It is defined as the extent and manner of influence of a family in and on the business. The founder is considered as the “root” of the family. Further, family is defined as a group of persons including those who are offspring of a couple (regardless of generation) and their in-laws, as well as their legally adopted children (Klein, 2000).

As discussed, chapter two identifies three family influence dimensions: power, experience and culture – the F-PEC scale (Astrachan, et al., 2002). The reliability and validity of this scale have been concluded in section 2.5.1.1.2. Hence, it is a reliable instrument (Klein, et al., 2005b), capable of measuring the overall influence and different types of family influence on a business.

4.4.4.2.1. Power

As shown in Table 4.4, power consists of 4 items and assesses the influence of the owning family to business either directly or indirectly via ownership, governance, and participation in the management of the organization. Open-ended questions relating to percentage of ownership and number of generations and family members involved in the business are used to determine the intensity of power. The operationalization of this construct is based on the F-PEC scale developed by Astrachan, Klein and Smyrnios (2002).

Table 4.4 Measures for Family Influence – Power

Q	Measure	Author	
1	<p>Please indicate the proportion of share ownership held by family and nonfamily members:</p> <p>(a) Family _____%</p> <p>(b) Nonfamily _____%</p>		
2	<p>Are shares held in a holding company or similar entity (e.g., trust)? If YES, please indicate the proportion of ownership.</p> <p>(a) Main company owned by:</p> <p>(i) Direct family ownership: _____%</p> <p>(ii) Direct nonfamily ownership: _____%</p> <p>(iii) Holding company ownership: _____%</p> <p>(b) Holding company owned by:</p> <p>(i) Family ownership: _____%</p> <p>(ii) Nonfamily ownership: _____%</p> <p>(iii) 2nd holding company: _____%</p> <p>(c) 2nd holding company owned by:</p> <p>(i) Family ownership: _____%</p>	<p>Astrachan, Klein, and Smyrnios (2002)</p>	
3	<p>Does the business have a governance Board? If YES:</p> <p>(a) How many Board members does it comprise? _____ members</p> <p>(b) How many Board members is family? _____ family members</p> <p>(c) How many nonfamily (external) members nominated by the family are on the Board? _____ nonfamily members</p>		
4	<p>Does the business have a management Board? If YES:</p> <p>(a) How many persons does it comprise? _____ members</p> <p>(b) How many management Board members is family? _____ family members</p> <p>(c) How many nonfamily Board members are chosen through them? _____ nonfamily members</p>		

Ownership is defined as the portion of the business owned by the family; its operational definition is the percentage of shares owned by the family, ranging from 0% to 100%. The family's participation in the management team is defined in terms of percentage of family members; the operational definition is the number of family members in the management team, ranging from 0 to the maximum of total management members. The percent of the family in the governance board as defined in percentage terms; its operational definition is the number of family members on the governance board, ranging from 0 to the maximum of total governance members. In total, the power construct is measured through a modified formula, originally developed by Klein (2000). The measurement strength of the power construct is ordinal data. The modified formula is as follows:

$$\text{If } S_{\text{Fam}} > 0 \quad \text{SFI} = \frac{(S_{\text{Fam}})}{(S_{\text{total}})} + \frac{(\text{MoGB}_{\text{Fam}})}{(\text{MoGB}_{\text{total}})} + \frac{(\text{MoMB}_{\text{Fam}})}{(\text{MoMB}_{\text{total}})}$$

Where S = Stock, SFI = substantial family influence, MoGB = members of governance board, MoMB = members of management board, FAM = family members.

The SFI indicates a family's influence on the business through ownership management and governance. According to Klein (2000), a family business can be categorized as broad (little direct involvement) when the sum of SFI ≤ 1 and as narrow (a lot of involvement) when the sum of SFI ≥ 3 . A family business can be categorized as middle (some involvement) when SFI ≥ 1 but ≤ 3 .

4.4.4.2.2. Experience

As shown in Table 4.5, experience consists of 6 items and measures the degree of family influence via the number of generations of ownership of the business, the number of generations active in the top management team, the number of generations of the governance board, and the number of family members associated with the business. The operationalization of this construct is based on the F-PEC scale developed by Astrachan, Klein and Smyrnios (2002).

The number of generations of ownership of the business is defined as the owner generation of the business, with possible values of 1,2,3,4 or higher. The number of generations active in the top management team is defined as the current generation managing the company, with possible values of 1,2,3,4 or higher. The number of generations of the governance board is defined as the current generation that is active on the governance board, with possible values of 1,2,3,4 or higher. The number of family members associated with the business is defined as the number of family members participating actively in the company as employees, with possible value of 1 and higher. The number of generations involved in a family business (maximum of three in our sample) and the number of family members involved (between 1 and 12 in our study) are not naturally additive, so the number of family members was then classified as few (1 to 3), average (4 to 6, the central 50% of the distribution), and substantial (7 or more); all three items were thus measured on a three point scale. The items were additive, so Experience was measured as the sum of the number of generations involved in ownership, the maximum number of generations either actively involved in running the business or on the management board, and the indexed size of the family's active

involvement in the business. Thus results of the Experience subdimensions were added to arrive at the aggregated measure of experience, resulting in ratio data strength.

Table 4.5 Measures for Family Influence – Experience

Q	Measure	Author
1	Which generation owns the company? _____ generation	Astrachan, Klein, and Smyrniotis (2002)
2	Which generation(s) manage(s) the company? _____ generation	
3	What generation is active on the governance Board? _____ generation	
4	How many family members participate actively in the business? _____ members	
5	How many family members do not participate actively in the business but are interested? _____ members	
6	How many family members are not (yet) interested at all? _____ members	

4.4.4.2.3. Culture

As shown in Table 4.6, culture consists of 9 items which measure both the degree of shared family and business values, as well as the family's commitment to the business. The operationalization of this construct is based on the F-PEC scale developed by Astrachan, Klein and Smyrnios (2002). These items were adopted unchanged and measured on a Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree).

The first item measures the degree to which the family and business shared similar values. The second item measures the degree to which family members supported the family business in discussions with friends and employees, and other family members. The third item measures the degree to which family members felt loyal to the family business. The fourth item measures the degree to which family members are proud to tell others that they are part of the family business. The fifth item measures the degree to which family members agreed with the family business goals, plans, and policies. The sixth item measures the degree to which family members really cared about the fate of the family business. The seventh item measures the degree to which the respondent perceived that there is a positive influence in his/her life by involving with the family business. The eighth item measures the degree to which that the respondent understood and supported the family's decisions regarding the future of the family business. The ninth item measures the degree to which family members are willing to put in a great deal of effort beyond that normally expected to help the family business to be successful. All nine items are measured on a 5-point Likert-type scale ranging from 1 = not at all to 5 = to a large extent.

The score of the nine items of the culture are added and the arithmetic means represent the aggregated measure of the culture variable. The measurement strength of the culture construct is interval data.

Table 4.6 Measures for Family Influence – Culture

		Strongly Disagree	Disagree	Neither Agree nor	Agree	Strongly Agree	Author
1	My family and business share similar values	1	2	3	4	5	Astrachan, Klein, and Smyrnios (2002)
2	Family members support the family business in discussions with friends, employees, and other family members.	1	2	3	4	5	
3	Family members feel loyalty to the family business.	1	2	3	4	5	
4	Family members are proud to tell others that we are part of the family business	1	2	3	4	5	
5	Family members agree with the family business goals, plans, and policies.	1	2	3	4	5	
6	Family members really care about the fate of the family business	1	2	3	4	5	
7	Deciding to be involved with the family business has a positive influence on my life	1	2	3	4	5	
8	I understand and support my family's decisions regarding the future of the family business.	1	2	3	4	5	
9	Family members are willing to put in a great deal of effort beyond that normally expected to help the family business be successful	1	2	3	4	5	

4.4.4.3. Dependent Variable: Family Business Performance

As explained in the discussion in chapter two, family business performance is the dependent variable which is the primary interest of the study. Broadly, business performance can be measured in two forms: non-financial and financial. Non-financial measures are based chiefly on perceptual measure or self-reported items whereas financial measures largely used the business' accounting information. Acknowledging the fact that the sample in this study is not limited to one industry but involved companies from various industries, and because the performance of a business depends on the industry, a non-financial-based perspective is used for measuring business performance in this study. Subjective measures of performance are widely used in previous research and are considered effective in comparing business units and industries (Douglas & Judge Jr, 2001; Drew, 1997). Moreover, it is consistent with objective measures of performance (Venkatraman & Ramanujam, 1987).

The measurements of performance in this study are categorized into two groups: family goal performance and financial performance. As Ittner and Larcke (1997) stressed that overall perceived performance should include both financial and non-financial goals that are important to company. In family business, ownership and control bring an element of freedom to families in business, which carries with it the option for families to define success on their own terms. Family goal performance is measured through asking the family members involved in the top management team to rank the family oriented performance, on the following issues: providing family member employment opportunities, the preservation/improvement of the standard of living of the family members, a successful business transfer to the next generation, and the minimization of conflicts between family members. The items are adapted from Kelly,

Athanassiou, and Crittenden (2000) using four questions, as shown in Table 4.7. The family goal performance variable is assessed using a 5-point Likert-type scale, with 1 being poor and 5 being outstanding. Thus, the measurement strength of this construct is interval data.

Financial performance is measured according to Von Buch (2006), using six questions as shown in Table 4.7. For financial performance, the respondents are asked to indicate how successful their businesses are in term of sales growth rate, return on sales (net profit margin), gross profit, net profit after taxes, financial strength (liquidity and ability to raise capital), and overall company performance, as compared to the businesses of similar nature over the pass three years. The results of the ten business performance measures are added to and the arithmetic means represented the aggregated measure of perceived financial performance. Thus, the measurement strength of this construct is interval data. Table 4.8 presented measures for business performance.

Table 4.7 Source of Measurements for Business Performance

Q	Measure	Author
1	Providing family member employment opportunities	Kelly, Athanassiou, and Crittenden (2000)
2	The preservation/improvement of the standard of living of the family members	
3	A successful business transfer to the next generation	
4	The minimization of conflicts between family members	
5	Sales growth rate	Von Buch (2006)
6	Return on sales (net profit margin)	
7	Gross profit	
8	Net profit after taxes	
9	Financial strength (liquidity and ability to raise capital)	
10	Overall firm performance	

Table 4.8 Measures for Business Performance

		Poor	Below Average	Average	Above Average	Outstanding
1	Providing family member employment opportunities	1	2	3	4	5
2	The preservation/improvement of the standard of living of the family members	1	2	3	4	5
3	A successful business transfer to the next generation	1	2	3	4	5
4	The minimization of conflicts between family members	1	2	3	4	5
		Low Performer		Moderate Performer		High Performer
5	Sales growth rate	1	2	3	4	5
6	Return on sales (net profit margin)	1	2	3	4	5
7	Gross profit	1	2	3	4	5
8	Net profit after taxes	1	2	3	4	5
9	Financial strength (liquidity and ability to raise capital)	1	2	3	4	5
10	Overall firm performance	1	2	3	4	5

4.4.4.4. Control Variables: Firm Size and Firm Age

In addition to the above measures, two control variables are included. Firm size and age are used as control variable to control firm effects on innovation and performance. Firm size is measured using the 2011 year end market capitalization. Market capitalization is used because it is more accurate and readily available as compare to number of employees which is highly skewed among the firms in this study. Moreover, investment community uses market capitalization to determine a company's size (e.g. Joshi & Hanssens, 2010), as opposed to sales or other figures. The age of firm is measured using the logarithm of years since the year incorporated.

4.4.5. Pilot Test

Questionnaires that have been utilized and validated by researchers in previous studies are used in this study. According to Yin (2009), construct validity is associated with establishing correct operational measurements for the concepts under study. Thus, this study has adopted this tactic by using scales that have been used in previous studies and have adapted them to the current context. The scales used in the questionnaire survey have been empirically tested for stability and validity.

Nevertheless, pilot test is still required to make sure that these questionnaires will “work” with my population and will yield the data that I required. As Oppenheim (2010) stressed, survey piloting is the process of “conceptualizing and re-conceptualizing the key aims of the study and in making preparation for the fieldwork and analysis so that not too much will go wrong and nothing will have been left out” (p. 64). Furthermore, pilot testing also provides an estimation of the time required to

complete the questionnaire. However, it should be noted that the results generated from pilot testing are not for statistical purposes, and the responses from this exercise are not to be included in the analysis to generate research findings.

The goal of this pilot study is to ensure reliability of the measures using Cronbach's coefficient alpha. Reliability is the degree to which the measure produces consistent results if repeated measurements are made. It is represented by coefficient alpha, or Cronbach's coefficient alpha (Bryman & Bell, 2007). As a rule of thumb, Cronbach's coefficient alpha should be above 0.60 to confine that the items combine into a single index or scale are related enough to warrant their combination into a single scale (Malhotra, 2010).

Given the fact that the whole population of this study was only 437 public listed family businesses in Malaysia, a pilot test was conducted among 15 public listed family businesses. The selection of these 15 public listed family businesses participants in pilot study was based on the criteria described in section 4.4.1 and was randomly selected. Multiple respondents were sent to increase response rate. However, only one key informant from each company was allowed. A total of 30 copies of questionnaire were mailed. This is in line with the recommendation by Malhotra (2010) that the sample size for pilot study is normally small, ranging from 15 – 30 respondents.

The questionnaire (Appendix B) is sent with a covering letter (Appendix A) that provided a brief introduction and a general explanation of the study's intention, and a postage-paid return envelope. It is emphasized in the covering letter that it is critical that the respondents must not only be a member of the top management team but he/she must also be a family member. In the case of the intended respondent is not able to

participate, other family members who are involved in top management team are encouraged to participate. This questionnaire is given to multiple family generations from founder to the current successor generation. Multiple respondents are sent to increase response rate. Each respondent is given approximately 6 weeks to return the questionnaire.

A week after mailing the questionnaires, respondents on the list was contacted via telephone to confirm receipt of the questionnaire. A follow-up questionnaire would be sent if they have not received the questionnaire. A week before the due date, a reminder call is made to every respondent that has not responded to the requested participation of the survey. 12 copies of questionnaire were returned out of which 2 were not completed by the family members. Thus, these 2 were not considered for analysis. Overall, ten family businesses' directors have completed the initial pilot survey. The respondents composed of the children of the founder (40%), the founder (30%), grandchildren (20%) and siblings of the founder (10%). All the respondents are male and Chinese. The whole process was completed within the period of 2 months in the month of Feb and March 2012.

4.4.5.1. Pilot Test Results

The content validity of the measurements was pre-tested on the participants of the pilot test. Besides answering the questionnaire, the respondents were asked to give comments and suggestions for its improvement. No substantial changes were required from the pilot test respondents. Indeed, content validity and construct validity of the measurement device had been empirically tested for stability and validity in previous research (Avlonitis, et al., 2001; Klein, et al., 2005b; Von Buch, 2006).

To assess the reliability of the ensuing measurement device, Cronbach's alpha is recommended to measure the internal consistency of a set of items (Malhotra, 2010). Table 4.9 illustrated the results of the reliability test of the pilot study. As shown, the initial Cronbach's alpha coefficients for all components score in the range of 0.476 to 0.862. Cronbach's alpha coefficients are considered satisfactory if they are above 0.6 (Malhotra, 2010). With a value of 0.476, only one item, experience had a Cronbach's alpha coefficients below 0.60.

The Cronbach's coefficient alpha for experience variable was 0.476 which was below the acceptable value of coefficient. The low coefficient value was due to the fact that item 5 and item 6 had high missing values. By dropping these two items, the value of the Cronbach' alpha reliability coefficient of the experience variable increased from 0.476 to 0.705. Hence, item 5 and item 6 had been dropped from the original questionnaire as suggested by the reliability analysis. After deleting item 5 and item 6 of experience, the Cronbach's coefficient alpha for all variables ranged between 0.705 and 0.862 which is within the acceptable range of reliability for preliminary study (Bryman & Bell, 2007). Thus, from the analysis of the pilot study, the reliability assessment gave an initial indication of internal consistency of the items in measuring the variables in this study.

Table 4.9: Reliability Analysis for Pilot Testing

Dimensions	Items	Initial reliability		Revised reliability	
		Item total correlation	Cronbach alpha	Item total correlation	Cronbach alpha
Power	Pow1	0.587			
	Pow2	0.623			
	Pow3	0.363			
	Pow4	0.710			
	POW		0.722		
Experience	Exp1	0.904		0.687	
	Exp2	0.189		0.542	
	Exp3	0.693		0.593	
	Exp4	0.189		0.357	
	Exp5	-0.971		Dropped	
	Exp6	-0.839		Dropped	
	EXP		0.476		0.705
Culture	Cul1	0.062			
	Cul2	0.927			
	Cul3	0.849			
	Cul4	0.554			
	Cul5	0.773			
	Cul6	0.831			
	Cul7	0.656			
	Cul8	0.648			
	Cul9	0.795			
	CUL		0.862		
Innovation	Inn1	0.365			
	Inn2	0.057			
	Inn3	0.655			
	Inn4	0.346			
	Inn5	0.729			
	Inn6	0.495			
	Inn7	0.723			
	INN		0.762		
Business performance	BP1	0.378			
	BP2	0.405			
	BP3	0.672			
	BP4	0.535			
	BP5	0.652			
	BP6	0.391			
	BP7	0.531			
	BP8	0.47			
	BP9	0.545			
	BP10	0.746			
	BP		0.829		

4.5. Response Rate for Final Study

As illustrated in Table 4.10, out of 872 distributed questionnaires, 122 responses were received, representing around 13.99% of the total sample. Due to the fact that this response rate did not fulfill the sample size requirement of SEM, a follow-up mailing with a duplicate copy of the questionnaire and a return self-addressed envelope was conducted in respect of respondents that had yet to respond. Total of 563 questionnaires were distributed in the second mailing exercise, from which 71 responses were received. The total number of respondents that responded was 193, this being about 13.45% of the total sample. The whole process was completed within the period of 3 months in the month of May, June and July 2012.

A total of 193 questionnaires received. However, only 174 response sets were used in the data analysis because 6 respondents were not family members, 11 response sets were blank and 2 respondents were not from the top management team. None of the respondents are from the same company. Thus, the total usable response rate was 12.13%.

According to Von Buch (2006), the response rate of 5% to 30% are typical in mail survey. Conventionally, scholars presumed that higher response rate assured more accurate survey results (Baruch, 1999). However, there are evidences in recent reports that there were no statistically difference between reports with high response rate and reports with low response rate (Holbrook, Krosnick, & Pfent, 2007; Visser, Krosnick, Marquette, & Curtin, 1996). Moreover, the response rate of the study compared well with response rate reported for similar surveys (Alexander, 2003; Von Buch, 2006) and that is considered acceptable in this type of research.

Table 4.10: Response Rate

Item	N	Percentage
Total Population	872	
1st mailing: Questionnaire mailed	872	
Questionnaire Received	122	13.99%
2nd mailing: Questionnaire mailed	563	
Questionnaire Received	71	12.61%
Total Questionnaire mailed	1435	
Total Questionnaire Received	193	13.45%
Less: Non-usable	19	
Total usable response	174	12.13%

4.6. Statistical Techniques

The statistical tests used in this study are Statistical Package for the Social Science (SPSS) 20.0 and Structural Equation Modeling (SEM) with AMOS 20.0. SPSS is used in the pilot test to verify the reliability of the pilot test and to assess data normality in final study. It is also used to produce the results of descriptive statistics and tests of difference, i.e. independent sample t-test is used to check for response bias and ANOVA is used to test the effect of generations' difference on final model variables. SEM is utilized for assessing the hypothesized relationship contained in the hypothesized model. SEM is an extension of the general linear model which combines the logic of confirmatory factor analysis, multiple regressions, and path analysis (Breckler, 1990). It allows the relationship between multiple dependent and independent

variables to be analyzed and explained simultaneously. Additionally, SEM also allows testing of multiple relationships concurrently; one variable can be treated as a dependent variable in one relationship, and an independent variable in another relationship within the same model. With this capacity, SEM offers a more comprehensive analysis that is able to answer the research questions of this study. The full scope of the hypothesized relationship can be tested with one comprehensive statistical approach rather than using multiple tools consecutively.

An important assumption in the conduct of SEM analyses is that the data follow a multivariate normal distribution (Yurdugül, 2008); where normality is required for the endogenous variables in the SEM model. Thus, before any SEM analyses are undertaken, it is important to check the data normality. The skewness and kurtosis values are used for checking the normality of the data set (Hair, et al., 2010). According to Pallant (2011), skewness refers to “the symmetry of a distribution” (p. 53), whereas kurtosis relates to “the peakness of a distribution” (p. 53). A distribution is said to be normal when the values of skewness and kurtosis are equal to zero (Pallant, 2011). The recommended range of skewness value and kurtosis value is +1.96 to -1.96 (Malhotra, 2010).

The data collected has not fulfilled the requirements of SEM in terms of sample size and do not meet the basic assumptions of SEM procedures, which required normality. Therefore, Anderson and Gerbing's (1988) two-step approach is followed to estimate reliability, convergent and discriminant validity (Ingram, 2011). Individual CFA is conducted for each latent construct and CFA is simplified based upon extant theory. This approach reduces the number of parameters required for estimation. Nevertheless, the sample size is still short of the five observation to one parameter

recommendation (Byrne, 2010). Bootstrapping in AMOS 20.0 is utilized to account for this sample size limitation and non-normal data (Byrne, 2010).

The Kaiser-Meyer-Olkin (KMO) index and the Bartlett's test of sphericity are used for determining the suitability of the data set to conduct CFA (Tabachnick & Fidell, 2012). As a measure of sampling adequacy, the KMO index is recognized as one of the best measures for determining the suitability of a set of data for subsequent factor analysis (Hair, et al., 2010). It determines the likelihood of data to factor well by testing the correlation and partial correlation among variables. The KMO index should be 0.5 or higher (Hair, et al., 2010), value smaller than 0.5 suggests that a factor analysis should not be taken.

Bartlett's test of sphericity assesses the overall significance of the correlation matrix (Tabachnick & Fidell, 2012). The recommended value for Bartlett's test of sphericity is $p < .05$ (Tabachnick & Fidell, 2012).

4.6.1. Models Evaluation

The individual model parameters and overall fit of the model are utilized for model assessment. Standardized regression weights (factor loadings), squared multiple correlations (amount of variance associated with item and latent factor), standardized residuals, and bootstrap confidence intervals are examined to assess the individual parameters. The recommended criteria for the above said are listed as follow.

To be able to represent the latent construct, items should have a factor loading of >0.5 and be statistically significant ($p < 0.05$) (Hair, et al., 2010). Based on a probability

level of 0.05, Critical Ratio (C.R.) needs to be $\geq \pm 1.96$ before the hypothesis can be rejected. C.R. in AMOS, which represents the parameter estimate divided by its standard error, is highly affected by sample size (Byrne, 2010). A sample size that is too small might produce nonsignificant parameters which may lead to an inappropriate deletion. Hence, it must be interpreted cautiously. Conventionally, any weight greater than or equal to 0.5 will be deemed significant. Standardized residuals should be between +2.58 and - 2.58 (Byrne, 2010). Bootstrap corrected confidence intervals should not include zero, which indicate insignificant values (Byrne, 2010).

Measurement models are assessed by global fit indices and model parameter estimate. Since “no golden rule” exists to determine the most suitable index (Byrne, 2010), multiple indices are used to assess the overall model fit. Both absolute fit indices in combination with relative fit indices are included. These indices consist of the traditional Chi-Square test of model fit, the Root Mean Square Error of Approximation (RMSEA), the Goodness-of-Fit Index (GFI), the Comparative Fit Index (CFI), and the Tucker Lewis Index (TLI). The Chi-square has no minimal acceptable value and is skewed by sample size and data normality issue (Anderson & Gerbing, 1988). Hence, it must be interpreted cautiously. Bollen Stine p value which is considered to be a “Modified bootstrap method for the Chi-square goodness-of-fit statistic” (Byrne, 2010, p. 284) is included to correct for limited sample size. The minimal acceptable value for the indices is shown in Table 4.11.

Table 4.11: Minimal Acceptable Value for the Indices

Fit Indexes	Acceptable Value
Chi Square	Values with non significant p-value
p	<0.05
Goodness-of-fit Index (GFI)	≥ 0.90
Comparative Fit Index (CFI)	≥ 0.90
Tucker-Lewis Index (TLI)	≥ 0.90
Root Mean Square of Error of Estimation (RMSEA)	<0.10
Bollen Stine Index	>0.05

4.6.2. Justification for Using SEM in This Study

Structural Equation Modeling (SEM) is selected to assess the structural model in the current study. SEM and Partial Least Square (PLS) are second generation data analysis techniques while SPSS is the traditional technique (Gefen, Straub, & Boudreau, 2000). Although there are some diversities between them, the basic specification of the structural model is similar (Hair, et al., 2010).

It should be noted that the final sample size of this study (n=174) fell below the prescribed recommendation of five observation per parameter (Bentler & Chou, 1987). In other word, the final data collection did not meet the SEM sample size and basic assumption. Nevertheless, SEM is selected rather than traditional techniques such as multiple regressions or PLS due to several reasons.

First, SEM is a covariance-based approach which grows out of and serves purposes similar to multiple regressions and factor analysis but in a more powerful way (Garson, 2012). Indeed, Hair, et al (2010) define SEM as a multivariate technique that combines aspects of multiple regression and factor analysis to estimate a series of interrelated dependence relationship simultaneously. With SEM, researchers will be able to model relationship among multiple predictor and criterion variables, construct unobserved variables, model errors in measurement for observed variables; and, statistically test a priori theoretical and measurement assumptions against empirical data (Byrne, 2010). Furthermore, SEM presents complex relationship with a convenient and powerful way via a diagram which facilitates researchers in examining model fit and estimating parameters.

Second, SEM is used instead of PLS because SEM estimates the variance of all observed variables rather than estimates the parameter such that it minimizes the residual variance of all the dependent variables in the model as in PLS (Gefen, et al., 2000). Furthermore, SEM is more focused on explanation while PLS is more focused on prediction (Hair, et al., 2010, p. 776). Moreover, PLS, as a component-based approach, is characterized as a technique most suitable where the research purpose is prediction or exploratory modeling. In general, covariance-based SEM is preferred when the research purpose is confirmatory modeling.

SEM, as a powerful tool in multivariate analysis, has gained popularity across discipline. Nevertheless, it is not the prime reason for using SEM in this study. The main reason for using this statistical tool in this research is basically due to the research framework which involves mediating and dependence relationships. In this study,

innovation mediates the relationship between family influence and business performance. It interacts among variables. The ability of SEM in testing interaction effects among variables simultaneously is the impetus for using this statistical tool. Moreover, SEM allows model-testing in a single comprehensive method (Malhotra, 2010). Both the significance of the direct and mediated relationship, and the measurement models and structural models can be determined. This will enable the research questions to be addressed and be interpreted in more comprehensive manner.

4.7. Chapter Summary

The first part of this chapter describes the philosophical perspective of the research. Positivism which involved scientific processes is embraced in the study. A mailed survey research design is employed since all the instruments are extracted from previous mailed surveys. Furthermore, based on the prior empirical analysis, this method is the popular approach in family business and innovation research (e.g. Avendano Alcaraz, 2006; Lages, Silva, & Styles, 2009).

The instrument design is extensively discussed in the later part of the chapter. This study adopts measures compiled from several authors. The reasoning behind the selection of measurement scales are presented and discussed. This is followed by an overview of the statistical techniques and a discussion of the justification for using SEM in this study. Basically, the decision to employ SEM is not influenced by the increasing popularity of the technique, but due to its ability to address all the research questions presented in this study. SEM allows all the hypothesized relationships in the model to be tested simultaneously and enable a stronger inference about the hypothesized model.

The subsequent chapter presents the findings of this study based on the procedures explained and discussed in this chapter.

CHAPTER FIVE

RESEARCH FINDINGS

5.1. Introduction

As discussed in the previous chapters, the aim of this research is to investigate the relationship among the theoretical constructs of family influence (power, experience and culture), innovation and business performance. This chapter presents and analyses the empirical results of the collected data in accordance with the analysis techniques presented in chapter four. The statistical tests used in this study are Statistical Package for the Social Science (SPSS) 20.0 and Structural Equation Modeling (SEM) with AMOS 20.0. SPSS is used in the pilot test to verify the reliability of the pilot test and to assess data normality in final study. It is also used to produce the results of descriptive statistics and tests of difference, i.e. independent sample t-test is used to check for response bias and ANOVA is used to test the effect of generations' difference on final model variables. Before conducting the Confirmatory Factor Analysis (CFA), the data are assessed for missing data and normality using SPSS 20.0 descriptive statistics. SEM is utilized to confirm the hypothesized model presented.

This chapter consists of seven sections including this introduction. Section 5.2 illustrates the descriptive statistics of the final study sample. From this section onward, all information presented is related to the final study. Section 5.3 screens the preliminary data for normality and missing data. Section 5.4 explicates latent variable models and confirmatory factor analysis. Then, a hypothesized model is presented in section 5.5. Next, section 5.6 reports the results of the hypotheses testing. Finally, section 5.7 presents a brief summary of the chapter.

5.2. Descriptive Statistics for the Final Study's Sample

5.2.1. Test of Non-Response Bias

As illustrated in Table 4.10, out of 872 distributed questionnaires, 122 responses were received, representing around 13.99% of the total sample. Since not all respondents responded to the mail survey in the same period of time, a test of non-response bias was conducted on the usable response. Respondents were categorized into two categories. Those who responded to the first mail survey were considered as early respondents, whereas those who responded to the second mail survey were considered as late respondents. Late respondents were assumed to have acted due to the increase stimulus (for example, more calls). They were almost similar to non-respondents. Out of 174 usable responses, 106 responses were categorized as early responses and the remaining 68 responses were categorised as late responses.

The test of non-response bias was conducted on these two groups to see if there was any significant difference in the mean score between the early and late responses. This was done through independent sample t-test. As can be seen in Table 5.1, the mean score for all main variables used in this study were not significantly different between the early and late responses, at the 0.05 level of significant. Thus, it could be concluded that non-response bias was not present and all respondents could be combined for purpose of data analysis.

Table 5.1 Results of Test of Non-Response Bias (Independent Sample T-test)

Dimensions	Items	Early Responses (n=106)		Late Responses (n=68)		t	p
		Mean	SD	Mean	SD		
Power	Pow1	0.469	0.146	0.493	0.137	-1.083	0.280
	Pow2	0.396	0.234	0.428	0.223	-0.912	0.363
	Pow3	0.454	0.269	0.501	0.232	-1.187	0.237
	Pow4	0.552	0.181	0.511	0.163	1.507	0.134
Experience	Exp1	2.410	1.472	2.530	1.501	-0.537	0.592
	Exp2	3.180	1.365	2.870	1.403	1.454	0.148
	Exp3	2.150	1.542	2.400	1.457	-1.049	0.295
	Exp4	5.390	2.714	5.180	2.844	0.490	0.625
Culture	Cul1	3.750	0.829	3.680	0.921	0.511	0.610
	Cul2	4.120	0.726	4.120	0.744	0.044	0.965
	Cul3	3.940	0.803	3.930	0.869	0.131	0.896
	Cul4	3.930	0.854	3.930	0.852	0.057	0.955
	Cul5	3.720	0.870	3.810	0.778	-0.708	0.480
	Cul6	3.980	0.647	4.150	0.758	-1.490	0.139
	Cul7	4.070	0.843	4.090	0.824	-0.171	0.864
	Cul8	4.430	0.704	4.560	0.655	-1.172	0.243
	Cul9	3.660	0.893	3.870	0.896	-1.492	0.138
Innovation	Inn1	3.540	1.025	3.460	1.112	0.497	0.620
	Inn2	4.230	0.721	4.150	0.797	0.680	0.498
	Inn3	4.220	0.704	4.040	0.762	1.531	0.128
	Inn4	3.590	0.934	3.530	1.113	0.399	0.690
	Inn5	3.580	0.995	3.710	1.023	-0.834	0.405
	Inn6	3.260	1.098	3.370	1.118	-0.602	0.548
	Inn7	3.740	0.989	3.680	1.085	0.372	0.710
Business performance	BP1	3.790	0.953	3.900	0.964	-0.703	0.483
	BP2	4.080	0.765	4.260	0.765	-1.592	0.113
	BP3	3.420	1.004	3.690	0.981	-1.724	0.086
	BP4	3.500	0.928	3.740	0.987	-1.592	0.113
	BP5	3.620	0.941	3.880	0.890	-1.815	0.071
	BP6	3.310	0.888	3.440	0.817	-0.971	0.333
	BP7	3.200	0.909	3.350	0.860	-1.119	0.265
	BP8	3.140	0.910	3.280	0.826	-1.011	0.313
	BP9	3.820	0.964	4.010	0.837	-1.362	0.175
	BP10	3.570	0.895	3.710	0.811	-1.043	0.299

5.2.2. Respondent Profiles

Table 5.2 presents the characteristics of the family businesses that participated in this study. It shows that the oldest company that participated in the study has been incorporated 54 years ago. The mean of years incorporated for the company participating was 19.97 years, with a standard deviation of 12.16 years. In terms of firm size, the companies had a mean of RM556.83million market capital. The mean number of family member as employees was 6 (SD =2.85). In term of substantial family influence, almost 44.3% fitted into the middle category where there was some family involvement in the business.

Table 5.3 shows that most of the participating companies were owned by first generation (45.4%). However, majority of the participating companies (54%) were managed and governed by the joint efforts of first and second generation. This could be understood to be consistent with Hofstede, Hofstede, and Minkov's (2010) classification in which the Chinese culture is identified as collectivist. The sample families have a strong and cohesive relationship. Around 10% of the sample companies reported no existence of a governance board, despite the legal requirement for a governance board in Malaysia. This is an interesting finding because it could represent a lack of understanding the role of a governance board in the company, or at least, confusion with the role of a management board.

Table 5.4 presents some of the characteristics of the participants in the final study. The youngest participant was 25 years old and the oldest participant was 81 years old. Almost 98% of the participants were male and Chinese. This made sense, keeping in mind that up to 2010, women only took up 7.2 percent of boardroom-level posts

(Bernama, 2012) and Bumiputra equity ownership was only 23.09% (Le Breton-Miller & Miller, 2006). In 40.8% of all participating companies, the respondents were also the founder of the company. All of the participants are literate with at least secondary education level. Indeed, more than 60 percent of the participants in the sample have attended university.

Table 5.2: Characteristics of The Companies Participating in The Study (N=174)

Characteristic	<i>f</i>	%	Min	Max	Mean	SD
Years Incorporated			3	54	19.97	12.162
Market Capital (RM , million)			7.5	34557.3	556.83	2705.49
Family members as Employees			1	15	5.55	2.85
Substantial Family Influence						
Not Applicable	77	44.3				
Narrow (A lot of family Involvement)	10	5.7				
Middle (Some family involvement)	77	44.3				
Broad (Little direct family involvement)	10	5.7				

Table 5.3: Generations of Ownership and Management of The Participating Companies (N=174)

Role and generation	<i>f</i>	%
Ownership		
First generation	79	45.4
Second generation	19	10.9
Third generation	1	0.6
First and second generation	68	39.1
Second and third generation	7	4
Management		
First generation	41	23.6
Second generation	26	14.9
Third generation	1	0.6
First and second generation	94	54
Second and third generation	12	6.9
Governance		
Not applicable	18	10.3
First generation	53	30.5
Second generation	39	22.4
Third generation	2	1.1
First and second generation	56	32.2
Second and third generation	6	3.4

Table 5.4: Characteristics of The Participants (N=174)

	<i>f</i>	%	Min	Max
Age			25	81
Position				
CEO/Directors	174	100		
Gender				
Male	170	97.7		
Female	4	2.3		
Ethnic				
Chinese	171	98.3		
Malay	3	1.7		
Relationship with founder				
Founder	71	40.8		
Children	67	38.5		
Grandchildren	5	2.9		
Siblings	26	14.9		
Nephew/Niece	5	2.9		
Education level				
Secondary	52	29.9		
Diploma	19	10.9		
Degree	77	44.3		
Postgraduate	26	14.9		

5.3. Preliminary Data Screening

Before conducting the statistical analysis, CFA, the data were prepared by coding, editing and cleaning using SPSS20.0. This process was to ensure that errors were checked and potential problems that might affect the results of the statistical tests could be avoided.

Data coding involves assigning numerical values to responses to the questions contained in the questionnaire survey. The coding and numbering systems were in accordance with the sequence of the questions in the questionnaire survey. A code has been assigned to each individual response for each question within the questionnaire survey (Hair, et al., 2010).

The next step involved data editing, data cleaning and screening. During the data editing process, raw data were edited. Then a unique label was assigned to each variable and the data were entered into the SPSS software. After the raw data were transferred and edited, errors and missing values were checked via Frequency distributions. Three cases with illegal response were noted and corrected.

In addition, the data set revealed that there were incomplete responses in questions pertaining to power. These missing response were mainly due to respondent refusal and were missing completely at random. Indeed, due to the difficulty of collecting information from family business, about 50% of the participants in family business survey data have missing data (Acock, 2005). Since the data were missing completely at random, the analysis remained unbiased (Howell, 2007). According to Howell (2007), when the data missing completely at random, researchers may lose

statistical power for their design. However, the estimates parameters are not biased by the absence of data (Howell, 2007).

Although missing data could not be avoided, their occurrence could be minimized and treated. There are several approaches to deal with missing value: Listwise deletion, mean replacement and pairwise deletion. However these approaches, such as Listwise deletion and pairwise deletion, are problematic to work with missing values (Acock, 2005). For example, Listwise deletion will increase the risk of type II error particularly with small sample size data; pairwise deletion will underestimate correlation (Acock, 2005). Moreover, Listwise deletion may discard a lot of useful information (Hair, et al., 2010). Since the sample size is small, this study opted to choose the mean replacement method to deal with missing data.

After data were cleaned and errors corrected, the data were assessed for outliers linearity, homoscedasticity, multicollinearity, normality and common method bias.

5.3.1. Outliers Linearity

Outliers refer to the “values that are substantially lower or higher than the other values in the data set” (Pallant, 2011, p. 111). It can have a dramatic effect on the correlation coefficient particularly in small samples. Extreme outliers (points not extend more than 3 box-lengths from the edge of the box) can either overestimate or underestimate the true relationship. Box plots (Appendix G) have been used to check for outliers. As observed, there are no outliers for power, innovation and business performance. Nevertheless, there are four outliers for experience and one outlier for culture. All these outliers do not extend more than 3 box-lengths from the edge of the

box (Pallant, 2011). In other words, they are not the extreme outliers. Thus, they are retained.

5.3.2. Homoscedasticity

Homoscedasticity refers to a situation in which the variance of the dependence variables exhibit similar amounts of variance across the data (Pallant, 2011). It facilitates analysis because most methods are based on the assumption of equal variance. Scatter plots (Appendix H) have been used to check for Homoscedasticity. As observed, the patterns of scatter of the points about the line showed no clear pattern. In other words, the data are homoscedastic.

5.3.3. Multicollinearity

Multicollinearity refers to the relationship among the independence variables (Pallant, 2011). A high degree of multicollinearity ($r=0.9$ and above) is undesirable due to the fact that it increase the standard error of coefficients(Pallant, 2011). Table 5.5 Shows that the multicollinearity was not a primary concern in this study

Table 5. 5 Correlations for Study Variables

	Power	Experience	Culture	Innovation	Performance
Power					
Experience	0.266				
Culture	0.188	0.117			
Innovation	0.047	0.134	0.272		
Performance	0.195	0.295	0.408	0.313	

5.3.4. Data Normality

An important assumption in the conduct of SEM analyses is that the data follow a multivariate normal distribution (Yurdugül, 2008); where normality is required for the endogenous variables in the SEM model. This requirement is rooted in the fact that traditional maximum likelihood methods in SEM assume that the continuous variables are normally distributed. When the variables are not normally distributed, there are several adverse effects on the SEM analyses. Specifically, the following can occur in the case of data non-normally distributed: the chi-square values are exaggerated and when juxtaposed with smaller sample sizes, certain fit indexes such as Comparative Fit Index (CFI) and Tucker-Lewis Index (TLI) underestimate model values and standard errors. Consequentially, non-normality leads to the underestimation of the model fit and parameter estimates resulting in regression paths and variances that are deemed significant when they are insignificant. Thus, before any analyses of data are undertaken, it is important to check the data normality.

Because normality is an important assumption to identifying model fit, normality is assessed with SPSS 20.0 and AMOS 20.0 before conducting CFA and EFA. In SPSS 20.0 the skewness and kurtosis for each variable was evaluated and presented in Table 5.6. Majority of the items in the data demonstrated non-normality because they had skewness and kurtosis values greater than 1.96 or smaller than -1.96 (Malhotra, 2010). The skewness values for measurement items ranged from -7.038 to 5.098 and kurtosis ranged from -4.811 to 4.407. Moreover, Maridia's (1970) coefficient estimates multivariate kurtosis illustrated that the data were overall non-normal with a coefficient greater than 10.

Several methods such as z-score transformation, an inverse transformation square root transformation, or natural log transformation could transform the data to more closely align with the assumption of normality (Kline, 2010). However, utilizing data transformation to normalize the distribution made the results of the study harder to interpret. Data transformation changed the fundamental nature of the variable by altering the distance between data points (Tabachnick & Fidell, 2012). Hence, bootstrapping techniques in AMOS 20.0 which adjusted the sampling distribution used to compute the probability values for Chi-Square generated maximum likelihood estimation via resample cases from observed data (Byrne, 2010) were employed. Bootstrapping provides a statistical solution where data is not normally distributed and assumptions of large sample size are violated. Unfortunately, this resampling method is prone to be optimistic and more likely to see statistical significant for the data (Byrne, 2010). The Bollen Stine p value test and .95 corrected confidence intervals are examined for overall model fit with non-normal data.

Table 5.6: Descriptive Statistics for Study Variables

Items	N	Mean	Median	Std. Deviation	Skewness	Kurtosis
Pow1	174	2.77	3.00	0.771	-0.625	-1.180
Pow2	174	2.55	3.00	1.000	-1.261	-2.762
Pow3	110	2.76	3.00	1.050	0.957	-1.499
Pow4	112	3.00	3.00	0.869	-0.368	0.229
Exp1	174	2.45	2.00	1.480	1.196	-4.811
Exp2	174	3.06	4.00	1.384	-2.652	-3.831
Exp3	174	2.25	2.00	1.510	1.109	-3.743
Exp4	174	2.15	2.00	1.015	5.098	0.883
Cul1	174	3.72	4.00	0.864	-3.935	2.634
Cul2	174	4.12	4.00	0.731	-4.457	2.954
Cul3	174	3.94	4.00	0.827	-3.402	0.221
Cul4	174	3.93	4.00	0.851	-3.310	-0.197
Cul5	174	3.75	4.00	0.834	-1.598	-1.131
Cul6	174	4.05	4.00	0.695	-2.038	0.257
Cul7	174	4.07	4.00	0.833	-2.750	-1.415
Cul8	174	4.48	5.00	0.686	-7.038	4.407
Cul9	174	3.74	4.00	0.898	-2.370	-1.322
INN1	174	3.51	4.00	1.058	-1.130	-2.973
INN2	174	4.20	4.00	0.750	-3.641	0.295
INN3	174	4.15	4.00	0.730	-2.772	-0.276
INN4	174	3.57	4.00	1.005	-0.663	-2.861
INN5	174	3.63	4.00	1.005	-0.690	-2.885
INN6	174	3.30	3.00	1.104	1.261	-3.243
INN7	174	3.71	4.00	1.025	-0.984	-3.082
BP1	174	3.83	4.00	0.956	-1.201	-2.347
BP2	174	4.15	4.00	0.768	-1.848	-2.710
BP3	174	3.53	3.00	1.001	0.043	-2.107
BP4	174	3.59	4.00	0.956	-2.538	-0.219
BP5	174	3.72	4.00	0.927	-1.163	-2.219
BP6	174	3.36	3.00	0.861	-0.625	-1.393
BP7	174	3.26	3.00	0.891	-0.207	-1.445
BP8	174	3.20	3.00	0.878	0.120	-1.429
BP9	174	3.90	4.00	0.919	-2.065	-2.068
BP10	174	3.62	4.00	0.863	-0.283	-1.798

5.3.5. Sample Size Issues

Purposive sample selection was used in this study. The proposed theoretical framework, portrayed in Figure 3.2, included 34 items, forming 5 factors, requiring 75 parameters to be estimated. The sample size of this study (n=174) fell below the prescribed recommendation of five observations per parameter (Bentler & Chou, 1987). Therefore, Anderson and Gerbing's (1988) two-step approach was taken to confirm the validity of the proposed factor structures.

Following the two-step approach, I conducted individual CFA's for each construct (Power (Pow), Experience (Exp), Culture (Cul), Innovation (Inn) and Business performance (BP)). Then, after the factor structures were confirmed, CFA's for family influence was conducted based upon theoretical groupings. This method significantly reduced the number of parameters required, thereby enabling statistical rigor. The family influence model required 27 parameters to be estimated. Therefore, the current sample size has adequately met sample size guidelines.

After I ran the CFA's, I used structural analysis to examine the hypothesized relationships among latent constructs. Structural analysis examined the relationships among constructs to test the hypotheses proposed in chapter three. Amos 20.0 statistical program coupled with SPSS analysis of descriptive statistics were used to perform testing in this study.

5.3.6. Common Method Bias

Given the difficulty in capturing a sample of family members involved in top management team, this study used a questionnaire to capture the study measures at one

point in time. As a result, the possibility for common method variance may affect empirical results and research conclusions. Harman's one-factor test (Podsakoff & Organ, 1986) was used to determine whether common method bias was a significant concern. For the combined factor analysis, the results indicate eight factors with initial eigenvalues greater than 1. These factors have explained more than 69.9% of the population and the percentage of cumulative for first component is 22.345. Additionally, the variables loaded on their respective constructs consistently. While the Harmon one-factor test is a weak test of common methods bias, the results suggest that common method bias was not a primary concern.

5.4. Latent Variable Models and Confirmatory Factor Analysis

Empirical testability, verifiability and confirmability are required to evaluate the adequacy of a theoretical spatial network (Byrne, 2010). The use of latent factor analysis enables a direct examination of the systematic import of a set of theoretical constructs. Indeed, a clear and explicit specification of theoretical construct definitions and operationalization are explicated. Here, I followed Anderson and Gerbing's (1988) two-step approach to estimate reliability, convergent and discriminant validity of the models. Furthermore, CFA was conducted to evaluate the properties of the latent constructs and the fit of the model.

The verification of the model was through the use of CFA. CFA's were conducted using AMOS 20.0 and were conducted for each individual latent construct to determine reliability and convergent validity. Moreover, CFA's were run for theoretical grouping for the family influence to determine discriminant validity and overall model fit.

Reliability was assessed by using Cronbach's alpha. Cronbach's alpha is recommended to measure the internal consistency of a set of items (Malhotra, 2010).

Table 5.7 illustrated the results of the reliability test of the study.

Table 5.7: Reliability Analysis

Dimensions	Reliability		
	Items	Item total correlation	Cronbach alpha
Power	Pow1	0.506	0.515
	Pow2	0.299	
	Pow3	0.279	
	Pow4	0.189	
	POW		
Experience	Exp1	0.531	0.688
	Exp2	0.629	
	Exp3	0.515	
	Exp4	0.228	
	EXP		
Culture	Cul1	0.338	0.828
	Cul2	0.553	
	Cul3	0.640	
	Cul4	0.542	
	Cul5	0.587	
	Cul6	0.581	
	Cul7	0.459	
	Cul8	0.412	
	Cul9	0.697	
	CUL		
Innovation	Inn1	0.765	0.894
	Inn2	0.533	
	Inn3	0.467	
	Inn4	0.806	
	Inn5	0.712	
	Inn6	0.764	
	Inn7	0.800	
	INN		
Business performance	BP1	0.295	0.837
	BP2	0.403	
	BP3	0.293	
	BP4	0.285	
	BP5	0.610	
	BP6	0.702	
	BP7	0.724	
	BP8	0.740	
	BP9	0.606	
	BP10	0.753	
BP			

Suitability of the data set to conduct CFA was examined by the KMO index and Bartlett's test of sphericity. Table 5.8 showed that the KMO indices for experience, culture, innovation and business performance were higher than 0.5 as recommended by Hair, Black, and Babin (2010), while power was below 0.5. The Bartlett's test of sphericity results were all significant ($p=.000$).

Table 5.8: Results of Examination of Variables for Factor Analysis Suitability

Variable	No. of Items	KMO Index	<i>p</i> - value (Bartlett's test of sphericity)	Remark
Power	4	0.494	0	Not Suitable
Experience	4	0.699	0	Suitable
Culture	9	0.828	0	Suitable
Innovation	7	0.851	0	Suitable
Business Performance	6	0.819	0	Suitable

5.4.1. Power Subscale

The power subscale suffered from lack of reliability and validity. As shown in Table 5.8, the score of Kaiser-Meyer-Olkin (KMO) Measure of Sampling Adequacy of the power was lower than the cut-off value of 0.50. The low value of 0.494 for the KMO Measure of Sampling Adequacy indicated that the proportion of variance in the power scale was not caused by underlying factor, thus it did not allow for the

application of factor analysis. From the same table, we could see that the Bartlett's test of sphericity was significant. Thereby, its associated probability was less than 0.05. This meant that the correlation matrix is not an identity matrix. Moreover, as shown in Table 5.7, the Cronbach alpha of the power scale was 0.515, which is under the recommended value of 0.60 (Malhotra, 2010). Thus, it has to be dropped from the study.

The initial results (n=174) from the series of individual CFA's run indicated that the factor structure of power did not form as expected and the model was not representative of the observed data. Although pilot test indicated that the measurement scale for power achieved acceptable reliability and validity, the final study CFA model did not meet the acceptable level. This is because the power subscale suffered from lack of responses. Of the 174 respondents, only 97 provided responses to all four of the items on the power subscale. Consequently, this hindered any further analysis using the power subscale.

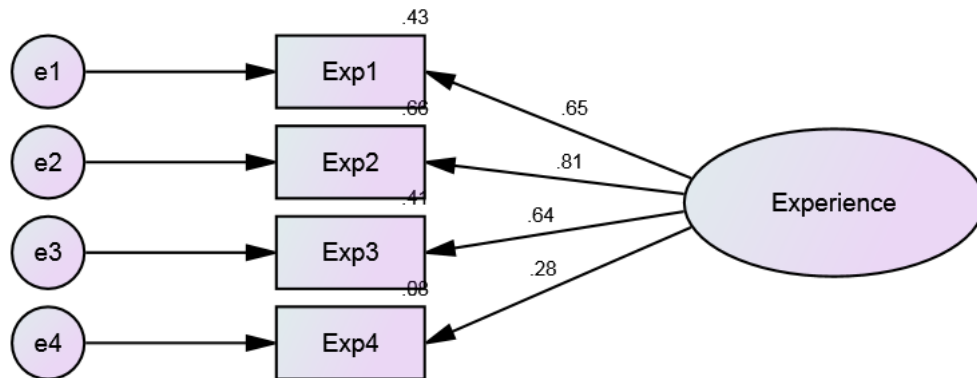
Only speculation could be made as to why the respondents were unwilling to provide information that revealed the extent to which family members participated in governance and management of the family business. The answer might simply lie in the tendency in respondents to protect the privacy of family members or might be hidden more deeply in the unconscious minds of respondents. This unexpected finding calls for further investigation but is outside the scope of the current research.

5.4.2. Experience Subscale

Figure 5.1 presented the experience construct measurement model and reports the goodness-of-fit measures. All items were significant loading ($p < 0.001$) and were considered satisfactory with a value above 0.5 (Hair, et al., 2010) except item Exp 4. With a factor loading 0.28, indicating that the item Exp 4 did not represent the latent construct. Hence, item Exp 4 was removed and the model was respecified.

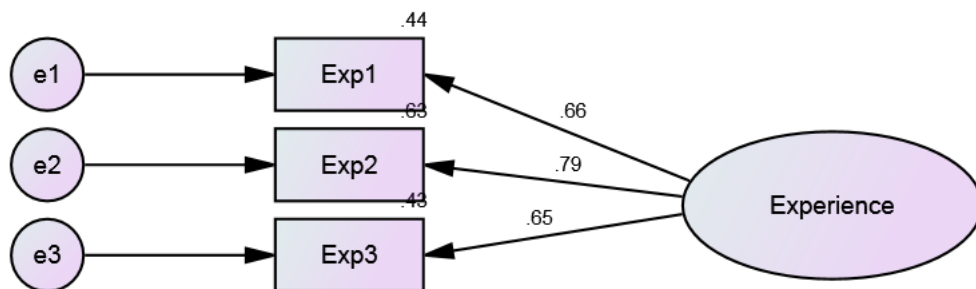
The final experience construct measurement model was presented in Figure 5.2. It had three measuring items and all these items were loaded with a loading factor more than 0.50. All these items could be retained after conducting CFA since they are all above the recommended value of 0.5 (Hair, et al., 2010).

The default model had zero degrees of freedom and $\chi^2 = 0.00$. The goodness-of-fit measures displayed GFI value of 1.00, TLI value of 1.00 and CFI value of 1.00 which indicated that the model fit the data perfectly. However, the perfect fit indices also indicated that the model was saturated and no probability level could be computed. Hence, the model is untestable and the goodness of fit test is not applicable (Byrne, 2010).



Experience CFA outcomes: Maximum Likelihood Standard Estimation
 $\chi^2=1.022$ $p=0.600$ Bollen Stine =0.509 GFI=0.997 TLI=1.024 CFI=1.000
 RMSEA=0.000

Figure 5.1 Initial Experience Construct Measurement Model



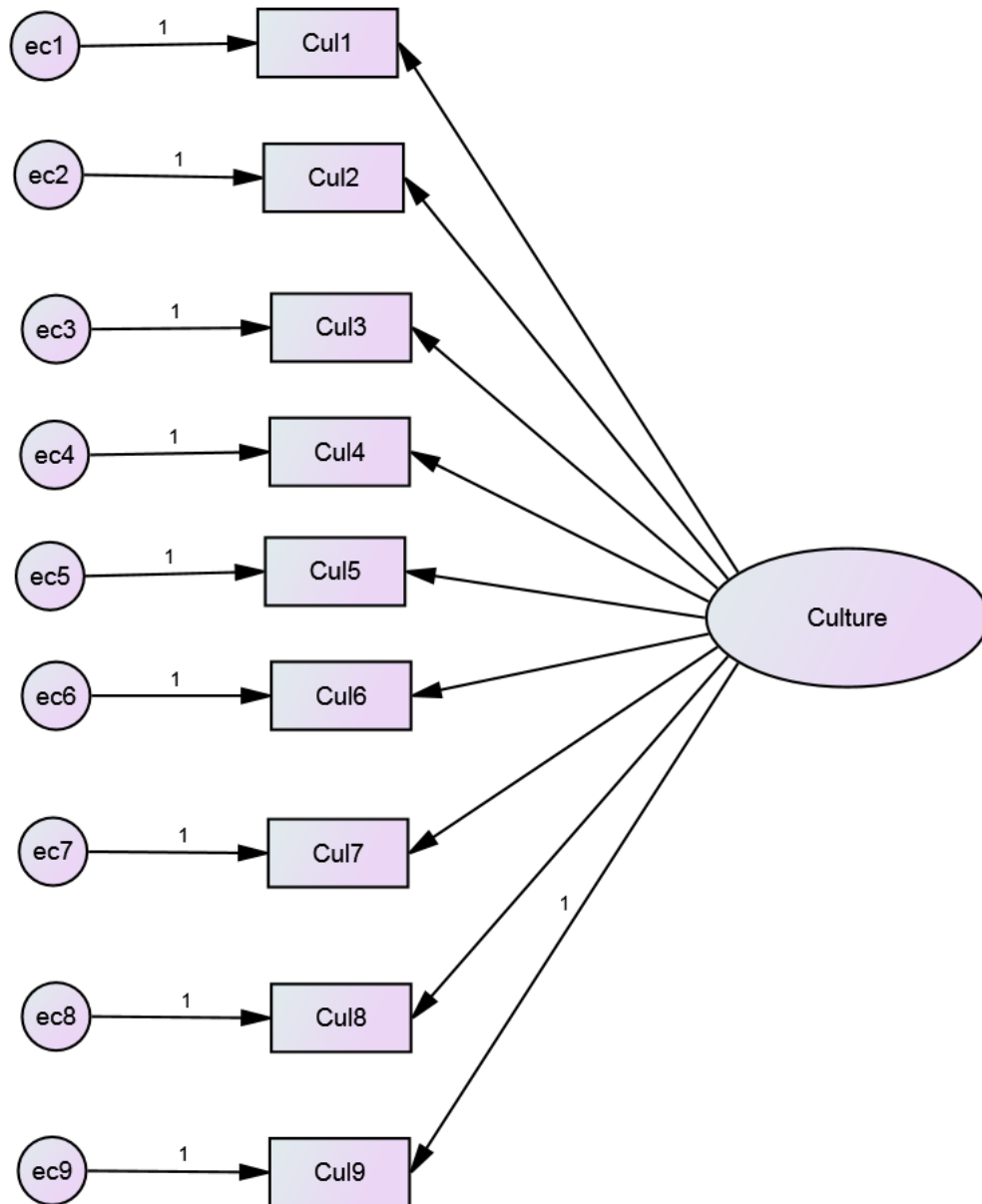
Experience CFA outcomes: Maximum Likelihood Standard Estimation
 $\chi^2=0.00$ Probability level cannot be computed GFI=1.000 TLI=1.000 CFI=1.000
 RMSEA=0.473

Figure 5.2 Final Experience Construct Measurement Model

5.4.3. Culture Subscale

Figure 5.3 presented the initial culture construct measurement model and reports the goodness-of-fit measures. All item loadings were considered satisfactory with a value above .50 (Hair, et al., 2010) except item Cul1, item Cul7 and item Cul8. Hence, item Cul1, item Cul7 and item Cul8 were removed and the model was respecified.

The culture construct measurement model was then respecified to accommodate the removed items and presented in Figure 5.4. As shown in Figure 5.4, all items were significant loading ($p < 0.001$) and were considered satisfactory with a value above 0.5 (Hair, et al., 2010). Nevertheless, TLI value of 0.853 and RMSEA value of 0.143 together with a Bollen-Stine bootstrap p value of .001 suggested that the fit between the hypothesized model and the sample data might not be adequate (Byrne, 2010).

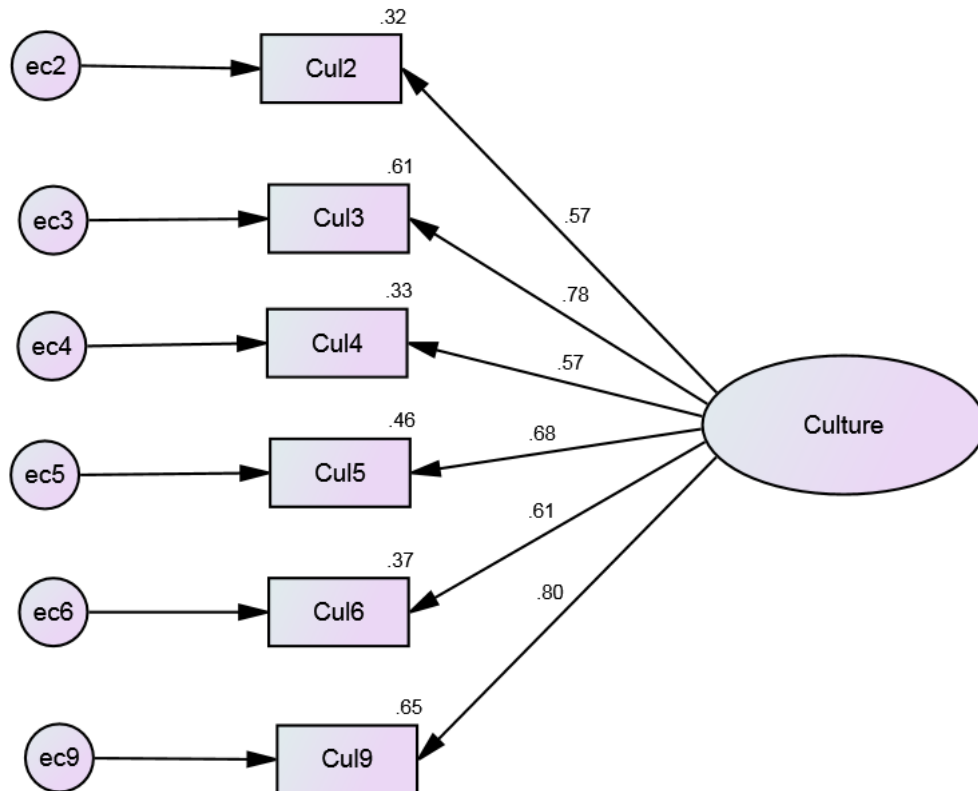


Culture CFA outcomes: Maximum Likelihood Standard Estimation

$\chi^2=87.038$ $p=0.000$ Bollen Stine =0.001 GFI=0.903 TLI=0.830 CFI=0.872

RMSEA=0.113

Figure 5.3 Initial Culture Construct Measurement Model



Culture CFA outcomes: Maximum Likelihood Standard Estimation

$\chi^2=40.791$ $p=0.000$ Bollen Stine =0.001 GFI=0.927 TLI=0.853 CFI=0.912
 RMSEA=0.143

Figure 5.4 Culture Construct Measurement Model 2

Due to the lack of fit, AMOS output Modification Indexes (MI) and the standardized residuals were examined to guide the model respecification (Byrne, 2010). As shown in Table 5.9, the model fit would improve if I allow several within construct errors to co-vary. Therefore, I allowed Cul2 and Cul4 to co-vary based upon theoretical commonalities. Illustratively, I allowed Cul2 and Cul4 to co-vary because they both emphasized sense of belonging of family members toward family business (Astrachan, et al., 2002).

Table 5.9 AMOS Output for Culture Construct Measurement Model 2: Modification Indices and Parameter Change Statistics

Covariances

			M.I.	Par Change
e8	<-->	e9	8.951	-.087
e6	<-->	e8	14.206	.128
e5	<-->	e6	6.344	-.090
e4	<-->	e9	4.975	.060
e4	<-->	e6	6.770	-.082

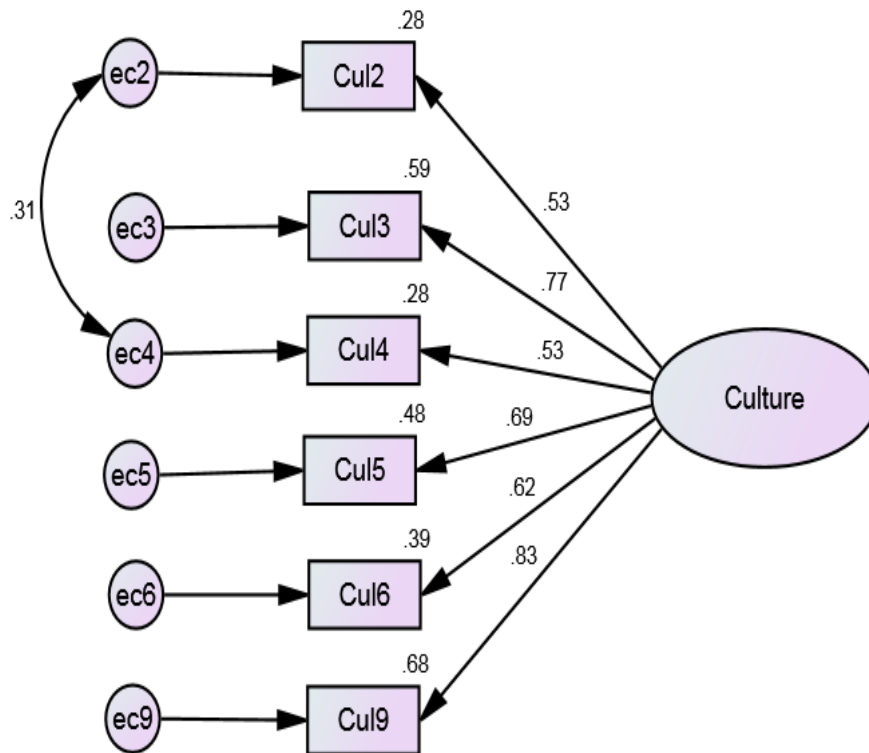
Variances

			M.I.	Par Change

Regression Weights

			M.I.	Par Change
Cul9	<---	Cul2	5.777	-.156
Cul2	<---	Cul4	8.914	.166
Cul4	<---	Cul2	8.972	.225
Cul5	<---	Cul4	4.002	-.117
Cul6	<---	Cul4	4.254	-.106

The model was then respecified to accommodate co-vary within the construct errors. Resultantly, the measure displayed GFI value of 0.954, TLI value of 0.910, and CFI value of 0.952. Nevertheless, RMSEA value of 0.112 together with a Bollen-Stine bootstrap p value of .025 suggested that the fit between the hypothesized model and the sample data might not be adequate (Byrne, 2010). Figure 5.5 showed the culture construct measurement model 3 and reported the goodness-of-fit measures.



Culture CFA outcomes: Maximum Likelihood Standard Estimation

$\chi^2 = 25.424$ $p = 0.001$ Bollen Stine = 0.025 GFI = 0.954 TLI = 0.910 CFI = 0.952

RMSEA = 0.112

Figure 5.5 Culture Construct Measurement Model 3

Due to the lack of fit, AMOS output Modification Indexes (MI) and the standardized residuals were examined to guide the model respecification (Byrne, 2010). As shown in Table 5.10, I see no evidence of substantively reasonable misspecification in Culture Construct Measurement Model 3.

Table 5.10 AMOS Output for Culture Construct Measurement Model 3: Modification Indices and Parameter Change Statistics

Covariances				
			M.I.	Par Change
e8	<-->	e9	6.388	-.070
e6	<-->	e7	5.344	.072
e5	<-->	e6	4.371	-.071
e4	<-->	e6	5.850	-.073

Variances				
			M.I.	Par Change

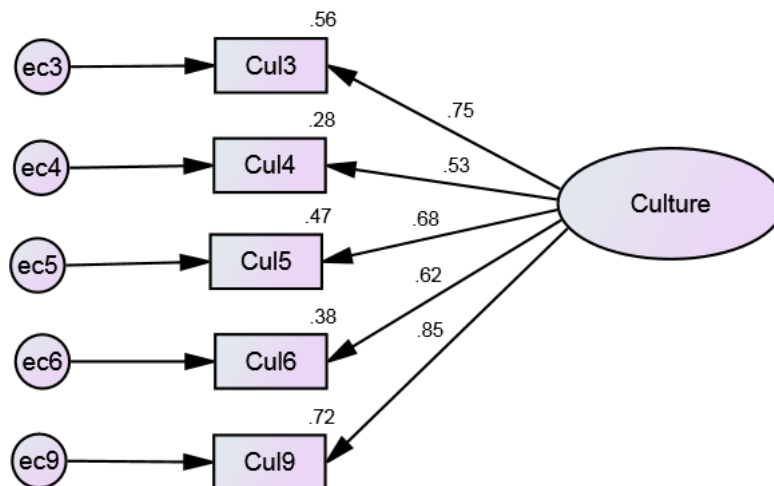
Regression Weights				
			M.I.	Par Change
Cul3	<---	Cul4	5.753	.128

However, turning to the Squared Multiple Correlations (Table 5.11), it seems evident that item Cul 2 and item Cul 4 can be problematic with a low Square Multiple Correlation (Hair, et al., 2010). Since both items emphasized sense of belonging of family members toward family business, to avoid redundancy, I removed item Cul2 which has the lowest Square Multiple Correlation.

Table 5.11 Square Multiple Correlation for Culture Construct Measurement Model 3

	Estimate
Cul9	.681
Cul2	.277
Cul3	.587
Cul4	.283
Cul5	.478
Cul6	.387

The model was then respecified to accommodate changes have been done. Resultantly, the measure displayed GFI value of 0.964, TLI value of 0.923, CFI value of 0.962 and a Bollen-Stine bootstrap p value of .054 are indicative of adequate fit between the hypothesized model of culture and the sample data (Byrne, 2010). Although the value of RMSEA was not satisfactory and item Cul4 had a low square multiple correlations but no further modification is done. Item Cul4 was retained based on a priori theory. Figure 5.6 showed the final culture measurement model and reported the goodness-of-fit measures.



Culture CFA outcomes: Maximum Likelihood Standard Estimation

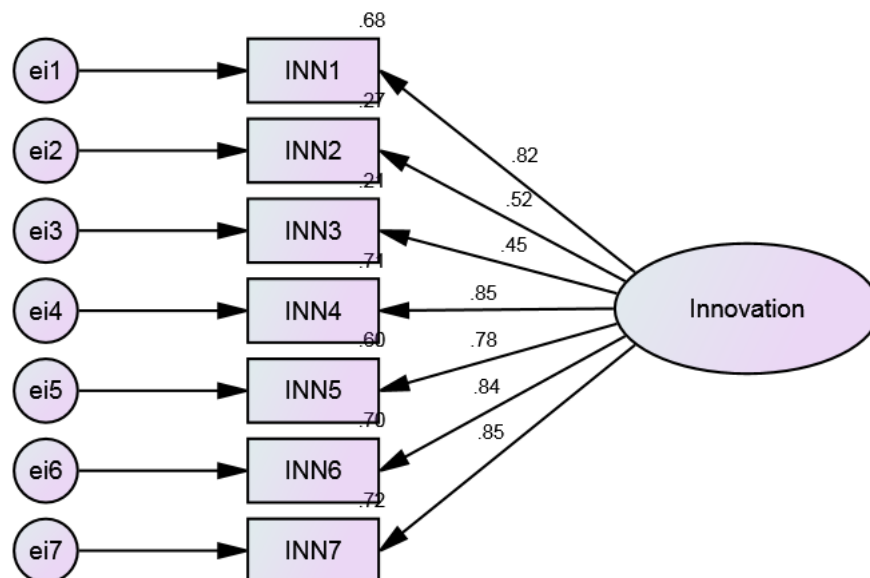
$\chi^2=16.065$ $p=0.007$ Bollen Stine =0.054 GFI=0.964 TLI=0.923 CFI=0.962

RMSEA=0.113

Figure 5.6 Final Culture Construct Measurement Model

5.4.4. Innovation

Figure 5.7 presented the initial innovation measurement model and reported the goodness-of-fit measures. All item loadings were considered satisfactory with a value above .5 (Hair, et al., 2010) except item INN3. Hence, item INN3 was removed and the model was respecified.



Innovation CFA outcomes: Maximum Likelihood Standard Estimation

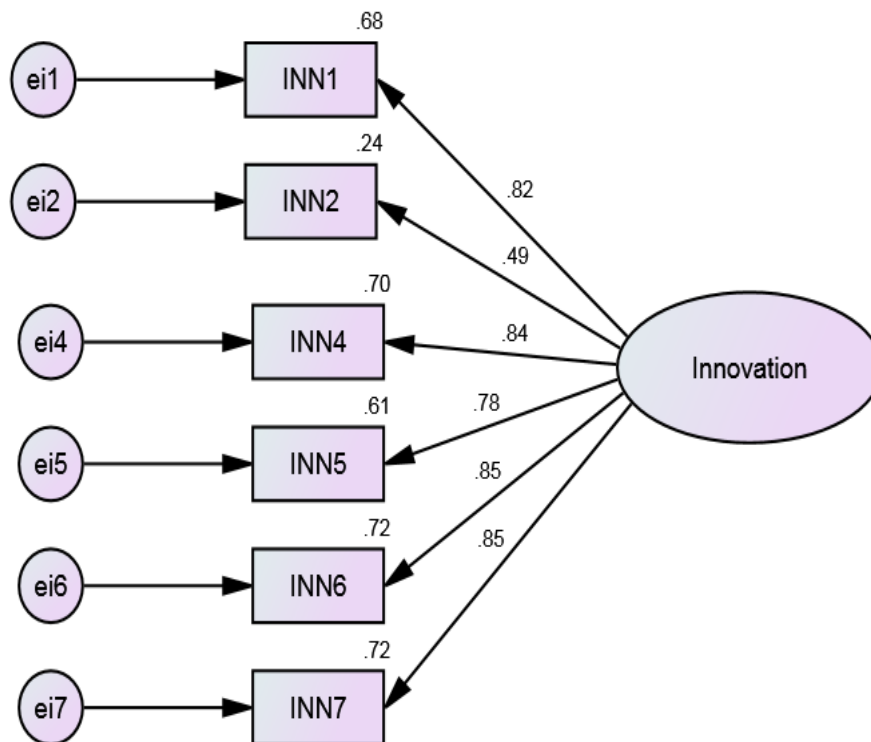
$\chi^2=115.739$ $p=0.000$ Bollen Stine =0.001 GFI=0.840 TLI=0.797 CFI=0.865

RMSEA=0.205

Figure 5.7 Initial Innovation Measurement Model

The innovation construct measurement model was then respecified to accommodate the removed items. The model was presented in Figure 5.8. As shown in Figure 5.8, all items were significant loading ($p < 0.001$) and were considered satisfactory with a value above 0.5 (Hair, et al., 2010) except item INN2. Nevertheless, INN2 had a factor loading of 0.49 which was very close to 0.50. In addition, RMSEA value of 0.144 together with a Bollen-Stine bootstrap p value of .000 suggested that the fit between the hypothesized model and the sample data might not be adequate (Byrne, 2010).

Due to the lack of fit, AMOS output Modification Indexes (MI) and the standardized residuals were examined to guide the model specification (Byrne, 2010). According to the Amos output in Table 5.12, the model fit would improve if I allow several within construct errors to co-vary. Therefore, I allowed INN1 and INN4 to co-vary based upon theoretical commonalities. Illustratively, I allowed INN1 and INN4 to co-vary because they both emphasized being first to market innovative products/services (Avlonitis, et al., 2001; Cooper, et al., 1994). Although Item INN2 has a low square multiple correlations, it was retained based on a priori theory.



Innovation CFA outcomes: Maximum Likelihood Standard Estimation

$\chi^2 = 41.390$ $p = 0.000$ Bollen Stine = 0.000 GFI = 0.916 TLI = 0.917 CFI = 0.950

RMSEA = 0.144

Figure 5.8 Innovation Measurement Model 2

Table 5.12 AMOS Output for Innovation Construct Measurement Model 2: Modification Indices and Parameter Change Statistics

Covariances

			M.I.	Par Change
e4	<-->	e7	22.471	.141
e4	<-->	e6	4.616	.065
e3	<-->	e7	7.307	-.089
e2	<-->	e3	4.953	.072
e1	<-->	e4	5.133	-.061
e1	<-->	e3	4.214	.062

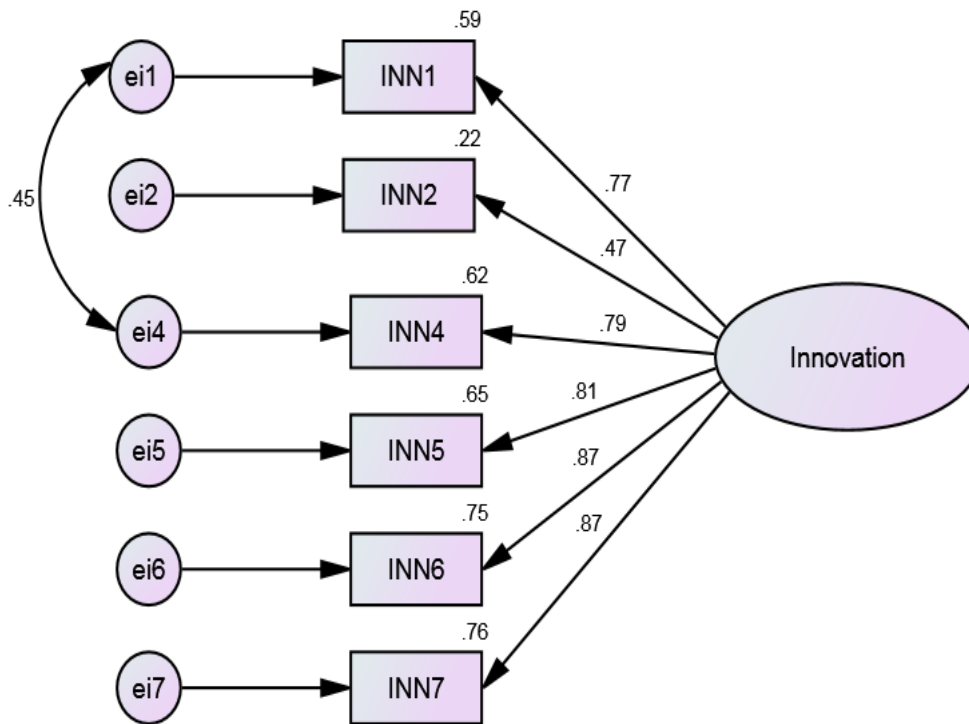
Variances

M.I. Par Change

Regression Weights

			M.I.	Par Change
INN1	<---	INN4	5.676	.119
INN4	<---	INN1	6.373	.110

The model was then respecified to accommodate co-vary within the construct errors. Resultantly, the measure displayed GFI value of 0.976, TLI value of 0.985, CFI value of 0.992 and RMSEA value of 0.061, together with a Bollen-Stine bootstrap p value of .167, were strongly indicative of fit between the hypothesized model of innovation and the sample data (Byrne, 2010). Figure 5.9 showed the final innovation measurement model and reported the goodness-of-fit measures.



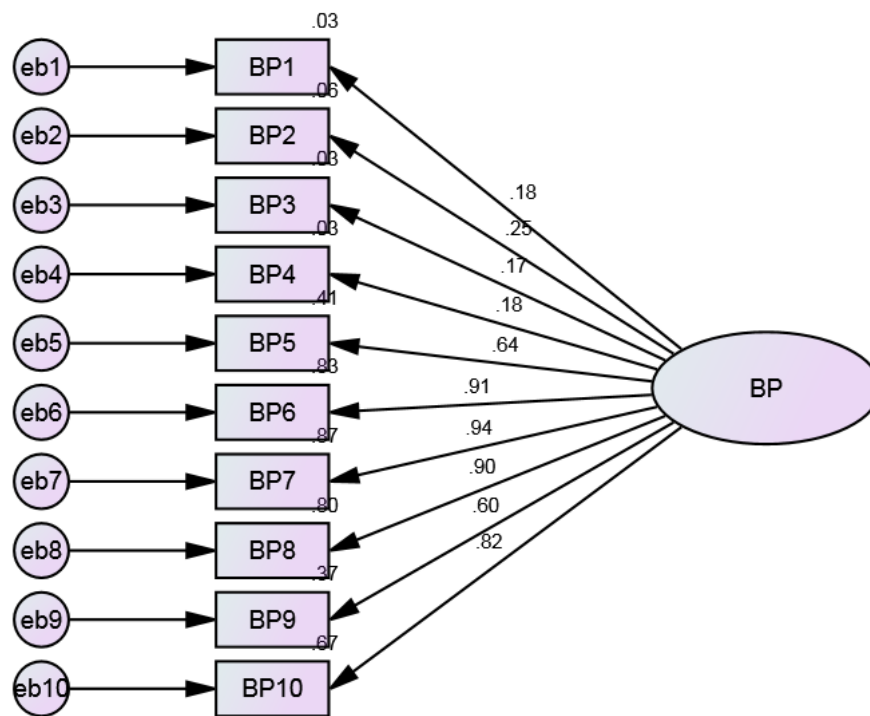
Innovation CFA outcomes: Maximum Likelihood Standard Estimation
 $\chi^2 = 13.103$ $p = 0.108$ Bollen Stine = 0.167 GFI=0.976 TLI=0.985 CFI=0.992
 RMSEA=0.061

Figure 5.9 Final Innovation Measurement Model

5.4.5. Business Performance

Figure 5.10 presented the initial business performance measurement model and reported the goodness-of-fit measures. Item loadings BP5, BP6, BP7 BP8 BP9 and BP10 were considered satisfactory with a value above .5 (Hair, et al., 2010). Nevertheless, item BP1, item BP2, item BP3 and item BP4 with a loading lower than .3 were justified to be removed. Hence, item BP1, item BP2, item BP3 and item BP4 were removed and the model was respecified.

The business performance construct measurement model was then respecified to accommodate the removed items and it was presented in Figure 5.11. As shown in Figure 5.11, all items were significant loading ($p < 0.001$) and were considered satisfactory with a value above 0.5 (Hair, et al., 2010). Nevertheless, the GFI value, TLI value and CFI value were all below the recommended value of 0.90 suggested that the fit was poor between the hypothesized model and the sample data. Moreover, RMSEA value of 0.257 together with a Bollen-Stine bootstrap p value of .000 suggested that the fit between the hypothesized model and the sample data might not be adequate (Byrne, 2010).

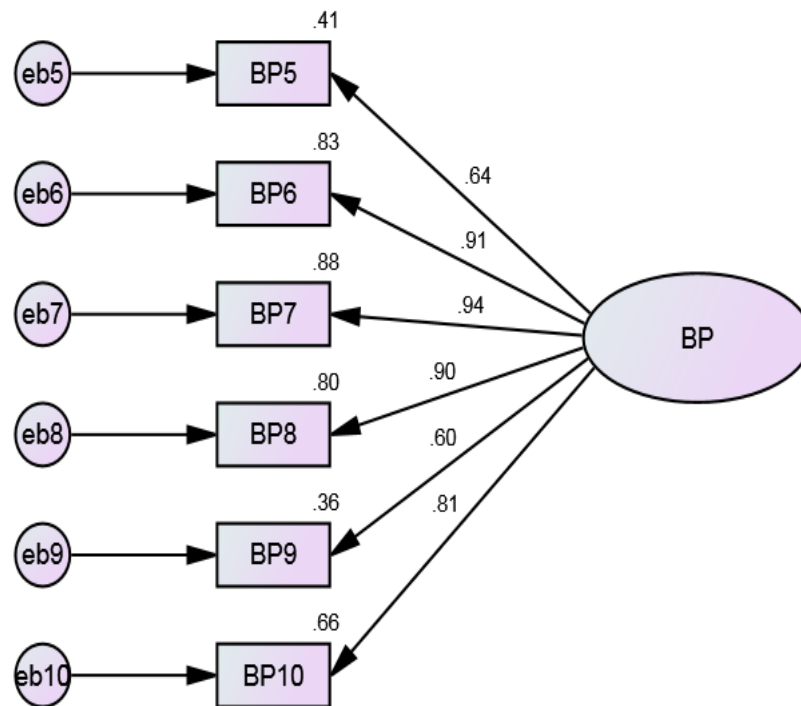


Business Performance CFA outcomes: Maximum Likelihood Standard Estimation

$X^2 = 225.691$ $p = 0.000$ Bollen Stine = 0.000 GFI=0.782 TLI=0.753 CFI=0.808

RMSEA=0.177

Figure 5.10 Initial Business Performance Measurement Model



Business Performance CFA outcomes: Maximum Likelihood Standard Estimation

$X^2 = 111.871$ $p = 0.000$ Bollen Stine = 0.000 GFI = 0.805 TLI = 0.806 CFI = 0.884

RMSEA = 0.257

Figure 5.11 Business Performance Measurement Model 2

Table 5.13 AMOS Output for Business Performance Construct Measurement Model 2: Modification Indices and Parameter Change Statistics

Covariances

			M.I.	Par Change
e5	<-->	e6	4.407	-.046
e4	<-->	e6	9.238	-.064
e4	<-->	e5	14.379	.041
e3	<-->	e5	4.641	-.028
e2	<-->	e6	14.740	.157
e2	<-->	e5	7.967	-.064
e2	<-->	e4	10.928	-.071
e1	<-->	e6	45.965	.196
e1	<-->	e4	16.267	-.060
e1	<-->	e2	28.326	.158

Variances

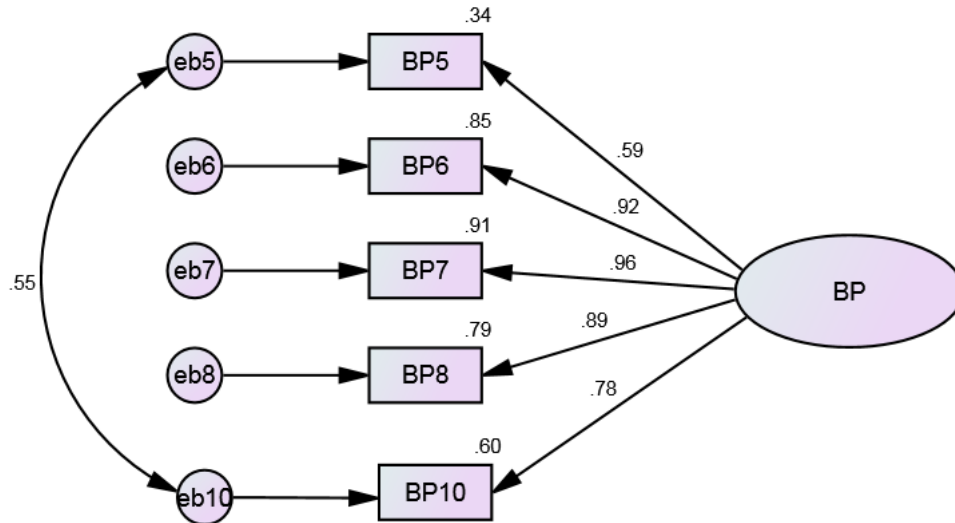
M.I. Par Change

Regression Weights

			M.I.	Par Change
BP5	<---	BP9	9.208	.182
BP5	<---	BP10	14.120	.240
BP6	<---	BP9	5.017	-.075
BP7	<---	BP5	5.403	-.073
BP7	<---	BP9	6.926	-.084
BP7	<---	BP10	5.268	-.078
BP9	<---	BP5	8.468	.178
BP9	<---	BP10	8.696	.194
BP10	<---	BP5	26.477	.223
BP10	<---	BP9	17.731	.184

Due to the lack of fit, AMOS output Modification Indexes (MI) and the standardized residuals were examined to guide the model specification (Byrne, 2010). According to the AMOS output in Table 5.13, the model fit would improve if I allow several within construct errors to co-vary. Therefore, I allowed the following errors to co-vary: BP5 and BP9, BP5 and BP10, and BP9 and BP10 based upon theoretical commonalities. It is important to point out that item BP9, item BP 5 and item BP 10 were all describing the growth of the business. To avoid redundancy, BP 9 which had the lowest factor loading as compared with BP 5 and BP 10 was removed (Kline, 2010). Finally, only BP 5 and BP 10 were allowed to co-vary. Illustratively, I allowed BP 5 and BP10 to co-vary because they both emphasized on the growth of the business (Von Buch, 2006).

The model was then respecified to accommodate co-vary within the construct errors. Resultantly, the measure displayed GFI value of 0.969, TLI value of 0.962, and CFI value of 0.985 were strongly indicative of moderate fit between the hypothesized model of perceived business performance and the sample data (Byrne, 2010). Figure 5.12 showed the final business performance measurement model and reported the goodness-of-fit measures.

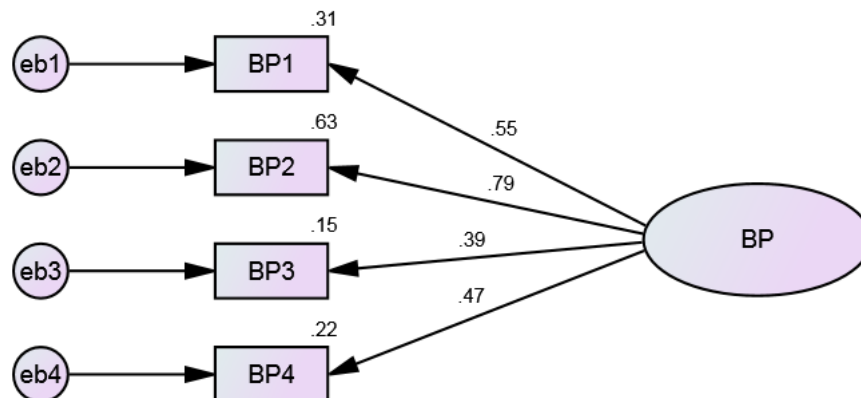


Business Performance CFA outcomes: Maximum Likelihood Standard Estimation
 $\chi^2 = 15.744$ $p = 0.003$ Bollen Stine = 0.002 GFI=0.969 TLI=0.962 CFI=0.985
 RMSEA=0.130

Figure 5.12 Final Business Performance Measurement Model

The removal items, item BP1, BP2, BP3 and BP4, were all family goal related items. Hence, they were checked to see if a scale can be formed. This was done by conducting CFA as shown in Figure 5.13.

Figure 5.13 presented the family goal related business performance measurement model and reported the goodness-of-fit measures. Item loadings BP1 and BP2 were considered satisfactory with a value above .5 (Hair, et al., 2010). Nevertheless, item BP3 and item BP4 with a loading lower than .5 were justified to be removed. With only two measuring items left, no scale can be formed.



Business Performance CFA outcomes: Maximum Likelihood Standard Estimation

$\chi^2 = 28.193$ $p = 0.000$ Bollen Stine = 0.000 GFI = 0.937 TLI = 0.267 CFI = 0.756

RMSEA = 0.321

Figure 5.13 Family goal related Business Performance Measurement Model

5.4.6. Family Influence

The family influence is the first CFA model designed to test the multidimensionality of a theoretical construct. Specifically, this model tested that family influence is a multidimensional construct composed of three factors – Power, Experience and Culture. Due to the necessity of dropping the power construct, a new family influence construct which comprised only experience and culture was proposed. It is presented schematically in Figure 5.14.

The theoretical underpinning of this model derived from the F-PEC scale developed by Astrachan et.al. (2002). This CFA model postulated a priori that Family

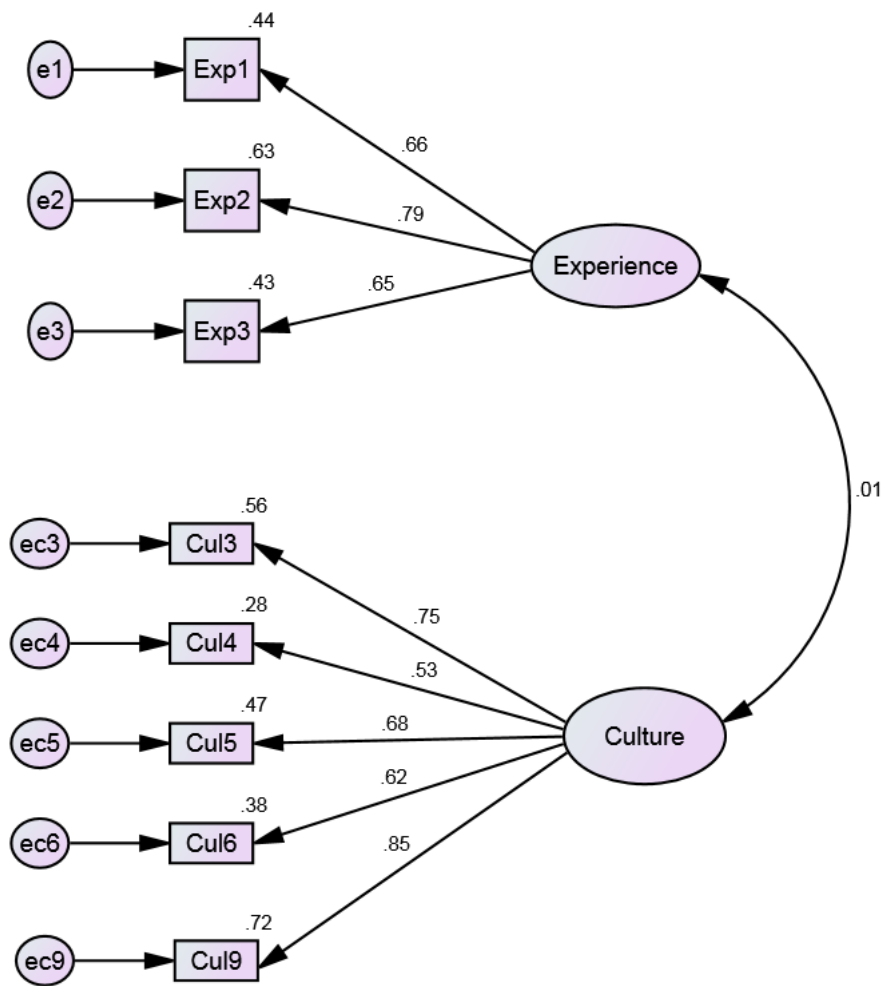
Influence could be explained by two factors: Experience and Culture. Each item-pair measure had a non-zero loading on the Family Influence factor that it was designed to measure (termed a target loading), and a zero loading on all other factors (termed nontarget loadings). The Family Influence model as depicted in Figure 5.14 yielded an X^2 value of 28.417, with 19 degree of freedom and a probability of 0.076, thereby suggesting that the fit of the data was just adequate. Nevertheless, Chi-square test affected by sample size and the normality of data. Thus, alternative measures of fit which less affected by sample size had to be examined before we justified the overall model fit.

All item loadings were considered satisfactory with a value above .5 (Hair, et al., 2010) except the correlation coefficient among experience and culture value at .01. The low value of correlation coefficient indicated that there was a negligible positive relationship between experience and culture. Furthermore, the non-correlation between Culture and Experience within the F-PEC scale, as shown in Figure 5.14, indicates the non-convergent validity between the two dimensions. This suggest that these two variables should be used independently (Alexander, 2003).

Overall, the constructs displayed adequate fit. The model measures displayed GFI value of 0.961, TLI value of 0.965, CFI value of 0.977 and RMSEA value of 0.054 together with a Bollen-Stine p value of 0.173 were strongly indicative of fit between the hypothesized model of family influence as a 2-factor structure and the sample data (Byrne, 2010). Interpretation of this finding, then, led me to conclude that the family influence CFA model fitted the sample data well.

Thus far, on the basis of the goodness-of-fit results, I could very well conclude that the Family Influence model fitted the sample data adequately. However, in the interest of completeness, and for didactic purpose, I conducted an analysis of the data to determine evidence of model misspecification.

The standardized residuals and the modification indices are two useful information that can be helpful in detecting model misspecification (Byrne, 2010). Standardized residuals represent “estimates of the number of standard deviations the observed residuals are from the zero residuals that would exist if model fit were perfect” (Byrne, 2010, p. 86). The acceptable values of standardized residual covariance is <2.58 . Values >2.58 are considered to be large (Byrne, 2010). In examining the standardized residual values presented in Table 5.14, none of the value exceeded the cut point of 2.58.



Family Influence CFA outcomes: Maximum Likelihood Standard Estimation

$\chi^2=28.417$ $p= 0.076$ Bollen Stine =0.173 GFI=0.961 TLI=0.965 CFI=0.977

RMSEA=0.054

Figure 5.14 Family Influence CFA Model: Experience and Culture

Table 5.14 AMOS Output for Family Influence CFA Model: Standardized Residual Covariances

	Cul 9	Cul 6	Exp1	Exp2	Exp3	Cul 3	Cul 4	Cul 5
Cul 9	.000							
Cul 6	.366	.000						
Exp 1	-.771	-.232	.000					
Exp 2	-.883	.629	.001	.000				
Exp 3	-.774	.399	.000	-.001	.000			
Cul 3	-.225	-.420	-.295	.452	.851	.000		
Cul 4	-.028	-1.194	.357	1.168	1.446	1.425	.000	
Cul 5	.048	.312	.360	.573	1.083	.110	-.933	.000

Modification Indices (MI) reflects the extent to which the evaluated model is appropriately described. The value of MI represents “the expected drop in overall X^2 value if the parameter were to be freely estimated in a subsequent run; all freely estimated parameters automatically have MI values equal to zero” (Byrne, 2010, p. 86). The Par Change associated with MI represents the predicted estimated change. It is important since it provides information regarding the “sensitivity of the valuation of fit to any reparameterization of the model”(Byrne, 2010). As shown in Table 5.15, no value under the heading “variances” was fixed on 0.0. Thus, all parameters representing variances (factors and measurement errors) were freely estimated. In reviewing the parameters in the covariance section, no parameter representing the covariance between items appeared to of any interest. Hence, I concluded that no further model respecification was needed.

After working my way through the process involved in evaluating the fit of the Family Influence CFA model, I pooled all the information gleaned from the AMOS output. Taking into account (1) the feasibility and statistical significance of all parameter estimates; (2) the substantially good fit of the model, with particular reference to CFI (0.977) and RMSEA (0.054) values; and (3) the lack of any substantial evidence of model misfit, I concluded that any further incorporation of parameters into the model would result in an over fitted model. Adhering to Maccallum, Roznowski, and Necowitz's caveat "when an initial model fits well, it is probably unwise to modify it to achieve even better fit because modifications may simply be fitting small idiosyncratic characteristics of the sample" (1992, p. 501). Hence, I concluded that the two-factor model schematically portrayed in Figure 5.14 represented an adequate description of family influence.

Table 5.15 AMOS Output for Family Influence CFA Model: Modification Indices and Parameter Change Statistics

			M.I.	Par Change
Covariances				
e13	<-->	Experience	5.838	-.124
e4	<-->	e11	4.090	-.065
e4	<-->	e5	9.552	.105
Variances				
			M.I.	Par Change
Regression Weights: (Group number 1 - Family Influence model)				
Cul9	<---	Experience	5.838	-.128
Cul9	<---	Exp2	4.951	-.074
Cul9	<---	Exp3	6.055	-.075
Cul3	<---	Cul4	6.595	.140

5.4.7. Final Model Variables

Based upon the CFA results, four factors were included in the final path analysis. The variables, number of items per construct, and alpha reliabilities were presented in Table 5.16. The Cronbach's alpha coefficients for all components score were in the range of 0.742 to 0.919. All constructs displayed significant loading >0.50 and reliabilities of 0.60 or greater, indicating convergent validity.

Table 5.16: Reliability Analysis for Final Scale

Dimensions	reliability		
	Items	Item total correlation	Cronbach alpha
Experience	Exp1	.548	0.742
	Exp2	.617	
	Exp3	.543	
	EXP		
Culture	Cul3	.693	0.812
	Cul4	.465	
	Cul5	.594	
	Cul6	.529	
	Cul9	.738	
	CUL		
Innovation	Inn1	.776	0.901
	Inn2	.469	
	Inn4	.804	
	Inn5	.735	
	Inn6	.793	
	Inn7	.801	
	INN		
	BP		
Business performance	BP5	.676	0.919
	BP6	.810	
	BP7	.829	
	BP8	.831	
	BP10	.636	
	BP		

Four variables (experience, culture, innovation and business performance) were included in the final path analysis. Business performance is the dependent variable while experience, culture and innovation are the independent variables. To assess the convergent validity and discriminant validity of the independent variables, Maximum Shared Squared Variance (MSV), Average Shared Squared Variance (ASV) and Average Variance Extracted (AVE) were utilized (Hair, et al., 2010). The Composite Reliability (CR) is examined for assessing the reliability.

Based on Hair, et al. (2010), the reliability is established if the CR is greater than 0.70. Convergent Validity is established if the AVE for each construct exceeds 0.50 or less than CR. Discriminant validity is evidenced when the value of Maximum Shared Squared Variance (MSV) and the value of Average Shared Squared Variance (ASV) are lower than Average Variance Extracted (AVE). The results of the computed CR, AVE, MSV and ASV for experience, culture and innovation were displayed in Table 5.17.

Reliability is the “extent to which a scale produces consistent results if repeated measurements are made” (Malhotra, 2010, p. 318). As shown in Table 5.17, all the constructs’ CR are above the threshold of 0.7 as recommended by Hair, et al. (2010).

Convergent validity is the “extent to which instruments designed to measure the same constructs are related to each other” (Malhotra, 2010, p. 321). As shown in Table 5.17, the values of AVE for experience and culture were slightly lower than 0.5. It might indicate that the variance due to measurement error was larger than the variance captured by the construct, and the validity of the individual indicator, as well as the construct, was questionable. It is highly indicative that the F-PEC scale is inadequate. Nevertheless, all the constructs’ CRs were higher than 0.7 and this could be considered

as an indicator of good convergent validity (Hair, et al., 2010). Moreover, all the constructs' CRs were higher than AVE which fulfill the recommended threshold (Hair, et al., 2010). Hence, I concluded these results suggested acceptable convergent validity for the study measures.

Discriminant validity is the extent to which measures of the constructs are distinct from each other (Hair, et al., 2010). As shown, the value of both MSV and ASV were lower than the value of AVE. Thus, I could conclude that discriminant validity was evidenced.

To sum up, these measurement model results were satisfactory. Thus, it was suitable to proceed with the evaluation of the structural model.

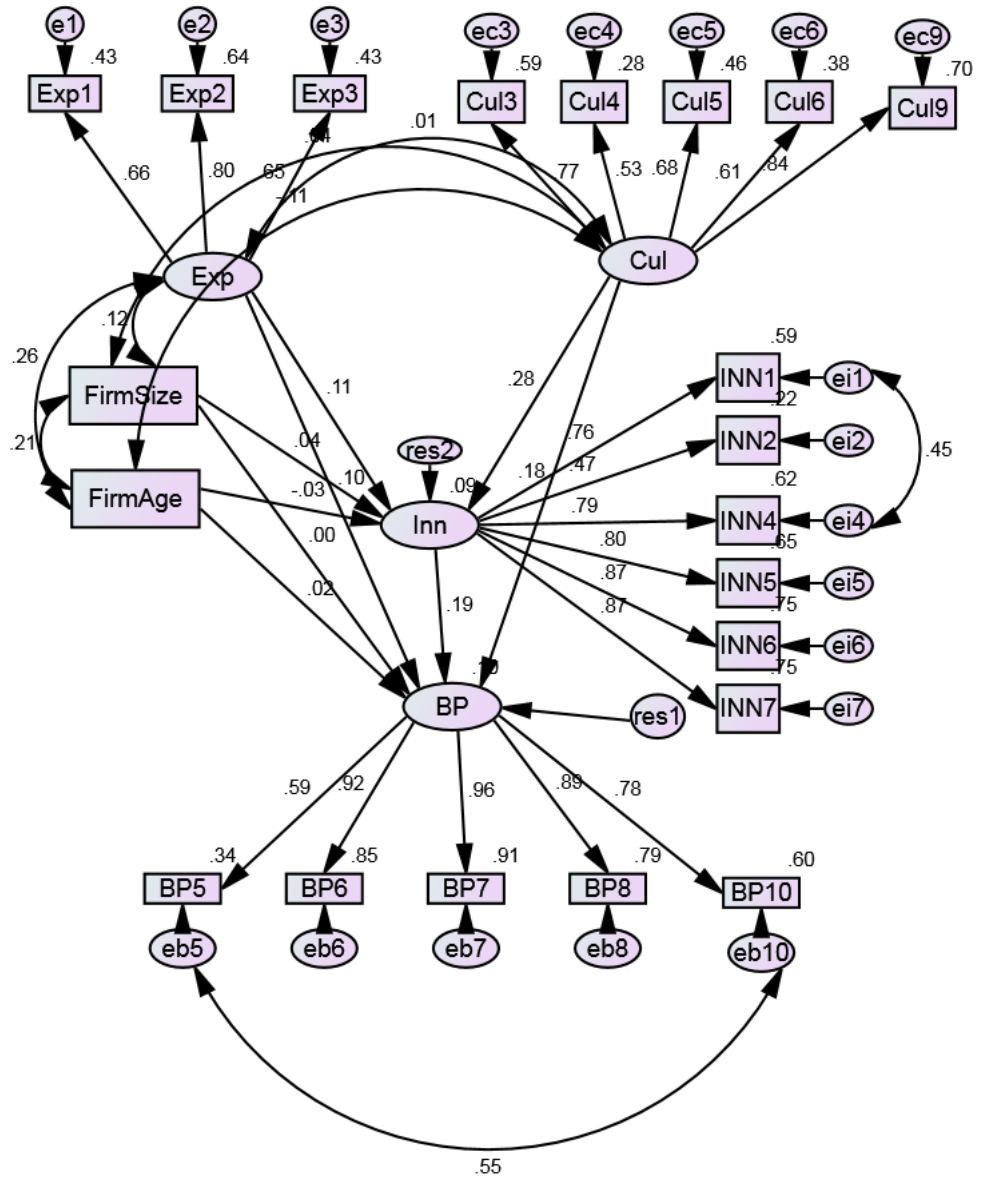
Table 5.17 Validity and Reliability Index Values

	CR	AVE	MSV	ASV	Experience	Culture	Innovation
Experience	0.747	0.499	0.012	0.006	0.706		
Culture	0.820	0.482	0.081	0.040	0.008	0.695	
Innovation	0.896	0.597	0.081	0.046	0.109	0.284	0.773

5.5. Hypothesized Model

Based on the CFA's conducted, all four variables displayed reliability, convergent and discriminant validity; and therefore, will be utilized in the structural model. As evidence by the extant literature, a hypothesized model (Figure 5.15) that included family influence, innovation and business performance has been formed. The intent of this model was to validate a causal structure involving the impact of family influence and innovation on family business performance. In addition, the model was run to examine the impact of the following control variables on innovation and business performance: firm age and firm size. These variables were included to explore whether any of the hypothesized relationship would change in magnitude or strength. This was assessed by examining the global fit of the model to the data and the parameter estimates.

The hypothesized model in Figure 5.15 displayed GFI value of 0.899, CFI value of 0.979, TLI value 0.975 and RMSEA value of 0.036, together with a Bollen-Stine bootstrap p value of 0.199 were strongly indicative of fit between the hypothesized model and the sample data (Byrne, 2010). Thus far, on the basis of the goodness-of-fit results, I could very well conclude that the hypothesize model fitted the sample data well. However, in the interest of completeness, and for didactic purpose, I conducted an analysis of the data to determine evidence of model misspecification.



Standardized Solution Shown and All Exogenous factors allowed to co-vary

$\chi^2 = 213.463$ $p = 0.022$ Bollen Stine = 0.199 GFI= 0.899 TLI= 0.975 CFI= 0.979

RMSEA= 0.036

Figure 5.15 Hypothesized Model

The standardized residuals and the modification indices are two useful information that can be helpful in detecting model misspecification (Byrne, 2010). The standardized residuals and the modification indices were examined to detect model misspecification (Byrne, 2010). The acceptable values of standardized residual covariance is <2.58 (Byrne, 2010, p. 86). In examining the standardized residual values presented in Table 5.18, no value that exceeded the cut point of 2.58 was found. From this information, I could conclude that there was no statistically significant discrepancy lay within the variables.

As shown in Table 5.19, no value under the heading “variances” was fixed on 0. Thus, all parameters representing variances (factors and measurement errors) were freely estimated. In reviewing the parameters in the covariance section, none of the parameter was significant enough to require co-varying. Hence, I concluded that no further model respecification was needed.

After working my way through the process involved in evaluating the fit of the hypothesized models, I pooled all the information gleaned from the AMOS output. Taking into account (1) the feasibility and statistical significance of all parameter estimates; (2) the substantially good fit of the model, with particular reference to CFI (0.979) and RMSEA (0.036) values; and (3) the lack of any substantial evidence of model misfit, I concluded that any further incorporation of parameters into the model would result in an over fitted model. Hence, I concluded that the hypothesized model schematically portrayed in Figure 5.15 represented an adequate description of the causal structure involving the impact of family influence and innovation on business performance.

Table 5.18 AMOS Output for Hypothesized Model : Standardized Residual Covariance

	FirmAge	FirmSize	Cul9	Cul6	BP10	BP8	BP7	BP6	BP5	INN1	INN2	INN4	INN5	INN6	INN7	Exp1	Exp2	Exp3	Cul3	Cul4	Cul5	
FirmAge	.000																					
FirmSize	.000	.000																				
Cul9	.260	.582	.000																			
Cul6	.664	-1.355	.482	.000																		
BP10	.451	1.016	-.717	-.558	.000																	
BP8	.433	-.128	-.358	.018	.526	.000																
BP7	.170	-.154	-.571	-.437	-.307	.038	.000															
BP6	-.739	.038	-.841	-1.187	.147	-.242	.073	.000														
BP5	-.634	.583	-1.532	-1.303	.000	.416	-.142	-.024	.000													
INN1	-.656	-.620	-.968	.103	.709	-.141	-.307	-.320	.387	.000												
INN2	-1.044	-.068	-1.381	.152	2.166	.728	.686	.990	2.396	.941	.000											
INN4	-.979	-.429	.591	1.490	1.147	.563	.406	.057	.602	.000	1.346	.000										
INN5	-.500	-.059	-.319	.650	.223	.352	-.525	-.130	-.583	-.385	-.347	-.129	.000									
INN6	-.161	-.308	.684	.536	.231	-.385	-.408	-.190	-.604	.057	-.584	-.041	.148	.000								
INN7	1.306	.751	-.727	.702	.668	.370	-.016	.191	-.157	.103	-.050	-.163	.108	-.019	.000							
Exp1	-.284	-.297	-.800	-.253	1.609	.729	.172	-.474	.971	-.416	-.808	-.117	-1.179	-1.040	-.019	.000						
Exp2	.568	.050	-.920	.602	-.265	-.341	-.603	-1.555	-.661	-.513	-.754	.152	-.769	-.645	.874	.009	.000					
Exp3	-.869	.199	-.803	.378	1.817	1.445	1.522	.805	1.271	.446	-.127	.898	1.210	.605	1.276	.099	-.056	.000				
Cul3	-.411	-.404	-.279	-.477	1.777	1.186	1.458	1.259	.612	-.047	-.708	.869	-.110	1.112	.107	-.322	.417	.823	.000			
Cul4	-.081	.649	-.029	-1.205	1.468	.931	.362	-.006	.557	-.250	.294	.365	.130	-.460	-.286	.338	1.144	1.427	1.276	.000		
Cul5	-.465	-.071	.154	.381	-.272	-.032	-.328	-.886	-.513	-1.351	-1.991	.207	-.418	-.137	-1.159	.336	.543	1.059	.031	.957	.000	

Table 5.19 AMOS output for Hypothesized Model: Modification Indices and parameter change Statistics

Covariances			M.I.	Par Change
e24	<-->	Experience	7.680	-.137
e22	<-->	FirmSize	5.106	-.058
e20	<-->	e21	4.089	.031
e19	<-->	e21	7.670	-.034
e18	<-->	FirmAge	4.339	-.687
e18	<-->	Experience	4.433	-.067
e18	<-->	e20	4.514	-.027
e16	<-->	culture	4.158	-.058
e14	<-->	culture	4.448	.055
e14	<-->	e15	4.716	.062
e11	<-->	FirmAge	4.844	1.112
e5	<-->	res1	7.003	.063
e4	<-->	e22	4.162	-.066
e4	<-->	e5	8.336	.096
Variances			M.I.	Par Change
Regression Weights				
			M.I.	Par Change
Cul9	<---	Experience	5.228	-.122
Cul9	<---	BP10	4.511	-.113
Cul9	<---	BP5	4.903	-.110
Cul9	<---	Exp2	4.452	-.070
Cul9	<---	Exp3	6.776	-.079
BP10	<---	Exp1	4.434	.050
BP6	<---	FirmAge	4.789	-.005
BP6	<---	Experience	6.551	-.087
BP6	<---	Exp1	4.041	-.040

Table 5.19 Continue

Table 5.19 Continue

			M.I.	Par Change
BP6	<---	Exp2	5.837	-.051
INN1	<---	culture	4.313	-.187
INN1	<---	Cul9	4.511	-.112
INN1	<---	Cul5	4.472	-.120
INN2	<---	BP10	4.533	.126
INN2	<---	BP5	7.950	.155
INN4	<---	culture	5.142	.187
INN4	<---	Cul9	4.418	.101
INN4	<---	Cul6	4.525	.132
INN4	<---	Cul5	4.486	.110
INN6	<---	Cul9	4.143	.110
INN7	<---	FirmAge	9.477	.011
INN7	<---	Experience	5.455	.122
INN7	<---	Exp2	5.828	.079
Exp2	<---	BP10	4.070	-.191
Exp2	<---	BP6	4.364	-.198
Exp3	<---	BP	4.325	.373
Exp3	<---	BP7	4.353	.224
Exp3	<---	INN5	4.617	.204
Cul3	<---	BP	6.610	.220
Cul3	<---	BP10	7.837	.148
Cul3	<---	BP7	6.225	.128
Cul3	<---	BP6	7.081	.141
Cul3	<---	Cul4	5.708	.128

The hypothesized model in Figure 5.15 achieved adequate fit. Next, I examined the path coefficients, critical ratio, p-values, and bootstrap confidence intervals to determine path significance and mediation relationship. Maximum likelihood estimates and bootstrap confidence intervals were displayed in Table 5.20. The analysis revealed that three paths were significant. The path from Culture to Innovation, Innovation to Business Performance and FirmSize to Business Performance were significant.

Based on the findings in Table 5.20, innovation appeared to play critical roles in business performance ($p=0.028$). Experience was found not significant related to either business performance or innovation, as conceptualized in chapter 2. Furthermore, the results indicated that culture had significant direct effect to innovation ($p=0.001$) and the direct path between firm size and business performance was significant ($p=.045$). Finally, the direct path between firm age and innovation, firm age and business performance, and firm size and innovation were all non-significant.

Although the direct path from firm size to business performance was significant, the removal of this path revealed that no significant impact on other paths and previous significant relationship remained unchanged. Nevertheless, attention should be on the inclusive of firm size in the model. The inclusive of firm size in the model had slight impact on the regression weight of experience to business performance but the effect was not statistically significant and previous significant relationship remained unchanged.

Table 5.20 .95 Bias-Corrected Bootstrapping Confidence Intervals

Regression Path		Maximum Likelihood Estimates	Regression Weight Lower Bound	Regression Weight upper Bound	S.E	C.R.	P
Innovation	<--- Experience	.096	-.086	.254	.084	1.135	.291
Innovation	<--- culture	.431	.149	.806	.139	3.099	.001
Innovation	<--- FirmSize	.060	-.163	.293	.117	.510	.579
Innovation	<--- FirmAge	-.002	-.015	.009	.006	-.393	.678
BP	<--- Experience	.044	-.083	.154	.050	.879	.425
BP	<--- Innovation	.114	.014	.231	.052	2.200	.028
BP	<--- culture	.153	-.056	.333	.084	1.808	.133
BP	<--- FirmSize	.134	.005	.284	.070	1.912	.045
BP	<--- FirmAge	-.001	-.009	.005	.004	-.325	.713
Cul5	<--- culture	1.000	1.000	1.000			...
Cul4	<--- culture	.799	.518	1.131	.128	6.226	.001
Cul3	<--- culture	1.111	.860	1.490	.131	8.496	.001
Exp3	<--- Experience	1.000	1.000	1.000			...
Exp2	<--- Experience	1.133	.791	1.822	.174	6.496	.001
Exp1	<--- Experience	.984	.728	1.318	.151	6.494	.001
INN7	<--- Innovation	1.000	1.000	1.000			...
INN6	<--- Innovation	1.077	.948	1.218	.073	14.693	.001
INN5	<--- Innovation	.909	.798	1.025	.070	13.016	.001
INN4	<--- Innovation	.891	.765	1.024	.071	12.573	.001
INN2	<--- Innovation	.396	.272	.518	.062	6.365	.001
BP6	<--- BP	1.456	1.179	1.906	.164	8.876	.001
BP7	<--- BP	1.563	1.275	2.032	.173	9.033	.001
BP8	<--- BP	1.430	1.165	1.894	.165	8.693	.001
BP5	<--- BP	1.000	1.000	1.000			...
BP10	<--- BP	1.234	1.056	1.498	.111	11.107	.001
Cul9	<--- culture	1.330	1.080	1.675	.148	8.987	.001
Cul6	<--- culture	.750	.556	.986	.106	7.062	.001
INN1	<--- Innovation	.909	.794	1.042	.076	11.946	.001

In section 3.6 and section 4.4.4.4, firm size and firm age were the two control variables included in this study. By controlling for firm size and firm age when testing models, it was assured that the significance of the relationship between experience, culture, innovation and business performance was due to the intended variables and not these factors. However, the Hypothesized Model in Figure 5.15 revealed that overall the influence of experience and culture on innovation and business performance were fairly uniform across size and ages. These variables were not affected by firm size and firm age. In conclusion, the results revealed that firm size and firm age were control variables with no effect. This is an important finding to contribute to understanding the relationship between experience, culture, innovation and business performance.

5.6. Hypotheses Testing

Based upon the finding of hypothesized model (Figure 5.15), further analysis could aid in unpacking the multifaceted relationship between culture, innovation and business performance. To examine the multivariate relationships depicted in Figure 5.15, I examined the path coefficients, critical ratio, p-values, and bootstrap confidence intervals to determine path significance and possibly mediation relationship. Maximum likelihood estimates and bootstrap confidence intervals were displayed in Table 5.20. The analysis revealed that two paths in the Hypothesized Model (Figure 5.15) were significant. The path from Culture to Innovation was significant ($p = 0.001$) with a path coefficient of 0.28 and the path from Innovation to Business Performance was significant ($p = 0.028$) with a path coefficient of 0.19. Hence, hypothesis 3 and hypothesis 10 were supported.

The Hypothesized Model in Figure 5.15 indicated that innovation possibly mediate relationship between family influence and business performance. According to Baron and Kenny (1986), mediation occurred when the following three conditions were met:

- I. The independent variable (IV) is significantly related to the mediator variable,
- II. The mediator is significantly related to the dependent variable (DV),
- III. The relationship of IV and DV decrease when the mediator variable is included in the model.

Also, Baron and Kenny insisted that there must be a direct significant effect among the IV and DV for mediation to be considered. Nevertheless, recent researches debated that this direct relationship among the IV and DV is not necessary existed to establish mediation (e.g.Kenny, Korchmaros, & Bolger, 2003; e.g.MacKinnon & Fairchild, 2009). In fact, Zhao, Lynch, and Chen (2010) argued that “ There need not be a significant zero-order effect on X to Y ... to establish mediation”(p. 3). Nonetheless, I followed the Baron and Kenny approach in testing the significance of mediation. The estimate path of coefficients in AMOS 20.0 coupled with bootstrap confidence intervals were examined for the significant direct and indirect effect of the IV and DV. I discussed mediation in terms of direct and indirect effects since majority of the Structural Equation Modeling scholars (e.g. Bagozzi & Yi, 2012; Maccallum, et al., 1992) couch the term mediation as indirect and direct effects.

As Table 5.21 has shown, the mean direct effect of the bootstrap analysis indicated that the direct effect between culture (Cul) and innovation (Inn) as well as innovation (Inn) and business performance (BP) were significant with a .95 bias-corrected bootstrapping confidence intervals that did not include zero and demonstrated significance at $p < 0.05$. Therefore, a direct significant effect between the culture (Cul) and innovation (Inn) as well as Innovation (Inn) and business performance (BP) for mediation was established.

Table 5.21 .95 Bias-Corrected Bootstrapping Confidence Intervals for Direct Effect

Regression Path	Regression Weight Lower Bound	Regression Weight upper Bound	Two Tailed Significance
Inn<--- Exp	-.087	.274	.288
Inn<--- Cul	.107	.466	.001*
BP<--- Exp	-.129	.263	.437
BP<--- Cul	-.051	.340	.147
BP<--- Inn	.019	.358	.033*

To further examine the significance of the indirect mediated relationship, 95% bias-corrected bootstrapping confidence intervals and the associated two tailed significance values were examined (Table 5.22). The 95% bias-corrected bootstrapping confidence intervals for culture (Cul) and business performance (BP) (0.012) did not include zero and demonstrated significance; hence indicating a significant indirect relationship.

These findings indicated that the relationship between culture (Cul) and business performance (BP) was completely mediated by innovation since the direct effect between culture (Cul) and business performance (BP) was insignificant (0.147) and the indirect effect was significant (0.012). As evidence, culture (Cul) and innovation (Inn) together would have a positive relationship to business performance. Hence hypothesis 9 was supported.

Table 5.22 .95 Bias-Corrected Bootstrapping Confidence Intervals for Indirect Effect

Regression Path	Regression Weight Lower Bound	Regression Weight upper Bound	Two Tailed Significance
Inn<--- Exp	.000	.000	...
Inn<--- Cul	.000	.000	...
BP<--- Exp	-.008	.077	.153
BP<--- Cul	.010	.132	.012*
BP<--- Inn	.000	.000	...

Table 5.23 showed the results of the hypotheses testing using the SEM. The findings supported hypotheses H3, H9, and H10, as evidence by the path coefficients, critical ratio, p-values, and bootstrap confidence intervals presented.

Figure 5.16 shows the findings relating to the research concerning the relationship between experience, culture, innovation and business performance.

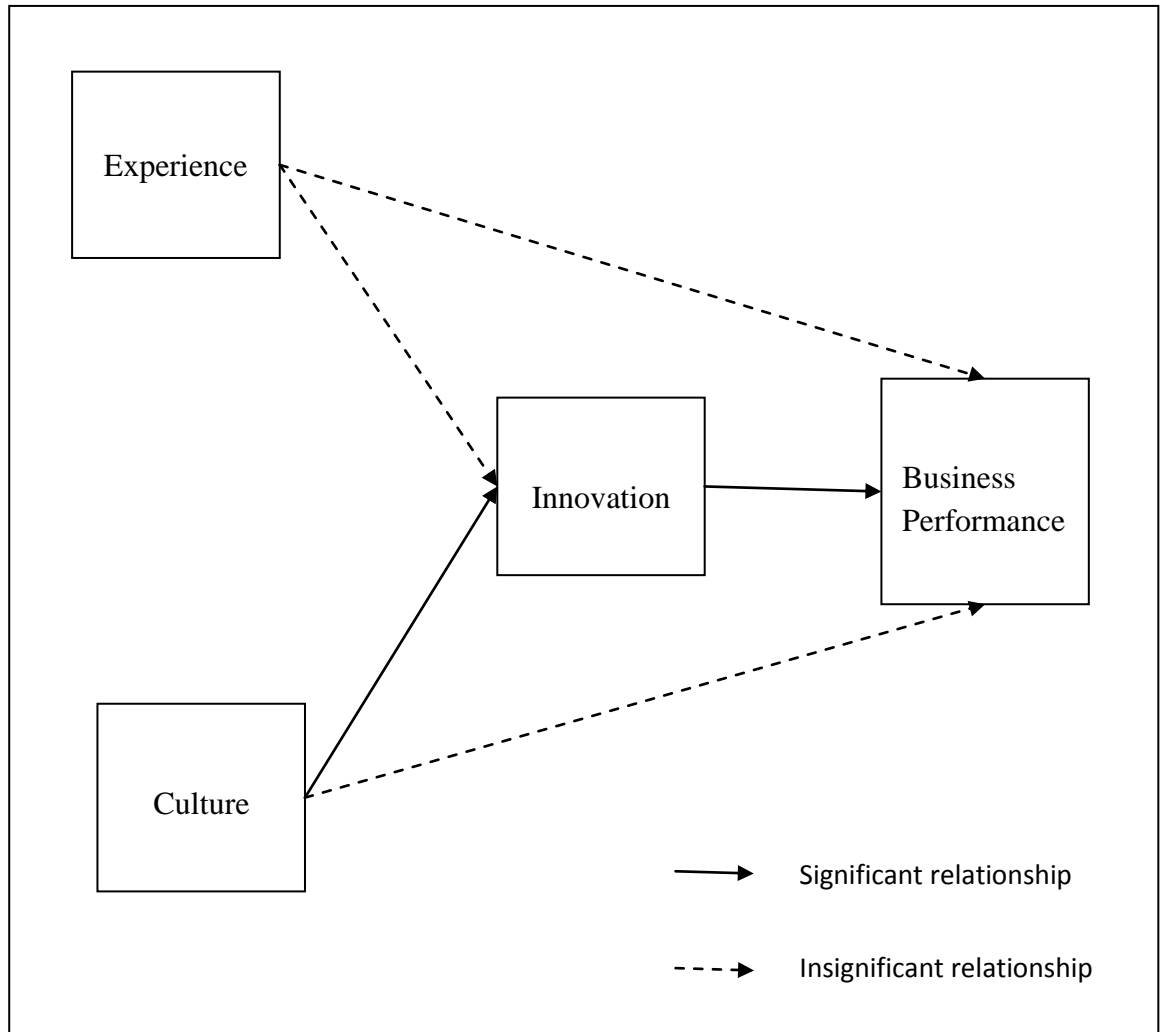


Figure 5.16 Experience, Culture, Innovation and Business Performance

Table 5.23: Results of The Hypotheses Testing Using The Structural Equation Modeling

Hypothesis	Relationship	Empirical conclusions
<p>H1: The extent of the family's influence on the power affects the extent of the innovation in the business.</p>	Pow → Inn	Not tested
<p>H2: The extent of the family influence on the experience affects the extent of the innovation in the business.</p>	Exp → Inn	Not supported
<p>H3: The extent of the family influence on the culture affects the extent of the innovation in the business.</p>	Cul → Inn	Supported
<p>H4: The extent of the family's influence on the power affects the extent of the performance in the business.</p>	Pow → BP	Not tested

Table 5.23 continue

Table 5.23 continue

Hypothesis	Relationship	Empirical conclusions
H5: The extent of the family influence on the experience affects the extent of the performance in the business.	$\text{Exp} \rightarrow \text{BP}$	Not supported
H6: The extent of the family influence on the culture affects the extent of the performance in the business.	$\text{Cul} \rightarrow \text{BP}$	Not supported
H7: The influence of power on business performance is mediated by innovation.	$\text{Pow} * \text{Inn} \rightarrow \text{BP}$	Not tested
H8: The influence of experience on business performance is mediated by innovation.	$\text{Exp} * \text{Inn} \rightarrow \text{BP}$	Not supported
H9: The influence of culture on business performance is mediated by innovation.	$\text{Cul} * \text{Inn} \rightarrow \text{BP}$	Supported
H10: The influence of innovation on business performance is positive.	$\text{Inn} \rightarrow \text{BP}$	Supported

5.7. Chapter Summary

This chapter reported the findings of this study. It presented the preliminary data screening, CFA, hypothesized model and hypothesis testing which were used for analytical purposes. The descriptive statistics for the participating companies showed that majority of the companies were owned by the first generation. The mean of market capitalization was RM556.83million and the mean number of family employee was six.

CFAs were conducted to identify potentially problematic items and to assess the discriminant and convergent validity. All constructs were tested for validity and were proven to process validity in all tested aspects. Hypothesized model was used to test the validity of the overall model and the relationship between variables hypothesized in the model.

Analysis of the hypothesized model supported three out of the ten hypotheses. Hypotheses 3, 9 and 10 were supported. These findings indicated that not all dimensions in F-PEC scale were statistically significant related with innovation. Moreover, these findings indicated that none of the dimensions in F-PEC scale was statistically significant related with business performance. Hypothesis 1, 4 and 7 were not included in the hypothesis testing section due to measurement problems. The Cronbach's alpha for the multi-item scale power was below 0.6. Therefore, the inclusion of this variable could not be justified. The subsequent chapter discusses and analyses the findings of this study.

CHAPTER SIX

DISCUSSION, CONCLUSION AND RECOMMENDATIONS FOR FUTURE STUDIES

6.1. Introduction

This chapter comprises a discussion of the results of the survey presented in chapter five and a final conclusion of the study. Moreover a summary of the flows and linkage between the research problem, research questions, and research objectives are presented to provide a broad perspective and linkage of the study. The data reported were from 174 family business directors. The data were analyzed with SPSS 20.0 and Amos 20.0, utilizing structural equation modeling (SEM). The research questions posed at the beginning of the research process are revisited and the relevant answers according to the findings are discussed. The discussion specified the theoretical contributions as well as the practical implications of the finding of this research. Furthermore, this chapter discusses the limitation encountered during the research process, and presents recommendations for future research.

This chapter consists of eight sections including this introduction. In section 6.2, an overview of the research is provided. Section 6.3 discusses the key research findings in this study. Section 6.4 and section 6.5 outline the theoretical contributions and practical implications of this study based on the results respectively. Next, section 6.6 discusses the limitations encountered during the research process. Then, section 6.7 presents recommendations for future research. Finally, section 6.8 presents the concluding remarks of the research.

6.2. Research Overview

The main objective of this research was to test the hypothesized relationships between family influence, as measured through F-PEC scale, on innovation and family business performance. This section revisits the research questions posed at chapter one and provides the answers with explanations according to the finding presented in chapter five. During the process of designing this research, four research questions were formulated. The four research questions which have been used to guide the research process are:

RQ1. What is the extent of family influence on innovation?

RQ2. What is the extent of family influence on business performance?

RQ3. What is the role of innovation on the relationship between family influence and business performance?

RQ4. What is the relationship between innovation and business performance?

Four main phases of research design have been conducted to answer these four research questions. First, an extensive literature review that dealt with family business and innovation was performed. The importance of innovation in driving organizational performance is emphasized. Theories of family business were reviewed: system theory, agency theory in the context of family business, stewardship theory and resource based view. The present study was designed on the basis of system theory and resource based view. The system theory assumes that family business is involved in a system composed of three major parts – the family, the management and the ownership (Tagiuri & Davis,

1996). It describes the family business system as three independent but overlapping subsystems (Distelberg & Sorenson, 2009). Furthermore, it assumes that the involvement and pattern of family influences vary from business to business. In this study, family influence was operationalized using the family influence on power, experience and culture (F-PEC) scale. In the resource based view literature, it is important to manage and maintain family influence in order for family businesses to sustain their growth and prosperity for longer period of time (Habbershon & Williams, 1999). Agency theory together with stewardship theory provided a more comprehensive view of the family business (Donaldson & Davis, 1991).

Review of the existing literature led to the conclusion that there is a lack of research that specifically looks into the relationship between family influence, as measured through F-PEC scale, innovation and business performance. In general, there has been recognition of the importance of innovation to the long term commercial survival of any business (Drucker, 2007a). Yet there has been little exploration of the role of innovation in family business as well as the relationship to the performance of family businesses, taking financial as well as specific family goal performance measures into account.

Second, based on the literature, this study developed a theoretical framework that depicted relationship among family influence, as measured through F-PEC scale, innovation and business performance. It looked at the direct relationship of family influence and innovation as well as the direct relationship of family influence and business performance. It also analyzed the mediating role of innovation on the family influence - business performance relationship. Further, the study looked at innovation

and its direct effect on business performance. Finally, it also investigated how family influence and innovation combined affected the level of business performance.

Third, a questionnaire was developed to collect the primary data necessary to test the proposed model. Items and scales that had been utilized and validated by researchers in previous questionnaires and studies were used. The scales used in the questionnaire survey have been empirically tested for stability and validity. Then, the questionnaires were pre-tested on 15 public listed companies in Malaysia. A total of 10 usable responses were collected.

Finally, the data were analyzed with SPSS 20.0 and Amos 20.0, utilizing SEM. Before conducting the SEM statistical analysis the data were prepared by coding, editing and cleaning using SPSS 20.0. SPSS was used in the pilot test to verify the reliability of the pilot test and to assess data normality in final study. It was also used to produce the results of descriptive statistics and tests of difference (independent sample t-test) to check for response bias. Then, Amos 20.0 utilizing SEM was used to investigate the hypothesized relationships between family influence, innovation and business performance.

The sample size of this study (N=174) was small and non-normal. Therefore, Anderson and Gerbing's (1988) two steps approach was taken to confirm the validity of the proposed factor structures and the Bollen Stine p value test were examined for overall model fit with non-normal data. The first stage of the process employed Confirmatory Factor Analysis's (CFA) to identify potentially problematic items and to assess the unidimensionality, discriminant and convergent validity. It is important to note that this method significantly reduced the number of parameters required, thereby

enabling statistical rigor. All constructs were tested for validity and were proven to process validity in all tested aspects. The initial CFA's results provided evidence that only culture and innovation appeared to play critical role in business performance. Moreover, experience was not found to be directly related to business performance, as conceptualized in chapter 2. Based on the CFA's findings, the second stage of the process employed Exploratory Factor Analysis (EFA) to gain further insights into the causal structure linking the impact of family influence and innovation on family business performance. EFAs were used to test the validity of the overall model and the relationship between variables hypothesized in the model.

The final SEM structural model indicated that culture, rather than experience, was the most important asset deriving from family influence and could, in fact, create a distinct advantage for family businesses. These findings were of no surprise since public listed family businesses are under market scrutiny and have to be accountable to the public. These specific background and characters of the public listed companies might downplay the level of family influence through experience, thereby influencing the level of innovation and business performance.

The results indicated that culture did not affect business performance in a direct manner but in an indirect manner via innovation. Innovation was significantly related to business performance and positively mediated the culture-business performance. Furthermore, culture and innovation together would have a positive relationship to business performance. This indicated that management should foster a strong culture among family members who are involved in the business in order to enhance both business innovation and performance.

6.3. Discussion of Key Research Findings

The discussion in this section is based on the linkage between the research questions, hypotheses and findings of this study. The hypotheses and research questions are listed for convenience to connect the two with discussion. Originally, the study had four research questions with ten hypotheses. However, the power subscale showed low levels of reliability and was dropped from this study. It is important to note that Hypothesis 1, 4, and 7 were not addressed due to measurement issues of power. Hypothesis 1 predicted that power has direct effect on innovation while Hypothesis 4 predicted that power has direct effect on business performance. Hypothesis 7 predicted that the influence of power on business performance is mediated by innovation. Thus, the study had a total of four research questions and 7 testable hypotheses.

Although pilot test indicated that the measurement scale for power achieved acceptable reliability and validity, the reliability and validity of final study did not meet the acceptable level. This is because the power subscale suffered from high missing data. Questions about ownership distribution, governance and management boards were unanswered by some respondents. The respondents' secretive attitude behavior when talking about family business members and family financial issues are expected and in line with the previous studies (Alexander, 2003; Dyer, et al., 2009). Indeed, business families in Malaysia have a tendency to keep the identities of shareholders hidden behind holding companies. With high missing data and low Cronbach's alpha indicated that there is low consistency in measurement terms; therefore, statistical hypothesis could not be justified. In line with Alexander's (2003) study that power, experience and culture need to be used independently in this study.

6.3.1. RQ1. What is the extent of family influence on innovation?

The first research question of this study is to examine the extent of family influence on innovation. There are three dimensions in family influence: power, experience and culture. It was hypothesized that:

Hypothesis 1: The extent of the family's influence on the power affects the extent of the innovation in the business.

Hypothesis 2: The extent of the family influence on the experience affects the extent of the innovation in the business.

Hypothesis 3: The extent of the family influence on the culture affects the extent of the innovation in the business.

The findings show that Hypothesis 2 was not supported while Hypothesis 3 was supported. It is important to note that Hypothesis 1 was dropped due to measurement issues. These findings suggest that the number of generations owning and managing the family business, as well as the actual number of family members as employees in the family business, did not necessarily affect the innovation. Indeed, the findings indicated that as the level of family influence through culture increased, the level of innovation increased.

As one of the findings of this research, the results clearly indicated that there was a positive but not significant relationship between experience and innovation. These results were in contrary to the findings in previous studies that claimed that informal knowledge sharing among family members and interaction of family system

and business system would benefit business's innovation (Cabrera-Suárez, et al., 2001; Perricone, et al., 2001; Yuan, et al., 2010).

This might be explained by the complexities of family businesses where group conflict developed from conflicting goals among the different branches of the family and nepotism might lead to unwillingness to share vital information and knowledge (Ward, 2011). The three-dimensional developmental model of family business (De Massis, Sharma, Chua, & Chrisman, 2012; Gersick, et al., 1999) show that there are three stages in family businesses: founder stage, sibling partnership stage and cousin consortium stage. Family, business and ownership structures change over different stages. Previous studies have shown that information sharing and flow of communication are better in the founder stage and sibling partnership stage (De Massis, et al., 2012; Gersick, et al., 1999). During the cousin consortium, cousins share ownership of a joint enterprise; generally third generation members of a family in business but not necessarily—they could be second generation, although this is less common. Since they are from different branches of the family, group conflict might developed from conflicting goals among the different branches of the family and nepotism might lead to unwillingness to share vital information and knowledge (Ward, 2011). Moreover, they are not as close as their parents (the siblings) do. This could deprive the firm of important sources of information and knowledge that could stimulate innovation.

Another possible explanation is Malaysian have a tendency to equate innovation with high technology as shown in Pawanchik and Sulaiman's (2010) report. Thus, it is kind of no surprise to have this finding. Majority of the family members might felt they

do not incorporated innovation in their businesses since they have invested in neither R&D spending nor any breakthrough technology.

The observed direction of the relationship between culture and innovation was positive and significant. The theoretical underpinning for this finding came from stewardship theory. When the business's goals and family's goals are aligned, the family influence become crucial as the family sits at the confluence of the family and business system (Eddleston & Kellermanns, 2007). As discussed in the literature review, the overlap between family and business values, as well as high commitment by the family to the business led to more efficient information sharing, collaboration, and joint decision making. This open communication, decreased conflict, and increased commitment lead the business to have a high level of autonomy, flexibility, and a risk tolerant culture which promote innovation (Martins & Terblanche, 2003). .

6.3.2. RQ2. What is the extent of family influence on business performance?

The second research question of this study is to examine the extent of family influence on business performance. There are three dimensions in family influence: power, experience and culture. It was hypothesized that:

Hypothesis 4: The extent of the family's influence on the power affects the extent of the performance in the business.

Hypothesis 5: The extent of the family influence on the experience affects the extent of the performance in the business.

Hypothesis 6: The extent of the family influence on the culture affects the extent of the performance in the business.

In line with Chrisman, et al. (2004) and Westhead and Howorth's (2006), this study did not find any significant relationship between family influence and business performance. The lack of significance of the results indicated that the number of generations owning and managing the family business, as well as the actual number of family members as employees for the family business, did not necessarily affect the business performance. Furthermore, the lack of significance of the results also indicated that the shared family and business values as well as the family's commitment to the business did not necessarily affect the business performance. It is important to note that Hypothesis 4 was dropped due to measurement issues.

The plausible explanation for this finding might lie on the sample chose – public listed companies. As discussed in the literature review, all Malaysia public listed companies and their directors are regulated and supervised by Bursa Malaysia. In compliance with the rules and regulations set by Bursa Malaysia, public listed family businesses need to professionalize their management and governance bodies. The board of directors will be under market scrutiny and has to be accountable to minority shareholders. The presence of family control mechanisms (such as multiple share classes, pyramids, and cross-holdings or voting agreements) in public listed family businesses have downplay the level of family influence through experience and culture, thereby influencing the level of business performance.

6.3.3. RQ 3. What is The Role of Innovation on the Relationship between Family Influence and Business Performance?

The third research question of this study is to examine the relationship between family influence, innovation and business performance. It was hypothesized that:

Hypothesis 7: The influence of power on business performance is mediated by innovation.

Hypothesis 8: The influence of experience on business performance is mediated by innovation.

Hypothesis 9: The influence of culture on business performance is mediated by innovation.

Based on the findings, Hypothesis 8 was not supported while Hypothesis 9 was supported. It is important to note that Hypothesis 7 was dropped due to measurement issues. These results suggested that the skills, knowledge and values family passed on from generations to generations within the businesses are unique resources capable of creating a competitive advantage within their own right through a direct linkage with business performance. In addition, innovation is a very risky undertaking for family businesses. Thus, family members are less likely to rely on innovation which requires the dedication of resources but rather will focus on the core competencies of the business (i.e. socioemotional wealth) and efficiency considerations (Palmer, Danforth, & Clark, 1995).

As one of the findings of this research, the influence of culture on business performance is mediated by innovation. This result is in line with the study of Litz and Kleysen (2001) and Zahra, Hayton and Salvato (2004) where culture significantly impact business performance via innovation. Litz and Kleysen (2001) found that innovative family business have the macro culture and the domain relevant skills that support innovation. Zahra, Hayton, and Salvato (2004) further surmised that family influence has impacted on the business's innovation and therefore on business performance.

The findings of this study suggested that culture is important to business performance yet the relationship is mediated by innovation. Hence, family business needs to ensure that the shared family and business values are routinely articulated and the family's commitments to the business are enhanced. Yet, if family business does not embrace innovation with the provision of the aforementioned practices, business performance will not be enhanced.

6.3.4. RQ 4. What is The Relationship between Innovation and Business Performance?

Hypothesis 10: The influence of innovation on business performance is positive.

The finding suggested that enhancing business performance in family businesses is linked with innovation. This finding is expected and is consistent with previous studies (e.g. Bowen, et al., 2010; Khavul, Peterson, Mullens, & Rasheed, 2010). For example, Damanpour, et al. (2009) empirically confirmed that innovation affect business performance significantly and positively. Bowen, et al (2010) found that innovation plays a crucial role to long term profitability and growth in businesses while

Khavul, et al. (2010) reported that a positive and direct relationship exists between innovation and business performance.

This finding implied that innovation in Malaysia should be driven by private sector rather than public sector. More campaigns should be conducted to create awareness of Malaysian toward the importance of innovation and types of innovation. While more research and development centers should be set up, Malaysians need to maintain their strength in operational and service innovation.

After answering all the research questions, which should have addressed the research problems stated in chapter one, section 1.3, Appendix F presented a summary of the above discussion as linked to the research objectives, hypotheses, and finding of this research.

6.4. Theoretical Contributions

There are several theoretical contributions and practical implications that could be drawn from the research findings. This section discusses the possible theoretical contributions based on the results as follows:

6.4.1. Innovation as a Mediating Role in the Family Influence – Business Performance Relationship.

Numerous studies (e.g. Bowen, et al., 2010; Prajogo, 2006) examined the link between innovation and business performance without attempting to differentiate family businesses from non-family businesses. As far as the innovation role in business performance was concerned, there was empirical evidence to support it (e.g.

Damanpour, et al., 2009; Tidd & Bessant, 2011). Innovation was found positively related to business performance. Nevertheless, in the area of family business research and the role of innovation in family business performance in particular, there is a lack of understanding of the link between family influence, innovation and business performance. Previous research on family business has primarily focused mainly on succession, governance and performance (Casillas & Acedo, 2007).

Even there are few studies (e.g. Beck, et al., 2011; Llach & Nordqvist, 2010) that examined the link between family business performance and innovation, the focuses are on the artificial family versus nonfamily business dichotomy. Majority of these previous studies have ignored the heterogeneity of family business. This study empirically investigated the intervening effect of innovation in the relationship between the family influence and family business performance, focusing on the heterogeneity of family business. Indeed, the innovation as a mediating role in the family influence – business performance relationship is a novel attempt. Furthermore, this study focused on the role of innovation in family business performance and found that innovation is a mediator.

This finding is important because it leads to both improved theories of family business and provides some insights into the relationship between the family business, innovation and business performance. Furthermore, this finding implied that the level of commitment and long-term interest of family members (KÖNig, Kammerlander, & Enders, 2013) could create a distinct advantage for family businesses. Nevertheless, culture did not affect business performance in a direct manner but in an indirect manner via innovation. Innovation was significantly related to business performance and positively mediated the culture-business performance. This indicated that management

should foster a strong culture among family members who are involved in the business in order to enhance both business innovation and performance.

6.4.2. The Development of a Theoretical Framework That Linked Between Family Influence, Innovation and Family Business Performance

This study adopted a multi-disciplinary approach that transcends the boundaries of family business and innovation disciplines in the family business literature. It synthesizes diverse writings and arguments that accretes to a theoretical framework. As shown in Figure 3.2, this theoretical framework embodied three constructs: family influence, innovation and business performance. It has theoretically introduced the innovation as the intervening variable on the relationship between family influence, as measured through F-PEC Scale, and family business performance. Thus far, research on innovation in family business research is still scarce as compared to other key issues, such as succession, performance and governance, that are critical to the sustainability of family business (P. Sharma, 2004a). Therefore, this study contributes to the literature on family business research.

Moreover, this study provided evidence that the direct and indirect relationships between family influence, innovation and business performance do exist, as could be seen in Figure 5.16 (page 210). Although, not all dimensions of family influence had statistical significant relationship with innovation and business performance, the findings of this study provided empirical support for the validity and reliability of the theoretical framework on innovation and family business performance. Moreover, this study found the indirect effect of culture on family business performance via

innovation. This is an added contribution to the innovation and family business research.

6.4.3. This Study Tested the Applicability of F-PEC Scale, as Proposed by Astrachan, et al (2002), in Malaysia Context.

This is the first study in Malaysia to apply the F-PEC scale and investigated the influence of family power, experience, and culture on innovation and business performance. The results revealed that there is indeed a link between these three business phenomena. Nevertheless, power was dropped due to measurement issue. Thus, the F-PEC items were used independently in this study.

In line with Alexander's (2003) study that power, experience and culture need to be used independently in this study. It is important to notice that the F-PEC scale presented some problems for getting information from the present Malaysian samples on power questions, particularly, a lack of response in questions concern about number of family members participated in management board and governance board. Only speculation could be made as why the respondents were unwilling to provide this particular type of information. Nevertheless, it is beyond the scope of this study.

The lack of support for the experience subscale comes from a lack of significant statistical findings. This finding is consistent with those presented in Avendano Alcaraz (2006) research for experience construct. The lack of significance of the results indicated that the number of generations owning and managing the family business, as well as the actual number of family members as employees in the family business, did not necessarily affect the innovation or business performance.

Culture, which was defined as the overlap between family and business value as well as high commitment by the family toward the business, was found completely mediated by innovation since the direct effect between culture and business performance was insignificant and the indirect effect was significant. The current study found a positive, significant relationship between culture and innovation. However, it is important to note that four items have been removed from the analysis to improve the goodness-of-fit indices and validity of the scale. The five items that remained reflect the family's commitment, loyalty and pride toward the company. Based on the literature review (Avendano Alcaraz, 2006; Jennifer E. Cliff & P. Devereaux Jennings, 2005), a slightly modified culture subscale is acceptable to measure the level of family commitment and the level of overlap between family values and business values.

Overall, support has been found for the Astrachan, et al. (2002) F-PEC scale that a causal structure involving the impact of family influence and innovation on family business performance existed. This conclusion is made based on analysis of a structural equation model that reveals: -

- i) Culture as having statistically significant, positive impact on innovation in family business.
- ii) The relationship between culture and business performance was completely mediated by innovation.

This finding indicated that the most important in this research was family influence through culture. The family's value and level of commitment to the business has impacted on the business's innovation and therefore on business performance. Thus,

the combination of innovation with business performance and family influence, or more precisely the F-PEC scale, created important insights.

In addition, this study also revealed that some adjustment must be carried out to F-PEC scale when applied in the Malaysian context. Hence, it contributed to formal research in the field of family business in Malaysia, where empirical data are rare.

6.4.4. The Study Suggests That a New Scale Could Be Developed Based on Innovation Assessment

The concept of innovation is broad and complex (Jain, 2010). In this study, innovation is not only about actual physical output of new product/service, but encompasses the process of creation and idea generation. Based on this concept, measurements by three different authors (Avlonitis, et al., 2001; Cooper, et al., 1994; Janssen, 2000) are adopted to measure innovation in this study. The results are seven questions divided into three subscales:

- i) Products/process innovation
- ii) Being “first” to the market
- iii) Innovation idea generation

Reliability was assessed by using Cronbach alpha. Cronbach’s alpha is recommended to measure the internal consistency of a set of items (Malhotra, 2010). As shown in Table 4.9, the reliability analysis for innovation in the pilot study is 0.762 which is above the acceptable value of coefficient (Hair, et al., 2010). The scale is retested in the final study. As shown in Table 5.7, , the reliability analysis for innovation

in the pilot study is 0.894 which is above the acceptable value of coefficient (Hair, et al., 2010). The reliability was evidenced in the study.

This suggested a new scale could be developed for better assessing innovation in terms of physical output of new product/service as well as the process of creation and idea generation. It requires further testing with different samples. Similar measures will likely to be produced and this scale will likely go through additional revision.

6.5. Practical Implications

Family business is a complex phenomenon (Westhead & Cowling, 1998). As discussed in section 2.5.1.1.1, the channels of influence vary across families and businesses. The family involvement manifests itself in various ways and makes the family business a heterogeneous group. This idea had extensively been demonstrated in this research report. It is important for family business researchers to make further efforts in studying the different characteristics of family businesses and the issues critical to the survival of family businesses. Thereby, better attempts can be made towards understanding the nature of family businesses. Practitioners and family business consultants are also encouraged to have more insights into the complexity of family business in order to be more precise in diagnosing family business' challenges, and to create programs which have broad business impact.

This section discussed the possible practical implications based on the results which were arranged based on the intended groups as follows.

6.5.1. For Family Business Leaders

Family business leaders are facing unprecedented obstacles as globalization and advent of internet have widened the field of competitive threats and opportunities. Businesses are all grapple with a faster velocity in today's business world. It is clear, as many family business leaders are aware, that innovation is one of the key drivers for the survival and growth of businesses. However questions loom among these leaders, such as what's the impact of family influence on innovation and how does it affect the business performance?

The findings of this study could provide useable insights for business leaders and help to clarify that there is indeed a link between family influence, innovation and business performance. Culture, which was defined as the overlap between family and business value as well as high commitment by the family toward the business, is the key to achieve specific performance goal and into the interpretation of performance difficulties they are facing.

Family business leaders are advised to embrace the importance of culture as the findings of this study provided evidence that link culture to innovation and performance. This study suggested that innovation and business performance could be improved by promoting positive values and high level of commitment toward business among family members. Family business leaders, thus, should invest considerable time and money to build family culture among family members.

To enhance the family culture, business families are advised to routinely discuss and articulate values of the family. This would make every family member and its

business associates understand and support family business plans and policies. Willingness to commit and dedication within the family members for the business, give advantages to family businesses. When the business system and family system are synchronized, the harmonious and synergetic combinations of these two systems bring the best of both systems.

6.5.2. For Family Business Consultants and Practitioners

Family business consultants and practitioners today are struggling with challenges of improving family business performance in this rapidly changing business environment. These professionals struggle to understand what exactly makes a family business prosper and how precisely they can offer help to the family business that will have a lasting impact.

The results of this study showed that the culture and business performance had indirect relationship (through the mediating role of innovation). To improve innovation and the business performance, consultants and practitioners could formulate appropriate management practices to inculcate the values and degree of family culture in family members involved in the business. These values include better commitment toward the business, pro-organizational behavior and being fair in power sharing. Furthermore, they can develop training programs and reward systems that emphasize on high quality family members' collaboration and promote stewardship spirit among family members. They should also encourage family businesses to embrace innovative ideas and to support the investment in building relationships, systems and infrastructures necessary to make high rate of innovation possible.

Finally, findings of this study enabled practitioners and researchers to understand how the variance degree of family involvement can influence the business ability to manage innovation and business performance. Furthermore, findings of this study have potential to assist business advisors in identification, diagnosis, and interpretation of family business challenges with increased speed and precision.

6.5.3. For Academics

Academics are challenged as they strive to build on a given knowledge-base regarding family businesses while at the same time forging completely new paradigm to make sense of family business in a world heightened technologies and innovation. Moreover, they need to develop an understanding of family business, not only from an interpretive standpoint, but from a functional and outcome orientation which can be translated into language and insights that the family business leaders can understand and use.

In this study, I have used the quantitative approach to understand the relationship between family influence, innovation and business performance. This quantitative approach conflicts with contentions of family business “traditionalists” who believe that family business can only be studied through qualitative, idiographic methodologies. Alternative approaches to research, such as that represented by this study, are not necessarily better or worse. Alternative approaches simply provide one more avenue for understanding given phenomena. Denison and Mishra (1998) argued that there is no right way to do research, instead it is more important to focus on multiple avenues simultaneously to understand and interpret the meaning of impacts in this highly changing world.

Consistent with the findings of previous research, this study provides further evidence on the importance of innovation on business performance. The theoretical framework presented and empirical evidences found in this study could assist classroom discussions and could help researchers have better understanding of the role of innovation in family business performance. It is important for family business researchers to gain insight into how family influence may lead to achieve and sustain better performance through leveraging innovation.

The findings of this research particularly showed that extra attention should be paid to culture in family businesses. The influence of culture on business performance is mediated by innovation. Culture has shown such strong association to innovation and indirect association with business performance. Therefore, this study could shed valuable insights into the role of culture in enhancing innovation and business performance.

The findings of this study help academicians interpret the dynamic within the relationship between family influence, innovation and business performance. Further, these findings assist them to gain insight into the traditional fuzzy world of family business and innovation.

6.6. Limitations of the Study

The purpose of this doctoral research was to explore the link between family influence, innovation and business performance. Although interesting conclusions could be derived from the analysis and findings, several limitations inherent in this research that warrant further investigation have to be recognised and acknowledged. Limitations

give further insights that may be useful for future research in further exploring issues to be investigated.

Some of the issues which placed limitations on findings and conclusions had drawn the following:

6.6.1. Use of A Single Theoretical Perspective to Understand The Link Between Family Influence, Innovation and Business Performance

The first limitation is related to the fact that there are many different theoretical perspectives that have attempted to understand the link between family influence, innovation and business performance. Each of these theoretical perspectives brings some underlining assumptions with it. This study did not cover all theoretical perspectives and mainly focused innovation in terms of products and generation of new ideas. The laundry list of innovation measures is beyond the scope of this study. Furthermore, it reported on the characteristics of innovation and business performance within the family business context. This approach allowed the researcher to have detailed understanding of the link between family influence, innovation and business performance but prevented a multi-faceted observation of the phenomena. In response to this limitation, future research might examine these different theoretical perspectives with a comprehensive view of the link between family influence, innovation and business performance.

6.6.2. Definitional Problems that Plagued Family Business and Innovation

The second limitation is related to the definitional problems that have plagued family business research and innovation study. Unlike other disciplines, family business research lacks a singular, unanimously accepted definition (Astrachan, et al., 2002; Rutherford, Kuratko, & Holt, 2008). There is disagreement over how it should be measured and observed. Similarly, the phenomena of innovation and business performance have been plagued by some of the same issues. Much confusion exist in the organizational literature regarding the definition, appropriate criteria for assessment, adequate means of measuring, and from whose perspective to study the phenomena of innovation and business performance. Such disagreement inherently creates difficulty and possible limitations for the researcher when designing a study involving these three constructs. Hence, it is important when interpreting the results of this research to understand this limitation.

6.6.3. Use of Survey Methodology

The third limitation laid in the research method employed in this study. This study was using a quantitative method, questionnaire surveys. It attempted to understand and measure the perception of family businesses. The use of quantitative method in collecting data has enabled researchers to generalise their findings (Guba, 1990) and investigate the properties and phenomena of a relationship. Data collected through survey also provided a possibility for a better interpretation of family businesses' current status with regard to their perceived capabilities and performance. Nevertheless, this method has some generic problems such as respondent bias, positive response bias and a tendency of superficiality in the coverage of complex traits. The

breadth of the information obtained in a survey is usually achieved at the expense of depth.

6.6.4. Cross-Sectional Research Design

The fourth limitation is related to the cross-sectional nature of the study. A structured questionnaire survey was used as the main tool to collect data for this study. The data were collected in a time frame of 6 months. Hence, these data do not adequately capture possible change over time and representing just a given point in time. Furthermore, family business is a very rich phenomenon characterized by abundant subtleties. Cross-sectional research design diminished much of this richness and subtlety. Thus, future research, for example longitudinal design, which can provide more comprehensive view and richness understanding of family business would be preferable on assessing how the link between family influence, innovation and business performance developed over time.

6.6.5. Use of Perceptual Data

The fifth limitation in this research was the use of perceptual data. While the use of perception from the family members involved in top management team to measure family influence, innovation and business performance was defended as strength of this study, obvious limitations rest with this approach as well. The use of perceptual data facilitate consistency, availability, generalizability and perhaps accuracy of the data used yet respondents might not respond to the survey questions in a truthful fashion or prone to agree with a positive statement or question (Isaac & Michael, 1997). This is particularly true if they believed they somehow revealed their family privacy.

6.6.6. Use of Self-Selected Sample

The sixth limitation in this research was the use of self-selected sample for data collection. Moreover, the sample was limited to family members involved in public listed companies' top management team that voluntarily answered the survey. While the use of self-selected sample gave entrée to collecting data, this factor could easily have skewed the findings. Their responses might be bias and might not reflect the actual situation. Furthermore, differences in perceptions are expected to occur between various family members (Tagiuri & Davis, 1996). Therefore, the respondents' responses are unlikely to be representative of those working in non top management team family members. Hence, the extent to which the results can be generalized across a wider population is compromised. How the results concerning the relationship studies might differ in another generational setting is a question for future research.

6.7. Suggestions for the Future Research

Evidence presented in this study suggested that the issue of innovation and business performance are, and will continue to be, important as family businesses confront a highly changing world, both within the family system and business system. This study supported and confirmed previous research findings regarding the culture-innovation link (e.g. Martins & Terblanche, 2003) and innovation-performance link (e.g. Damanpour, et al., 2009). It offered additional insights concerning this arena. However, it is clear that family business leaders, consultants, practitioners and academics have only begun to understand these phenomena and their links. Suggestions for future research which will help grow the body of knowledge concerning the family influence-innovation-performance relationship include the following:

6.7.1. Use of Longitudinal and Multidimensional Study

As mention in section 6.6.1 and section 6.6.4, this study used a single theoretical perspective and cross-sectional research design to understand the link between family influence, innovation and business performance. Future studies could delve into longitudinal and multidimensional study of different theoretical perspectives that have attempted to understand the link between family influence, innovation and business performance. Such a design would allow for the comparison of different theoretical perspective and investigation of fluctuations in family influence, innovation and business performance over time. If the measured factors demonstrated simultaneous co variation, it could be said that they have a relationship over time.

6.7.2. Use of Alternative Methodologies

Traditionally, qualitative research has been used to study family business. This study breaks this tradition by using a quantitative survey to measure the family business phenomena. A quantitative survey research can gathered large amount of data across a large sample easily which can enhance the study comparison and generalization. Nevertheless, the richness and subtlety of the sample are compromised. In response to these limitations, case study research should be conducted to further understand how the relationship between family influence, innovation and business performance is developed and legitimized within the relations of power and domination (Yin, 2009). Case study will encourage co-operation and permission to investigate the linkage between family influence, innovation and business performance in such a way that would simultaneously gather information and raise consciousness so that participants could better defend their interest.

6.7.3. Use of Multi-Respondent Data Collection Method

As explained in section 6.6.6, this research used a single-respondent data and the findings could have easily skewed. Furthermore, it did not allow the researcher to make a multi-faceted overview of the link between family influence, innovation and business performance. Thus, a useful extension of this study could have used a multi-respondent data collection method (P. Sharma, 2004b). Such approach could provide more accurate information on the relationships between family influence, innovation and business performance. Nevertheless, a lower response rate is expected with this approach.

This study measured a general type of innovation in a specific type of referent, the family members (regardless of generations) who are involved in the top management team. Future studies could measure specific type of innovation in a particular person/generation. Researchers could determine the differences between generations and how these differences influence the relationship between family influence, innovation, and business performance.

Results presented in Table 5.23 indicated that future research may also investigate the impact of culture on family business across different generations of family business. Moreover, the role of altruism/nepotism for family members who are working with family members from different generations is an area worthy of research. It would be interesting to determine if such altruism/nepotism would be related to the innovation-business performance link.

6.7.4. Use of Comparison Groups

Unlike many traditional family business studies, this research included only Malaysia public listed family businesses. There is a need to study small and medium sized family businesses in Malaysia to see whether the findings of this study could be applied to small and medium sized family businesses in Malaysia. Furthermore, studies which utilize comparison groups will expand researchers' ability to discriminate between variables used in this study associated with large and small family businesses.

6.7.5. Use of Specific Business Type

This study did not distinguish family businesses by industry or business types. Sample chosen included family businesses of drastically varying size and industries. While this approach offered a solid means for managing data, facilitating comparison, and generalizing the findings, detail and vivid description of any one family business, or group of family businesses, was lost. Thus, future studies could consider separating out individual factor areas or survey items to gain further clarity and details on family businesses involved in specific industry or business types.

6.7.6. Exploring the Relationship between Family Influence, Innovation and Business Further

The fact that no direct significant relationship between family influence and business performance could be detected in chapter 5, suggested that there is a need to explore this relationship further. The relationships can be tested by obtaining data from multiple sources within the family businesses, such as interviewing employees, family

or non-family members, and examining potential other intervening variables not examined in this current study.

Besides focusing on family influence and innovation, future research may also explore other antecedents of innovation in family business performance. Future research could explore variables such as owner-manager motivation and family business developmental stage as antecedents of innovation in family business. Future studies could also extend this study by identifying potential moderator effects on the relationship between family influence, innovation and business performance. It may be worthwhile to investigate the conditions under which moderator variables influence these relationships. Future researches that include moderator variables such as organizational climate, severity of family members' nepotism behavior and altruism would make valuable contributions.

Finally, it would be interesting to explore whether the findings of this study can be replicated in other countries with different work values and cultural contexts. Studies conducted in different cultures may indeed prove fruitful. In summary, future research should consider using a more rigorous approach to examine the relationship of the variables in this study.

6.8. Concluding Remarks of the Research

This thesis aimed to gain insight into the direct and indirect effects of the family influence on innovation and business performance. It filled the gap in the literature by analyzing the role of innovation in family business performance. Overall, findings demonstrated that not all dimensions in family influence, as measured through F-PEC

scale, were statistically significant related with innovation. Among the dimensions in family influence, only culture was statistically significant related with innovation. I would also like to stress the surprising finding of none of the dimensions in family influence was statistically significant related with business performance. Concerning the indirect effects of the family influence on innovation and business performance, the findings in chapter 5 (Figure 5.16) showed that innovation only mediated the link between culture and business performance. Finally, as expected, I found that innovation was positively linked with business performance.

In conclusion, the findings of this study indicated that an effective culture is about moving business's innovation forward by unleashing the very best that the business families have to offer while being continually open and responsive to both its stakeholders and to this highly changing world. Undertaking further studies linking innovation with family business will be beneficial for the expansion of the body of knowledge on family business research and strengthening practitioners' understanding of the complexities of family business.

To end and close this research report, I would like to reproduce the following quotation:

“Family-influenced enterprises are like trees; family businesses grow many branches and they need much care, trimming, and at times pruning. What makes the tree strong is its trunk, represented in the business by the owing families' spirit and values.” (Kenyon-Rouvinez & Ward, 2005, p. 77)

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APPENDICES

Appendix A: Cover Letter

Dear respondent,

RE: Family Business Survey

As a family-owned business, you are in a large segment of companies that contribute significantly to the wellbeing of the Malaysia economy. More than half of all public companies are family companies and majority of the largest companies in Malaysia are heavily family influenced.

The specific purpose of this survey is to investigate the role of innovation in family business performance. Kindly give 15-20minutes of your time and fill up the questionnaire to make the research successful. The CEO or family members who are involved in the Top Management Teams should complete the survey. All responses will be treated in strictest confidential.

In exchange of your time, I will send an executive summary of my findings to those returning the completed surveys. If you have any questions or need any further clarifications, feel free to contact me at 012-318-6873 or email me at weiyinchong@siswa.um.edu.my . Your attention and willingness to complete and return the survey **by 30th June 2012** are highly appreciated.

Yours Sincerely,

Chong Wei Ying

PhD Candidate

Appendix B: Questionnaire

Section A: Respondent's Profile

Please tick (X) the most suitable answer in the box provided.

1. Gender

<input type="checkbox"/> Male	<input type="checkbox"/> Female
-------------------------------	---------------------------------

2. Ethnic Group

<input type="checkbox"/> Malay	<input type="checkbox"/> Indian
<input type="checkbox"/> Chinese	<input type="checkbox"/> Others _____

3. Highest level of Education

<input type="checkbox"/> No formal education	<input type="checkbox"/> Secondary	<input type="checkbox"/> Degree
<input type="checkbox"/> Primary	<input type="checkbox"/> Diploma/certificate	<input type="checkbox"/> Postgraduate

4. How are you related to the founder of the company? Check only one

<input type="checkbox"/> He/she is the founder	<input type="checkbox"/> Wife/husband	<input type="checkbox"/> Not related
<input type="checkbox"/> Son/Daughter	<input type="checkbox"/> Brother/Sister	<input type="checkbox"/> Others
<input type="checkbox"/> Grandchildren	<input type="checkbox"/> Nephew/Niece	_____

5. Age

<input type="checkbox"/> 20 and below	<input type="checkbox"/> 31-40	<input type="checkbox"/> 51-60	<input type="checkbox"/> 71-80
<input type="checkbox"/> 21-30	<input type="checkbox"/> 41-50	<input type="checkbox"/> 61-70	<input type="checkbox"/> 81 and above

Definition: The **Top management team** involves those members of the business which hold important key positions, like e.g. Chief Operating Officer (COO), Chief Financial Officer (CFO), etc.

6. Position in the company

<input type="checkbox"/>	CEO/Director
<input type="checkbox"/>	Top Management Team
<input type="checkbox"/>	Others

3. Does the business have a governance Board? Yes No

If **YES**:

(a) How many Board members does it comprise? _____ *members*

(b) How many Board members is family? _____ *family members*

(c) How many nonfamily (external) members nominated by the family are on the Board? _____ *nonfamily members*

4. Does the business have a management Board?

If **YES**:

(a) How many persons does it comprise? _____ *members*

(b) How many management Board members is family? _____ *family members*

(c) How many nonfamily Board members are chosen through them? _____ *nonfamily members*

B2.Experience

- The founding generation is viewed as the first generation.
- Active family members involve those individuals who contribute substantially to the business. These family members might hold official positions in the business as shareholders, Board members, or employees.

5. Which generation owns the company? _____ *generation*

6. Which generation(s) manage(s) the company? _____ *generation*

7. What generation is active on the governance Board? _____ *generation*

8. How many family members participate actively in the business? _____ *members*

9. How many family members do not participate actively in the business but are interested? _____ *members*

10. How many family members are not (yet) interested at all? _____ *members*

Please rate the extent to which the following statements describe the situation in your firm. Please circle ONE number against the following statements using the scale below:

		Strongly Disagree	Disagree	Neither Agree nor Disagree	Agree	Strongly Agree
11	My family and business share similar values	1	2	3	4	5
12	Family members support the family business in discussions with friends, employees, and other family members.	1	2	3	4	5
13	Family members feel loyalty to the family business.	1	2	3	4	5
14	Family members are proud to tell others that we are part of the family business	1	2	3	4	5
15	Family members agree with the family business goals, plans, and policies.	1	2	3	4	5
16	Family members really care about the fate of the family business	1	2	3	4	5
17	Deciding to be involved with the family business has a positive influence on my life	1	2	3	4	5
18	I understand and support my family's decisions regarding the future of the family business.	1	2	3	4	5
19	Family members are willing to put in a great deal of effort beyond that normally expected to help the family business be successful	1	2	3	4	5

Section C: Innovation

To what extent do the following statements best describe your organization's *Innovation*? Circle the appropriate number:

	Strongly Disagree	Disagree	Neither Agree	Agree	Strongly Agree
20 Our business is one of the first to market with innovative products and services.	1	2	3	4	5
21 Our business is more effective than our competitors at taking existing ideas and making them into something better.	1	2	3	4	5
22 Our business is better than our competitors at developing products services to meet customer needs	1	2	3	4	5
23 Our business is perceived by the customers as more innovative than our competitors.	1	2	3	4	5

How often does your company perform the following activities? Circle the appropriate number:

	Never	Not so often	often	Very often	Always
24 Transforming innovative ideas into useful applications.	1	2	3	4	5
25 Introducing innovative ideas in a systematic way.	1	2	3	4	5
26 Thoroughly evaluating the application of innovative ideas.	1	2	3	4	5

Section D: Business Performance

Please indicate how you perceive your firm's family-oriented performance with respect to your firm's articulated or implied goals.

	Poor	Below Average	Average	Above Average	Outstanding
27 Providing family member employment opportunities	1	2	3	4	5
28 The preservation/improvement of the standard of living of the family members	1	2	3	4	5
29 A successful business transfer to the next generation	1	2	3	4	5
30 The minimization of conflicts between family members	1	2	3	4	5

Please assess your firm's performance over the last three years relative your competitors in the following areas:

	Low Performer	Moderate Performer	High Performer		
31 Sales growth rate	1	2	3	4	5
32 Return on sales (net profit margin)	1	2	3	4	5
33 Gross profit	1	2	3	4	5
34 Net profit after taxes	1	2	3	4	5
35 Financial strength (liquidity and ability to raise capital)	1	2	3	4	5
36 Overall firm performance	1	2	3	4	5

~Thank You for Participating in this project ~

Appendix C: Malay Questionnaire

Bahagian A: Butiran Responden

Sila tandakan (X) di tempat yang disediakan dengan jawapan yang paling sesuai.

1. Jantina

Lelaki

Perempuan

2. Kumpulan Etnik

Melayu

India

China

Lain-lain _____

3. Tahap Tertinggi Pendidikan

Tidak ada pendidikan rasmi

Sekolah Menengah

Ijazah

Sekolah Rendah

Diploma/Sijil

Pascasiswazah

4. Apakah Kaitan Anda Dengan Pengasas Syarikat? Pilih Satu Sahaja.

Dia adalah pengasas

Suami/Isteri

Tidak ada kaitan

Anak lelaki/
Anak perempuan

Adik-beradik

Lain-lain

Cucu

Anak Saudara

5. Umur

20 dan ke bawah

31-40

51-60

71-80

21-30

41-50

61-70

81 dan ke atas

Definisi: Kumpulan Pengurusan Tertinggi melibatkan ahli-ahli perniagaan yang memegang jawatan-jawatan yang penting, contohnya Ketua Pengawai Operasi (COO), Ketua Penagwai Kewangan (CFO), dan lain-lain.

6. Jawatan Di Dalam Syarikat

CEO/Pengarah

Kumpulan Pengurusan Tertinggi

Lain-lain

Bahagian B: Pengaruh Keluarga

B1.Kuasa

- *Keluarga didefinisikan sebagai satu kumpulan manusia yang mempunyai hubungan darah, (tidak mengira generasi), atau pertalian sah seperti perkahwinan dan pengamibilan anak angkat.*
 - *Pemilikan bermakna pemilikan saham atau modal syarikat. Apabila peratus hak mengundi berbeza daripada peratusan pemilikan, sila nyatakan hak mengundi.*
 - *Pengurusan syarikat merujuk kepada lembaga pengarah syarikat yang menguruskan atau mentadbirkan syarikat.*
 - *Orang yang dinamakan oleh ahli keluarga akan mewakili cadangan, matlamat dan nilai-nilai keluarga.*
-

1. Sila nyatakan nisbah pemilikan saham yang dipegang oleh ahli keluarga dan bukan ahli keluarga:

(a) Ahli Keluarga

(b) Bukan Ahli Keluarga

_____ %

_____ %

2. Adakah saham dipegang dalam syarikat atau kumpulan yang sama (contohnya, amanah)

Ya

Tidak

Jika ya, sila nyatakan nisbah pemilikan:

(a) Syarikat utama dimiliki oleh:

(i) Hak milik keluarga:

(ii) Hak milik bukan

(iii) Hak milik syarikat

_____ %

keluarga :

induk : _____ %

_____ %

(b) Syarikat induk dimiliki oleh:

(i) Hak milik keluarga:

(ii) Hak milik bukan

(iii) Hak milik syarikat

_____ %

keluarga :

induk kedua :

_____ %

_____ %

(c) Syarikat induk kedua dimiliki oleh:

(i) Hak milik keluarga: _____%

2. Adakah Perniagaan tersebut mempunyai lembaga tadbir urus (governance board)?

Ya Tidak

Jika YA:

(a) Berapa orang ahli pengarah yang dilantik? _____ *ahli*

(b) Berapa orang ahli pengarah dari kalangan keluarga? _____ *ahli keluarga*

(c) Berapa orang yang bukan ahli keluarga (luaran) dinamakan oleh ahli keluarga ada dalam lembaga tadbir urus? _____ *bukan ahli keluarga*

3. Adakah perniagaan tersebut mempunyai lembaga pengurusan (management board)? Ya Tidak

Jika YA:

(a) Berapa orang ahli pengarah yang dilantik? _____ *ahli*

(b) Berapa orang ahli pengarah dari kalangan keluarga? _____ *ahli keluarga*

(c) Berapa orang ahli lembaga pengarah bukan dari kalangan keluarga dipilih melalui mereka? _____ *bukan ahli keluarga*

B2. Pengalaman

- *Generasi pengasas adalah sebagai generasis pertama.*
- *Ahli keluarga yang aktif melibatkan individu yang menyumbang kepada perniagaan. Ahli keluarga ini mungkin memegang jawatan rasmi dalam perniagaan sebagai pemilik saham, ahli lembaga pengarah atau pekerja.*

5. Generasi manakah yang memiliki syarikat? _____ generasi
6. Generasi manakah yang menguruskan syarikat? _____ generasi
7. Generasi manakah yang aktif di lembaga tadbir urus? _____ generasi
8. Berapa ramaikah ahli keluarga terlibat aktif dalam perniagaan? _____ ahli
9. Berapa ramaikah ahli keluarga tidak terlibat secara aktif dalam perniagaan tetapi berminat? _____ ahli
10. Berapa ramaikah ahli keluarga yang masih belum berminat ? _____ ahli

Sila nyatakan sejauh manakah kenyataan berikut menggambarkan keadaan dalam syarikat anda? Sila bulatkan **SATU** nombor terhadap kenyataan berikut yang menggunakan skala di bawah:

	Sangat tidak bersetuju	Tidak Bersetuju	Bersetuju tidak, tidak bersetuju	Bersetuju	Sangat bersetuju
11					
	1	2	3	4	5
	Keluarga saya dan perniagaan berkongsi nilai-nilai yang sama.				
12					
	1	2	3	4	5
	Ahli keluarga menyokong perniagaan keluarga dalam perbincangan dengan kawan, pekerja dan ahli keluarga yang lain.				
13					
	1	2	3	4	5
	Ahli keluarga merasakan kesetiaan kepada perniagaan keluarga.				
14					
	1	2	3	4	5
	Ahli keluarga berasa bangga untuk memberitahu orang lain bahawa mereka adalah sebahagian daripada perniagaan keluarga.				
15					
	1	2	3	4	5
	Ahli keluarga bersetuju dengan matlamat, rancangan dan policy perniagaan.				
16					
	1	2	3	4	5
	Ahli keluarga amat mengambil berat tentang nasib perniagaan keluarga.				
17					
	1	2	3	4	5
	Memutuskan untuk melibatkan diri dalam perniagaan keluarga memberi pengaruh positif dalam kehidupan saya.				
18					
	1	2	3	4	5
	Saya faham dan menyokong keputusan keluarga saya terhadap masa depan perniagaan keluarga				
19					
	1	2	3	4	5
	Ahli keluarga akan berusaha dan memberi kerjasama sepenuhnya kepada kerjayaan perniagaan keluarga.				

Bahagian C: Inovasi

Sejauh manakah kenyataan berikut terbaik menerangkan *Inovasi* organisasi anda?

Bulatkan nombor yang sesuai:

	Sangat tidak bersetuju	Tidak Bersetuju	Bersetuju tidak, tidak bersetuju	Bersetuju	Sangat bersetuju
20 Perniagaan kami adalah salah satu yang pertama sekali memasarkan barangan dan perkhimatan inovatif.	1	2	3	4	5
21 Perniagaan kami adalah lebih berkesan daripada pesaing kami dalam mengambil idea-idea yang sedia ada dan membuat mereka menjadi sesuatu yang lebih baik.	1	2	3	4	5
22 Perniagaan kami adalah lebih baik daripada pesaing kami dalam mengembangkan perkhimatan barangan untuk memenuhi keperluan pelanggan.	1	2	3	4	5
23 Perniagaan kami dilihat oleh pelanggan sebagai lebih inovatif daripada pesaing kami.	1	2	3	4	5

Berapa kerap syarikat anda menjalan aktiviti-aktiviti berikut? Bulatkan nombor yang sesuai:

	Tidak Pernah	Tidak selalu	selalu	Sangat selalu	Setiap kali
24 Transformasi idea-idea inovatif dalam aplikasi berguna.	1	2	3	4	5
25 Memperkenal idea-idea inovatif dalam cara yang sistematik.	1	2	3	4	5
26 Menganalisa keseluruhan untuk penggunaan idea-idea inovatif.	1	2	3	4	5

Bahagian D: Prestasi perniagaan

Sila nyatakan bagaimana anda melihat prestasi yang berorientasikan syarikat keluarga anda kepada matlamat syarikat anda dinyatakan atau tersirat.

	Lemah	Bawah Sederhana	Sederhana	Atas Sederhana	Cemerlang
27 Menyediakan peluang pekerjaan kepada ahli keluarga	1	2	3	4	5
28 Pemeliharaan/Pembaikan taraf hidup ahli keluarga	1	2	3	4	5
29 Perniagaan pemindahan berjaya untuk generasi akan datang	1	2	3	4	5
30 Meminimumkan konflik-konflik yang berlaku di antara ahli keluarga	1	2	3	4	5

Sila nilaikan prestasi syarikat anda dalam tempoh tiga tahun yang lepas dan berbandingnya dengan pesaing dalam bidang-bidang berikut:

	Pencapai rendah	Pencapai sederhana	Pencapai tinggi		
31 Kadar pertumbuhan jualan	1	2	3	4	5
32 Pulangan jualan (untung bersih)	1	2	3	4	5
33 Untung kasar	1	2	3	4	5
34 Untung bersih lepas cukai	1	2	3	4	5
35 Keutuhan kewangan (Kecairan dan keupayaan untuk mengumpul modal)	1	2	3	4	5
36 Prestasi keseluruhan syarikat	1	2	3	4	5

~Terima Kasih atas kerjasama anda mengambil bahagian untuk projek ini ~

Appendix D: Chinese Questionnaire

A 组：受访者资料

请在适当的答案空格内填上 (X)

1. 性别 男 女

2. 种族

<input type="checkbox"/> 巫裔	<input type="checkbox"/> 印裔
<input type="checkbox"/> 华裔	<input type="checkbox"/> 其他_____

3. 最高教育水平

<input type="checkbox"/> 无正式教育	<input type="checkbox"/> 中学	<input type="checkbox"/> 学士学位
<input type="checkbox"/> 小学	<input type="checkbox"/> 文凭/证书	<input type="checkbox"/> 硕士/博士

4. 您与公司创办人的关系？请选择一项

<input type="checkbox"/> 本人是创办人	<input type="checkbox"/> 夫妻关系	<input type="checkbox"/> 无关系
<input type="checkbox"/> 子女关系	<input type="checkbox"/> 兄弟姐妹	<input type="checkbox"/> 其他
<input type="checkbox"/> 祖孙关系	<input type="checkbox"/> 堂/表兄弟姐妹	_____

5. 年龄

<input type="checkbox"/> 20岁和以下	<input type="checkbox"/> 31-40	<input type="checkbox"/> 51-60	<input type="checkbox"/> 71-80
<input type="checkbox"/> 21-30	<input type="checkbox"/> 41-50	<input type="checkbox"/> 61-70	<input type="checkbox"/> 81岁和以上

注解：高层团队成员涵盖一家公司担任的主要职位，如总营运长(COO)、总财务长(CFO)和其他等

6. 在公司所担任的职位

<input type="checkbox"/> 总执行长/董事长	<input type="checkbox"/> 高层团队成员	<input type="checkbox"/> 其他
-----------------------------------	---------------------------------	-----------------------------

- 活跃的家族成员是指涉及业务及作出重大贡献的家族成员。他们可以是企业股东，董事会成员或雇员。

5. 第几代家族拥有该公司? _____代家族
6. 第几代家族管理该公司? _____代家族
7. 第几代家族活跃于监管董事部(governance board)? _____代家族
8. 多少位家族成员积极参与公司业务? _____位家族成员
9. 多少位家族成员无参与公司业务，但表示兴趣? _____位家族成员
10. 多少位家族成员对公司业务尚没兴趣? _____位家族成员

以下句子叙述贵公司的情况，请圈出准确叙述贵公司的情况的一个数字。

		强烈不同意	不同意	无意见	同意	强烈同意
11	我的家族和业务共享类似的价值	1	2	3	4	5
12	家族成员在与朋友、雇员和其他家族成员洽谈中显示对家族生意的支持	1	2	3	4	5
13	家族成员对家族生意拥有忠诚感	1	2	3	4	5
14	家族成员能自豪的对外宣告本身是家族生意的一分子	1	2	3	4	5
15	家族成员认同家族生意的目标、计划和政策	1	2	3	4	5
16	家族成员关注家族生意的命运	1	2	3	4	5
17	加入家族生意的决定，对我的生活有正面的影响	1	2	3	4	5
18	对于家族业务的未来，我了解并支持家族成员的决定	1	2	3	4	5
19	家庭成员都愿竭尽全力的付出，以让家族生意取得成功	1	2	3	4	5

C组：创意

以下句子叙述贵公司的情况，请圈出准确叙述贵公司的情况的一个数字。

		强烈不同 同意	不同意	无意见	同意	强烈同意
20	我们通常是市场首个具备创意的产品与服务	1	2	3	4	5
21	我们的业务比竞争业者更为有效，并且持续改进及更好	1	2	3	4	5
22	我们在研发产品服务迎合客户需求比竞争业者更佳	1	2	3	4	5
23	我们的产品被客户认为比竞争业者更具创意	1	2	3	4	5

请圈出准确叙述贵公司在以下的活动参与

		不曾	偶尔	时常	经常	总是
24	让创新的想法转为有用的应用程序	1	2	3	4	5
25	以系统化的方式推出创新思想	1	2	3	4	5
26	全面评估创新的思想应用程序	1	2	3	4	5

D组：业绩

针对贵公司的目标，请说明您如何看待贵公司在家庭导向的表现。

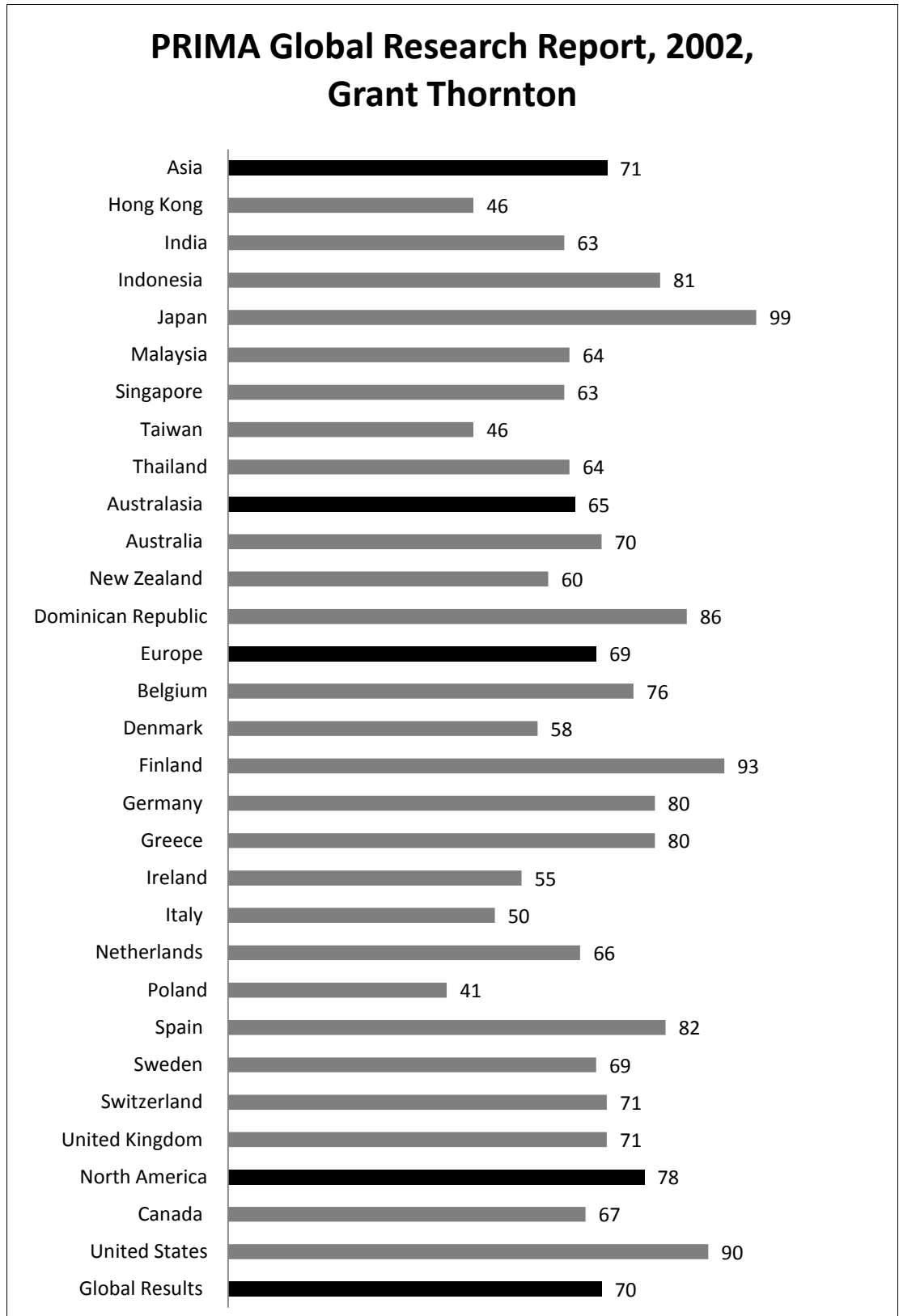
		差	低于 平均	平均	高于 平均	好
27	提供家庭成员就业的机会	1	2	3	4	5
28	保存/改善家庭成员的生活水准	1	2	3	4	5
29	成功的企业传承	1	2	3	4	5
30	减化家庭成员之间的磨擦	1	2	3	4	5

针对以下范围以及相对的竞争业者，请评估您的公司在过去 3 年的表现：

	低表现	中等	高表现		
31 销售增长率	1	2	3	4	5
32 净利赚幅	1	2	3	4	5
33 毛盈利	1	2	3	4	5
34 净利	1	2	3	4	5
35 财务实力（流动性和筹资能力）	1	2	3	4	5
36 公司整体表现	1	2	3	4	5

感谢您的参与~

Appendix E: Respondents Who Consider the Business to be a Family Business



Source: Grant Thornton. (2002), http://www.gt.com.my/assets/prima_global.pdf

Appendix F: Summary of Research Objectives, Research Questions and Hypotheses

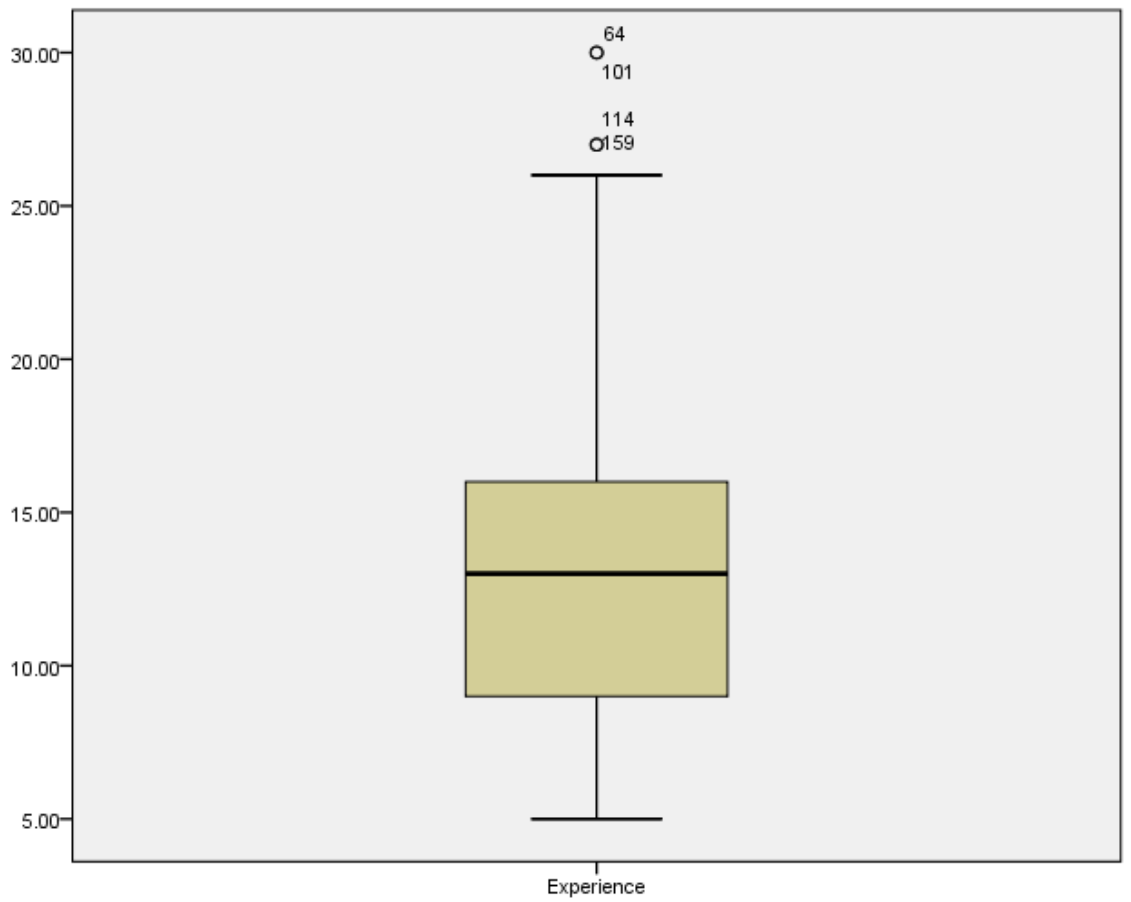
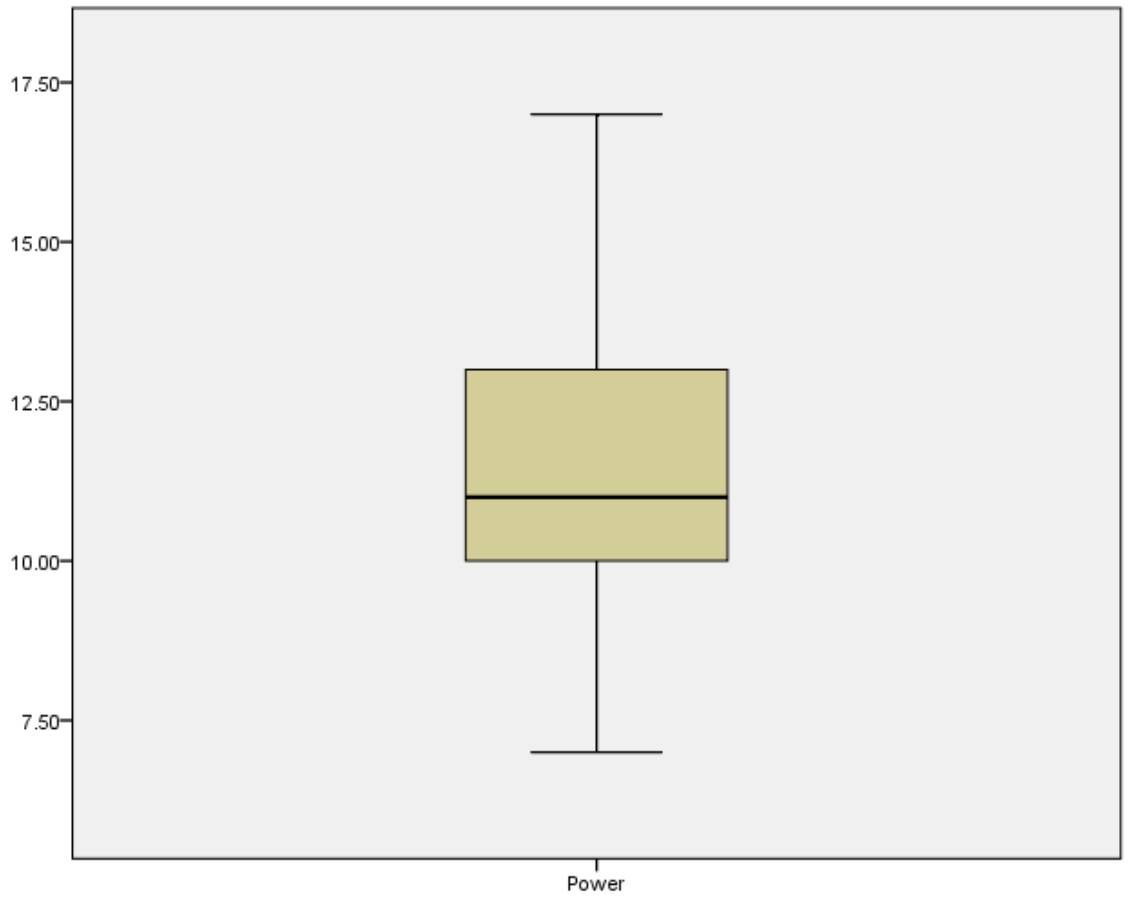
Research Objectives	Research Questions	Hypothesis
<p>RO 1. To assess the extent of family influence on innovation and business performance.</p>	<p>RQ1. What is the extent of family influence on innovation?</p>	<p>H1: The extent of the family’s influence on the power affects the extent of the innovation in the business.</p>
		<p>H2: The extent of the family influence on the experience affects the extent of the innovation in the business.</p>
		<p>H3: The extent of the family influence on the culture affects the extent of the innovation in the business.</p>
	<p>RQ 2. What is the extent of family influence on business performance?</p>	<p>H4: The extent of the family’s influence on the power affects the extent of the performance in the business.</p>
		<p>H5: The extent of the family influence on the experience affects the extent of the performance in the business.</p>
		<p>H6: The extent of the family influence on the culture affects the extent of the performance in the business.</p>

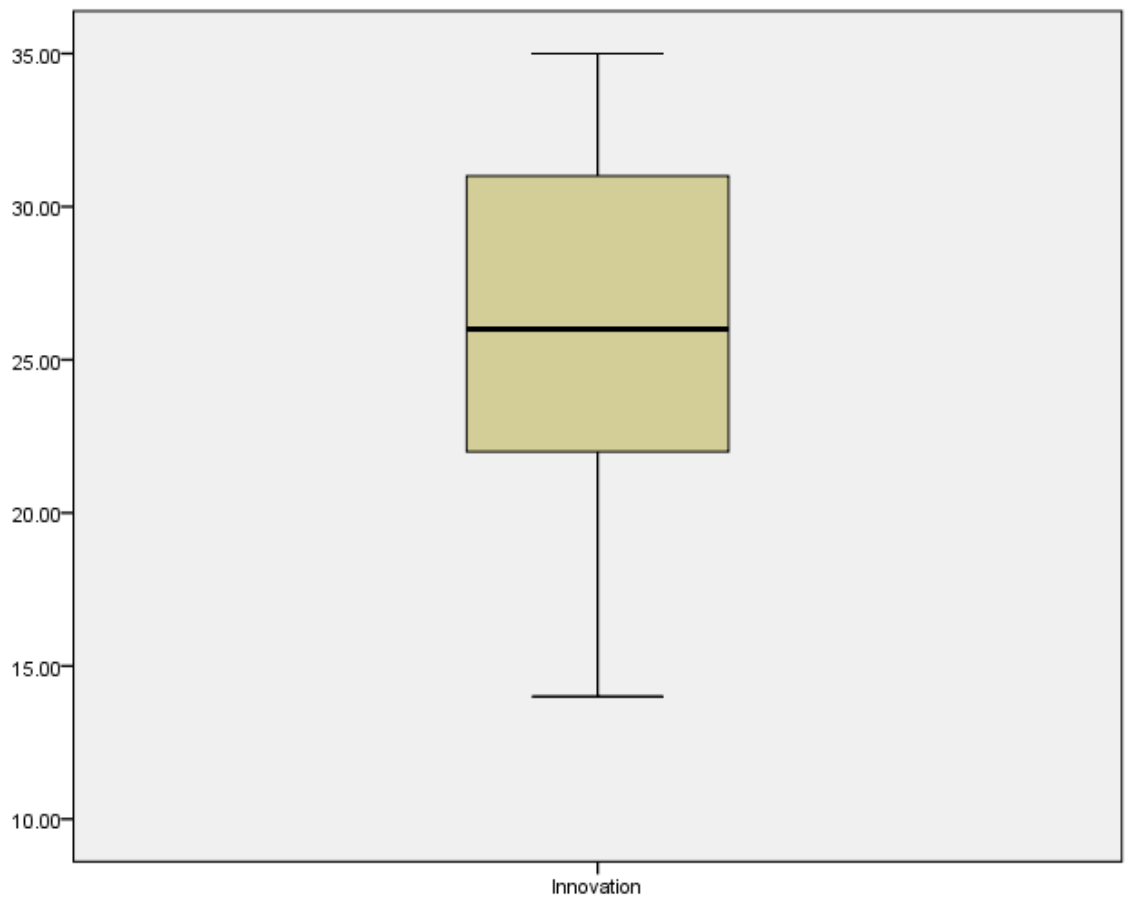
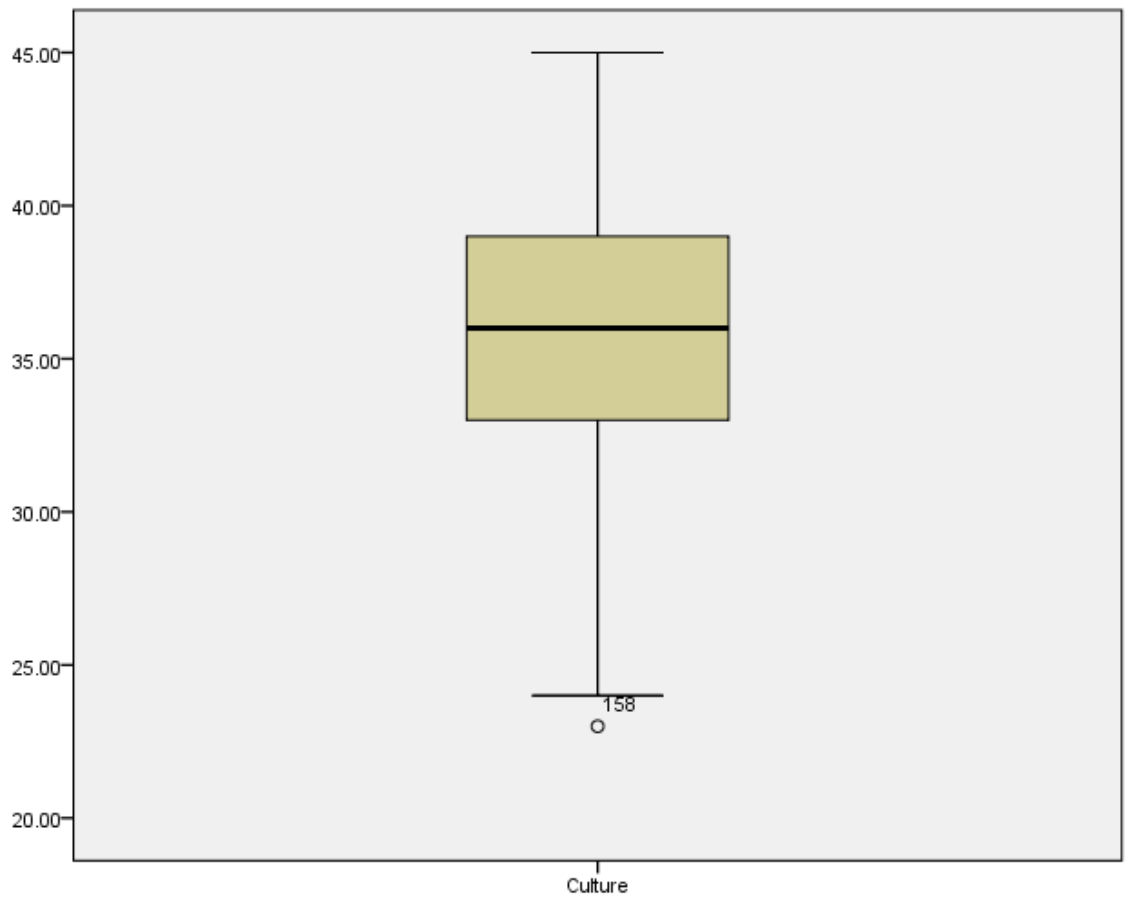
Table Appendix F continue

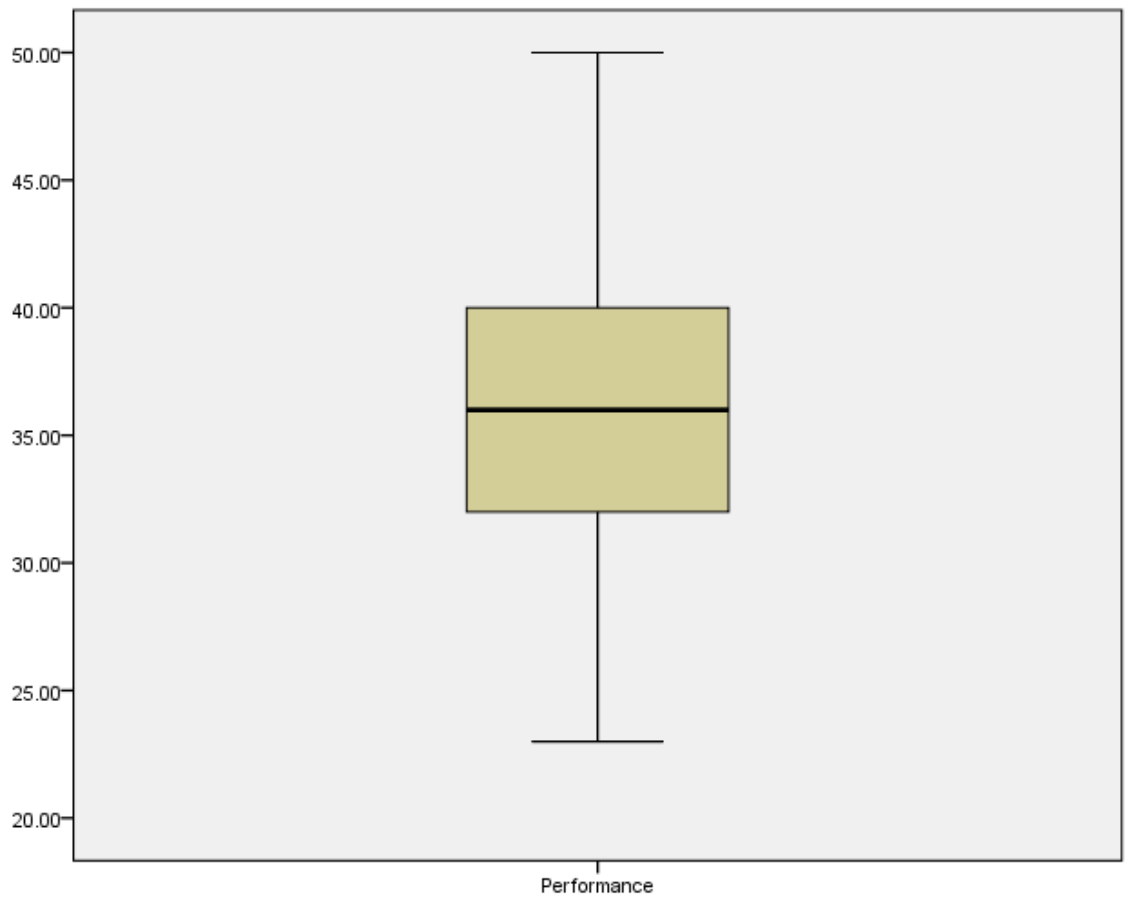
Table Appendix F continue

Research Objectives	Research Questions	Hypothesis
<p>RO 2. To examine the mediating effects of innovation on the relationship between family influence and business performance.</p>	<p>RQ3. What is the role of innovation on the relationship between family influence and business performance?</p>	<p>H7: The influence of power on business performance is mediated by innovation.</p>
		<p>H8: The influence of experience on business performance is mediated by innovation.</p>
		<p>H9: The influence of culture on business performance is mediated by innovation.</p>
<p>RO 1. To assess the extent of family influence on innovation and business performance.</p>	<p>RQ 4: What is the relationship between innovation and business performance?</p>	<p>H10: The influence of innovation on business performance is positive.</p>

Appendix G: Box Plots







Appendix H: Scatter Plots

