MODERATING EFFECT OF CORPORATE PARENTING ROLES ON THE RELATIONSHIP BETWEEN PRODUCT DIVERSIFICATION STRATEGIES AND CORPORATE PERFORMANCE OF LISTED COMPANIES ON BURSA MALAYSIA

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ABSTRACT

Past research examining effect of product diversification strategy on corporate performance has produced inconclusive results. Equal ambiguity resides in the relative superiority and effects of related diversification strategy versus unrelated diversification strategy on corporate performance. Amidst, corporate parenting has been considered as a crucial issue related to diversification strategies. Primarily, this study attempted to reconcile paradox concerning diversification strategies – performance relationship by focusing on the moderating effect of corporate parenting roles on the relationship. Additionally, the study used multiple performance measures to enrich the investigation. Keeping in view the important role of Malaysian corporate sector in country's growth and development, and proliferation of diversified companies in Malaysia, this study was conducted on Public Listed Companies (PLCs) listed on Bursa Malaysia's Main Market. Secondary data was obtained mainly from companies' annual reports, while primary data was collected through questionnaires sent to top managers of PLCs. This study utilised sample of 123 PLCs, and employed various statistical methods to draw conclusions using SPSS. The study reveals that product diversification strategy in total, does not affect corporate performance. Related diversification strategy positively affects Tobin's q and price to book value, and unrelated diversification strategy negatively affects return on assets and price to book value. Synergy manager positively moderates relationship between related diversification strategy and Tobin's q, and price to book value. Parental developer positively moderates relationship between related diversification strategy and all financial measures of corporate performance. Portfolio manager positively moderates relationship between unrelated diversification strategy and return on assets, and return on equity. Related diversifiers seem to outperform unrelated diversifiers on Tobin's q and price to book value. Parental developers perform well against synergy managers on return on assets and return on equity. The findings contribute to relevant theories and recommend managers to adopt suitable corporate parenting roles while pursuing diversification strategies.

Keywords: product diversification strategies, corporate parenting roles, corporate performance, Malaysian public listed companies.

ABSTRAK

Kajian terdahulu memperoleh dapatan bercampur-campur mengenai kesan strategi kepelbagaian terhadap prestasi syarikat. Kelebihan dan kesan strategi kepelbagaian produk berkait berbanding dengan strategi kepelbagaian produk tidak berkait terhadap prestasi syarikat adalah tidak dapat dipastikan. Namun begitu, adalah jelas bahawa kepimpinan syarikat induk telah dikenal pasti sebagai sangat penting dalam strategi kepelbagaian. Secara khususnya, kajian ini memberi fokus kepada ketidakjelasan strategi kepelbagaian berhubung dengan prestasi yang berkaitan dengan kesan kepimpinan syarikat induk iaitu sebagai perantara. Kajian ini turut menggunakan beberapa pengukur prestasi lain bagi meningkatkan keberkesanan kajian. Kajian ini dilakukan terhadap syarikat awam yang tersenarai di Bursa Malaysia berasaskan pemahaman tentang kepentingan sektor korporat dalam pertumbuhan dan pembangunan serta kesan syarikat menggunakan strategi kepelbagaian di Malaysia. Secara khususnya, data sekunder diperolehi daripada laporan tahunan syarikat dan data prima pula daripada soal selidik yang dihantar kepada pegawai kanan Syarikat Senaraian Awam (SSA) yang berkaitan. Kajian ini menggunakan sampel data daripada 123 SSA dan pelbagai kaedah statistik berasaskan SPSS dalam pembentukan rumusan berkaitan. Kajian ini turut mendapati bahawa strategi kepelbagaian tidak memberi kesan kepada prestasi syarikat korporat. Namun begitu, strategi kepelbagaian produk berkait memberi kesan positif kepada Tobin q dan harga kepada nilai buku, dan strategi kepelbagaian produk tidak berkait memberi kesan negatif kepada pulangan ke atas aset dan harga kepada nilai buku. Pengurus sinergi pula moderat secara positif hubungan antara strategi kepelbagaian produk berkait dengan Tobin q dan harga kepada nilai buku. Kepimpinan syarikat induk pula moderat secara positif hubungan strategi kepelbagaian dan semua ukuran kewangan koporat. Pengurus potfolio turut moderat secara positif hubungan antara strategi kepelbagaian tidak berkait dengan pulangan ke atas aset dan ekuiti. Syarikat yang menggunakan strategi kepelbagaian produk berkait didapati mengatasi prestasi syarikat yang menggunakan strategi kepelbagaian produk tidak berkait iaitu berasaskan Tobin q dan harga kepada nilai buku. Di samping itu, kepimpinan syarikat induk pula menunjukkan prestasi lebih baik berbanding dengan pengurus sinergi dalam aspek pulangan ke atas aset dan ekuiti. Dapatan kajian ini menyumbang kepada teori-teori yang berkaitan dan juga pengurus-pengurus iaitu dari aspek peranan kepimpinan syarikat induk dalam menentukan strategi kepelbagaian yang terbaik dan sesuai untuk diadaptasi.

Kata kunci: strategi kepelbagaian produk, peranan kepimpinan syarikat induk, prestasi korporat, syarikat senaraian awam Malaysia.

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No.	Abbreviation	Meaning
1	ACE	Access Certainty Efficiency
2	DR	Related Diversification Strategy
3	DRCentred	Related Diversification Centred Variable
4	DRPDCentred	Centred Interaction term for Related Diversification and Parental Developer
5	DRSMCentred	Centred Interaction term for Related Diversification and Synergy Manager
6	DT	Product Diversification Strategy (Total Diversification)
7	DU	Unrelated Diversification Strategy
8	DUCentred	Unrelated Diversification Centred Variable
9	DUPMCentred	Centred Interaction term for Unrelated Diversification and Portfolio Manager
10	EMAS Index	Exchange Main Board All-Shares Index
11	EPU	Economic Planning Unit
12	ETP	Economic Transformation Programme
13	FTSE	Financial Times Stock Exchange
14	GTP	Government Transformation Programme
15	IPC	Infrastructure Project Companies
16	IWK	Indah Water Konsortium Sdn Bhd
17	KLCI	Kuala Lumpur Composite Index
18	KLSE	Kuala Lumpur Stock Exchange
19	LRT	Light Rail Transit
20	MAICSA	The Malaysian Institute of Chartered Secretaries and Administrators
21	MAS	Malaysian Airline System
22	MASB	Malaysian Accounting Standards Board
23	MATRADE	Malaysia External Trade Development Corporation
24	MCMC	The Malaysian Communications and Multimedia Commission
25	MESDAQ	Malaysian Exchange of Securities Dealing and Automated Quotation
26	MIA	Malaysian Institute of Accountants
27	MIDA	Malaysian Investment Development Authority

No.	Abbreviation	Meaning
28	MIER	Malaysian Institute of Economic Research
29	MITI	Ministry of International Trade and Industry
30	MRT Corp	Mass Rapid Transit Corporation Sdn Bhd
31	P/B Value	Price to Book Value ratio
32	PD	Parental Developer
33	PDCentred	Parental Developer Centred Variable
34	PLC	Public Listed Company
35	PM	Portfolio Manager
36	PMCentred	Portfolio Manager Centred Variable
37	REIT	Real Estate Investment Trust
38	RMK-10	Rancangan Malaysia ke-10
39	ROA	Return on Assets
40	ROE	Return on Equity
41	SC	Securities Commission
42	SCP	Subjective (assessment of) Corporate Performance
43	SM	Synergy Manager
44	SMCentred	Synergy Manager Centred Variable
45	SPAC	Special Purpose Acquisition Company
46	SUHAKAM	Suruhanjaya Hak Asasi Manusia
47	VIF	Variance Inflation Factor
48	*ZRESID	Standardized Residual Values
49	*ZPRED	Standardized Predicted Values

CHAPTER ONE

INTRODUCTION

1.1 Introduction

This chapter starts by providing a general overview and background of past research on product diversification – performance relationship. Section 1.3 highlights the contextual importance of the study as it points towards current challenging scenario faced by Malaysian economy and the past research conducted on the topic in Malaysian context. Section 1.4 presents problem statements of the study followed by research questions and research objectives in proceeding sections. Section 1.7 discusses theoretical and practical significance of the study. Section 1.8 explains scope of the study. The chapter concludes by providing organisation of thesis and chapter summary in last two sections.

1.2 Research Background

1.2.1 Overview of Past Research on Product Diversification – Performance Relationship

To diversify or to remain focused is one of the most important questions for a company's strategist (Marinelli, 2011). In the West, the trend of diversifying into different industries started in 1960's which continued till 1970's, but many companies started to refocus and restructure themselves during 1980's (David, 2011; Gupta, Gollakota, & Srinivasan, 2007). Perspectives and theories such as market power view (Palepu, 1985; Palich, Cardinal, & Miller, 2000; Saloner, 1985), resource based view (Teece, 1982; Wernerfelt, 1984), internal capital market efficiency (Berger & Ofek,

1995; Bhide, 1993), transaction cost economics theory (Coase, 1937; Williamson, 1998), and agency theory (Amihud & Lev, 1981; Jensen, 1986) provide rationales for increased diversification among the companies.

Research conducted in context of Asian economies also reported high levels of product diversification in those economies (Claessens, Djankov, Fan, & Lang, 1998; Lins & Servaes, 2002). Transaction cost economics and internal capital market efficiency, in particular, provide reasons for high diversification of companies in many Asian economies. Empirical studies by Chakrabarti, Singh, and Mahmood (2007) and Mishra and Akbar (2007a) conducted in developing countries provide support for these theories.

Over the last ten years, diversification record of companies in Malaysia also indicates increased diversification on the part of Malaysian organisations (Ahmad, Ishak, & Manaf, 2003; Ishak & Napier, 2006). Hence, product diversification has been the choice of companies all over the world (Benito-Osorio, Guerras-Martin, & Zuniga-Vicente, 2012; Datta, Rajagopalan, & Rasheed, 1991). Victory, however, is not guaranteed by diversification strategy, and the success and failure records of many diversified organisations all over the world call for refined investigation into the subject of diversification strategies (Kruehler, Pidun, & Rubner, 2012).

In the field of research, the relationship between product diversification and performance has been a common area among numerous scholars belonging to various fields. However, by carefully studying the literature on this relationship, it can be inferred that until recently, researchers are undecided regarding the effect of product

diversification strategies on performance (Asrarhaghighi, Rahman, Sambasivan, & Mohamed, 2013; Benito-Osorio *et al.*, 2012; Marinelli, 2011). The inconsistent findings on the topic indicate ambiguity and complexity associated with it. There are number of researches saying that product diversification is better and leads to high performance; as well as sizable literature is available on the evidences of product diversification as a strategy that destroys firm's value or leads to poor performance (Park, 2010; Tan, 2007).

Similarly, the performance of related versus unrelated diversification strategy also remained an unsolved puzzle throughout four decades (Abdullah, 2009; Lahovnik, 2011). A large group of studies suggested that related diversification strategy performed better than unrelated diversification (Mehmood & Hilman, 2013; Park, 2010; Tan, 2007). Similarly, there are considerable studies saying that unrelated diversifiers outperform related diversifiers (Park, 2010; Yaghoubi, Abidin, & Yaeghoobi, 2011).

Researchers have been studying the subject of product diversification with different samples, data sources and analytical techniques (Benito-Osorio *et al.*, 2012; Datta *et al.*, 1991; Mehmood & Hilman, 2013). In doing so, although past studies have been improving on research designs and measurement models, but the evidences of inconsistent and inconclusive findings on product diversification – performance relationship call for more research into the topic.

1.2.2 Why is there a Lack of Consensus on Product Diversification – Performance Relationship?

The lack of consensus on product diversification – performance relationship could be investigated by critically evaluating the design of previous researches. Number of reasons such as reliance on different product diversification measurement methodologies (Klier, 2009; Montgomery, 1982; Pitts & Hopkins, 1982), use of diverse performance indicators (Datta *et al.*, 1991; Dubofsky & Varadarajan, 1987), contextual variations (Tan, 2007; Yaghoubi *et al.*, 2011) and other factors such as time period of studies might have contributed to discrepancies among findings of previous studies in the area (Asrarhaghighi *et al.*, 2013; Benito-Osorio *et al.*, 2012; Palich *et al.*, 2000). Thus a variety of research designs and measurement methodologies employed by previous researchers have complicated the product diversification – performance issue.

Historically, Montgomery (1982), and Pitts and Hopkins (1982) argued that use of different product diversification measurement techniques in product diversification – performance research had considerable influence on the findings and conclusions. Similarly, use of different indicators for corporate performance and greater reliance on financial indicators of performance by past studies also complicated the issue. As financial indicators or performance ratios might possess a substantial time lag (Chavan, 2009; Smandek, Barthel, Winkler, & Ulbig, 2010), therefore, sole reliance on these ratios points towards short sightedness of past studies. In contrast, subjective assessment of corporate performance coupled with objective appraisal provides a comprehensive framework for organisational evaluation (Jusoh & Parnell, 2008; Punniyamoorthy & Murali, 2008).

Moreover, studies regarding product diversification – performance relationship were conducted in diverse contexts and the findings of those studies were also diverse (Benito-Osorio *et al.*, 2012; George, 2007; Mehmood & Hilman, 2013). Importantly, the findings of research regarding product diversification – performance relationship conducted for Asian economies are mixed (Chakrabarti *et al.*, 2007; Daud, Salamudin, & Ahmad, 2009; Ishak & Napier, 2006; Lins & Servaes, 2002). Hence, the inconsistency between findings of different researches in Asian context requires more investigation into this relationship in the Asian context.

In fact, in order to understand this relationship better, there is a need to improve research methods and follow modern perspectives in research (Asrarhaghighi *et al.*, 2013). Scholars have suggested that understanding of product diversification - performance relationship could be enhanced by inclusion of additional variables into the relationship (Daud *et al.*, 2009; Gary, 2005; Marinelli, 2011) as this relationship might be affected by number of other factors playing their role.

In past, apart from using multiple methodologies for measurement of diversification construct, scholars have been studying determinants and repercussions of diversification (Adner & Zemsky, 2006; Liu & Hsu, 2011) as well as improving the insight on the topic by including different moderating and mediating variables into the relationship. Specifically, certain researchers suggested that success of product diversification strategy largely depended upon strategy implementation issues (Dundas & Richardson, 1982; Hill, Hitt, & Hoskisson, 1992) particularly those related to corporate parents (Campbell, Goold, & Alexander, 1995a; Oijen & Douma, 2000).

Recently, Nippa, Pidun, and Rubner (2011) have recommended using parenting advantage as moderator between product diversification – performance relationship. Based over the idea of corporate parenting (Campbell *et al.*, 1995a; Goold, Campbell, & Alexander, 1998) and keeping in view suggestions from previous scholars, this study planned to use corporate parenting role (Johnson, Scholes, & Whittington, 2008; Johnson, Whittington, & Scholes, 2011) as moderator in product diversification strategies – performance relationship. The moderating variable of Corporate Parenting Role has been studied using the three categories of roles suggested by Johnson *et al.* (2008, 2011): Portfolio Manager, Synergy Manager and Parental Developer. (Section 2.4.4 provides detailed explanation on the three corporate parenting roles).

1.3 The Malaysian Context

In the following subsections, an overview of the Malaysian economy and current challenges are presented, followed by a glimpse of past research in product diversification – performance relationship undertaken in Malaysian context.

1.3.1 Introduction

Malaysia is an industrial based economy that went through extensive structural shift from heavy dependence on mining of tin, and rubber plantation to enormous industrial and commercial units, since its independence in 1957 (Mun, 2007; Yaghoubi *et al.*, 2011). With the establishment of different agencies and government departments, governments have been encouraging domestic and foreign investors towards entering into Malaysian industrial sectors.

During 2011, Malaysian economy continued to grow, while relying majorly on domestic demand and the real GDP grew by 5.1 % (Malaysian Institute of Economic Research [MIER], 2012a). During the first quarter of 2012, sales accelerated in various sectors of the economy like chemical products, wood and wood based products, paper and paper based products, rubber products, metal products, electrical & electronic products, and heavy machinery and transport (MIER, 2012b). GDP grew by 4.5% in the first three quarters of 2013. As for 2014, although GDP growth rate is predicted to cross 5.5% but 2014 is expected to be a challenging year characterizing rising cost of living, toughening credit situations, increasing unemployment, and damping real economic activity (MIER, 2014).

Currently, the Prime Minister Initiatives including: The Economic Transformation Programme (ETP), Tenth Malaysia Plan (RMK-10), Government Transformation Programme (GTP), and 1 Malaysia are in motion for realization of National Economic Policy and Vision 2020 (Official Portal of the Office of the Prime Minister of Malaysia, 2014).

According to IMF Staff Country Report (2012), Malaysia, being an open economy, was affected through real and financial channels in 2008-09 global crises and its potential growth slowed over the last decade. While in 2010, Malaysia made strong recovery out of the 2008-09 global crises, the Report added that Malaysian economy had been confronting a challenging global environment where external demand was expected to slow down in consecutive years. Hence, as per latest IMF Staff Country Report (2014), GDP grew by 4.7% in 2013 compared to 5.6% in 2012 in addition to having a challenging future scenario. However, according to authorities, the economy

would expand about 5% – 5.5% in 2014, and that Malaysia is aware of the risks posed by external global challenges and it already has in place far-reaching reform agenda that will take it to high stage of economic growth and development (Ghaffour & Ripin, 2014).

Malaysian manufacturing as well as service sectors are important contributors to country's GDP (Hassan, Muhammad, & Ismail, 2011; Naqshbandi & Idris, 2012). The role of manufacturing sector has become more important since mid-1980's as the country has marked transformation from commodity based manufacturing to industrial products manufacturing (Asid, 2010). During the last few years, Malaysian manufacturing sector contributed around 25-32% to GDP and it is expected to remain as a key sector during the Third Malaysian Industrial Master Plan, 2006 to 2020 (Hassan *et al.*, 2011; Ministry of International Trade and Industry [MITI], 2013).

On the other hand, the service sector contributes more than 50% to country's GDP and has achieved tremendous growth in the past in various fields such as; construction, education, healthcare, tourism, telecommunications and professional services (Downe, Loke, Ho, & Taiwo, 2012; MITI, 2013; Naqshbandi & Idris, 2012). During 2011 and 2012, agricultural sector also contributed to GDP for around 8% (MITI, 2013). In future, it is important for these sectors to carefully manage their business operations and set competitive priorities to successfully confront global business scenarios (Hassan *et al.*, 2011; Naqshbandi & Idris, 2012).

Hence, Malaysian economy is confronted by global challenges regarding its growth targets and falling international demand and therefore, the current scenario clarifies

the important role of Malaysian corporate sector towards maintaining economic balance and achieving growth targets. Therefore, in conclusion it can be argued that, keeping in perspective the significant role of Malaysian corporate sector in the country's growth and development, the importance of product diversification strategy decision, the implication of corporate parenting and its roles, and availability of limited research on the topic, the importance and need of this study is evident.

Keeping in view the overall scenario and research objectives, this study has produced useful conclusions and set forth strong recommendations for managers in general and corporate planners/strategists of Malaysian Public Listed Companies (PLCs) regarding their choice of diversification strategies and corporate parenting roles. As this study was conducted for diversified PLCs (having multiple product/business segments) listed on Main Market of Bursa Malaysia, therefore, the recommendations are particularly useful for these companies, and they are expected to ultimately improve the performance of Malaysian corporate sector. The study's practical significance is discussed in further detail in Section 1.7.2 of this chapter.

1.3.2 Past Studies on Product Diversification – Performance Relationship in Malaysian Context

While past research on product diversification – performance relationship has been focusing more on Western economies such as US and Europe, comparatively lesser studies have been conducted on this relationship with reference to emerging economies such as Malaysia (Daud *et al.*, 2009; Tan, 2007; Yaghoubi *et al.*, 2011). Past studies involving Malaysian corporate sector have reported extensive

diversification on the part of Malaysian companies (Ahmad *et al.*, 2003; Claessens *et al.*, 1998; Ishak & Napier, 2006).

Ishak and Napier (2006) studied year 2000 data of 355 public limited companies in Malaysia and found that more than half (54.6%) of them were diversified. Similarly, Ahmad *et al.* (2003) studied 219 Malaysian companies listed on KLSE (Kuala Lumpur Stock Exchange) in 1995 and also found that more than half (53.9%) of the companies were diversified. Claessens *et al.* (1998) studied corporate diversification in nine East Asian countries including Malaysia over the period 1991-1996. Their data revealed that Malaysia ranked higher in the percentage of multi-segment firms (70%) after Singapore (72%).

Past studies on product diversification – performance relationship in context of Malaysia or other Asian countries produced mixed findings. Some studies indicated significant diversification discount or negative impact of product diversification on performance compared to those of single-segment firms (Claessens *et al.*, 1998; Daud *et al.*, 2009; Lins & Servaes, 2002). The evidence from the developed countries shows that diversification is not beneficial (Berger & Ofek, 1995; Hoechle, Schmid, Walter, & Yermack, 2012; Lang & Stulz, 1994) but since Malaysia is seen as a country where market imperfections still exist (Chakrabarti *et al.*, 2007), the benefits of internal capital market efficiency could apply here. But, study of Daud *et al.* (2009) doesn't report results in favour of this proposition.

However, other studies in Malaysian context produce results which are consistent with transaction cost theory or internal market efficiency hypothesis, stating that

product diversification is beneficial in markets having least developed institutional environments and reporting results against presence of significant diversification discount (Chakrabarti *et al.*, 2007; Ishak & Napier, 2006).

In can be argued that the study of Malaysian organisations with respect to product diversification strategies could be enriched by inclusion of most important strategic issues that might moderate the relationship between product diversification strategies and performance. Unlike West, in most of the Asian countries, the diversification is at the group level (Mishra & Akbar, 2007a; Zhao, 2010). According to George (2007) and Guillen (2000), business groups in emerging economies are motivated to diversify for getting internal market advantages from it such as obtaining capital, raw material and technology from internal market.

Malaysian economy is also characterized by presence of business groups in corporate sector, which function across a diversified range of activities within and across a number of sectors such as plantation, construction, property development, diversified manufacturing and trading as well as services (Thillainathan, 1999). This study provides a test of the phenomenon by evaluating related diversification strategy and unrelated diversification strategy separately.

Additionally, the study analyses corporate parenting roles of corporate level managers. So, there are multiple objectives of the study. The study not only helps examine the relative effects of related and unrelated diversification strategies on corporate performance, but more importantly it enables us to explore whether corporate parenting roles have a positive moderating effect on diversification

strategies and corporate performance relationship. Moreover, the study puts forward strong conclusions as the measurement of corporate performance is done through objective criteria using financial ratios as well as through subjective assessment of corporate performance by company representatives.

1.4 Problem Statements

Past research in product diversification – performance relationship has been multidirectional. It has either focused on examining the effect of product diversification on performance or on comparing related diversification strategy with unrelated diversification strategy on different performance measures. However, the findings of research in these areas have been inconsistent and inconclusive (Asrarhaghighi *et al.*, 2013; Marinelli, 2011; Nippa *et al.*, 2011).

Over the years, certain studies found product diversification as a valuable strategy (Kuppuswamy & Villalonga, 2010; Miller, 2006; Mishra & Akbar, 2007a; Pandya & Rao, 1998), while others did not find it beneficial and proved significant negative effects of product diversification on performance (Afza, Slahudin, & Nazir, 2008; Braakmann & Wagner, 2009; Daud *et al.*, 2009; Hoechle *et al.*, 2012).

Certain studies found curvilinear or inverted U-Shaped relationship between product diversification and performance (Galván, Pindado, & De la Torre, 2007; Kahloul & Hallara, 2010; Liu & Hsu, 2011; Palich *et al.*, 2000). Interestingly, certain past studies found no significant effect of product diversification on performance and attributed performance to variables other than extent of product diversification (Chang &

Thomas, 1989; Çolak, 2010; Lloyd & Jahera Jr., 1994; Marinelli, 2011; Montgomery, 1985).

Similarly, in comparing related against unrelated diversifiers, certain researchers found related diversifiers as better performers than unrelated diversifiers (Galván *et al.*, 2007; Markides & Williamson, 1996; Mishra & Akbar, 2007a; Rumelt, 1974, 1982). While, on the other hand, others concluded that unrelated diversifiers performed better in comparison to related ones (Dubofsky & Varadarajan, 1987; Lahovnik, 2011; Marinelli, 2011; Michel & Shaked, 1984).

Hence, there has been clear inconsistency among the findings of past studies in these areas and this inconsistency provides initial motivation for this research. This discrepancy could partly be attributed to number of reasons such as use of different approaches to measure product diversification, use of different corporate performance indicators, studies' time periods and change of contexts etc. (Asrarhaghighi *et al.*, 2013; Datta *et al.*, 1991; Palich *et al.*, 2000).

Most importantly, certain researchers argue that product diversification strategies – performance relationship being complex, must be examined through a perspective by incorporating the impact of moderating variables in it which might actually change the nature of this relationship (Datta *et al.*, 1991; Hill *et al.*, 1992; Martínez-Campillo & Fernández-Gago, 2008; Mehmood & Hilman, 2013; Ravichandran, Liu, Han, & Hasan, 2009). Although some past studies incorporated certain moderators into this relationship (David, O'Brien, Yoshikawa, & Delios, 2010; Markides & Williamson, 1996; Martínez-Campillo & Fernández-Gago, 2008; Santalo & Becerra, 2004), but

there have been limited studies utilising crucial corporate strategy issues such as corporate parenting advantage as moderator into this relationship (Campbell *et al.*, 1995a; Nippa *et al.*, 2011).

Traditionally, although, researchers talked about corporate strategy, corporate value addition, and corporate parenting styles (Campbell & Goold, 1988; Kruehler *et al.*, 2012; Mishra & Akbar, 2007b), but most of the explanation on the topic is purely theoretical. Particularly, there has been theoretical focus on different corporate parenting roles such as: strategic planning, financial control and strategic control (Goold, Campbell, & Luchs, 1993a, 1993b) and portfolio manager, synergy manager and parental developer (Johnson *et al.*, 2008, 2011), but there are limited empirical researches (Lange, Boivie, & Henderson, 2009; Oijen & Douma, 2000) studying product diversification strategies and corporate parenting roles together.

Specifically, there is limited research examining corporate parenting roles as moderators in product diversification strategies – performance relationship, thus representing a research gap (Campbell *et al.*, 1995a; Nippa *et al.*, 2011). This study aims to fill this research gap by examining effects of related and unrelated diversification strategies on corporate performance by taking corporate parenting roles as moderators in the relationship.

Furthermore, majority of past studies relied on financial performance indicators, for instance, accounting ratios (Ibrahim & Kaka, 2007; Marinelli, 2011; Martínez-Campillo & Fernández-Gago, 2008), market ratios (Chari, Devaraj, & David, 2008; Hoechle *et al.*, 2012; Schmid & Walter, 2008), or a combination of accounting and

market ratios (Daud *et al.*, 2009; Fukui & Ushijima, 2006; Kahloul & Hallara, 2010) in their investigations on the topic. There are lesser studies that used subjective assessment of overall corporate performance, which represents another research gap. To fill this gap, this study secures subjective assessment of corporate performance along with financial performance indicators in order to make comprehensive evaluation of diversification strategies on corporate performance.

Moreover limited studies and inconsistencies into these research areas in Asian context also call for more investigation (Chakrabarti *et al.*, 2007; Daud *et al.*, 2009; Ishak & Napier, 2006). This research is deemed important in Malaysian context as there has been limited research on the topic in Malaysian context (Daud *et al.*, 2009; Yaghoubi *et al.*, 2011), while at the same time Malaysia has always been characterised by presence of a large number of diversified organisations (Ahmad *et al.*, 2003; Claessens *et al.*, 1998; Ishak & Napier, 2006).

Although there is some research into Malaysian directors' competences but research about moderating effect of corporate parenting roles on product diversification strategies – performance relationship with respect to Malaysian companies is almost lacking (Alhaji & Yusoff, 2013; Yusoff & Amrstrong, 2012). Therefore, given its research objectives, this study certainly pays a rich contribution to the understanding of the relevant phenomenon regarding Malaysian companies while filling the contextual gap on the topic.

1.5 Research Questions

Following research questions are formulated for this study.

1: Does extent of product diversification strategy significantly affect corporate performance?

1a: Does extent of related diversification strategy significantly affect corporate performance?

1b: Does extent of unrelated diversification strategy significantly affect corporate performance?

2: Do corporate parenting roles positively moderate relationship between product diversification strategies and corporate performance?

2a: Do synergy manager role and parental developer role positively moderate relationship between related diversification strategy and corporate performance?

2b: Does portfolio manager role positively moderate relationship between unrelated diversification strategy and corporate performance?

3: How do related diversification strategy and unrelated diversification strategy compare with each other concerning their effects on corporate performance?

1.6 Research Objectives

Following research objectives could be listed on the basis of the above mentioned research questions.

1. To investigate whether extent of product diversification strategy significantly affects corporate performance.

1a: To investigate whether extent of related diversification strategy significantly affects corporate performance.

1b: To investigate whether extent of unrelated diversification strategy significantly affects corporate performance.

2. To investigate whether corporate parenting roles positively moderate relationship between product diversification strategies and corporate performance.

2a: To investigate whether synergy manager role and parental developer role positively moderate relationship between related diversification strategy and corporate performance.

2b: To investigate whether portfolio manager role positively moderates relationship between unrelated diversification strategy and corporate performance.

3. To compare related and unrelated diversification strategies concerning their effects on corporate performance.

1.7 Significance of the Study

This study demonstrates the importance of selecting related or unrelated diversification strategies, corporate parenting roles and their possible combined effect on corporate performance. It is anticipated that an appropriate combination of a particular product diversification strategy and corporate parenting role will have a

positive effect on corporate performance. The theoretical and practical significance of the study is evident on the basis of following arguments.

1.7.1 Theoretical Significance

This study addresses important issues and existing gaps in the literature concerning the interaction between product diversification strategies and corporate parenting roles for diversified companies. Although there are a number of studies examining effect of product diversification strategies on performance but there is limited research on the interrelationships between product diversification strategies, corporate level competences or managerial styles and corporate performance (Hitt & Ireland, 1986; Liu & Hsu, 2011; Menz & Mattig, 2008).

Most notably, there was a research gap in form of absence of research on the moderating effect of corporate parenting roles on product diversification - performance relationship (Campbell *et al.*, 1995a; Nippa *et al.*, 2011). Hence, this research has filled that gap by combining together factors of extreme strategic importance, namely product diversification strategies, corporate parenting roles and corporate performance into one research framework.

In this way, this research has explored significant relationships among crucial variables of strategic nature and contributed to the relevant body of knowledge. Specifically, this study has contributed to the literature on product diversification strategies, corporate parenting and corporate performance along with paying significant contribution in studying the nature of product diversification - performance

relationship through the perspective of corporate parenting roles. In another way, this research has also contributed to the group of studies who examined product diversification – performance relationship from the perspective of moderating variables (Hill *et al.*, 1992; Martínez-Campillo & Fernández-Gago, 2008; Ravichandran *et al.*, 2009) and has followed the suggestions of those scholars by studying this relationship using moderators.

Apart from that, the findings of this research significantly contribute to resource based view (RBV), dynamic capabilities perspective (DCP), contingency theory, transaction cost economics (TCE) and market power view in particular. The findings have made important advancements in linking RBV, TCE and market power view with the DCP. This research also makes important contribution by discussing similarities and differences in past studies on the relevant topic through its literature review.

Moreover, the use of comprehensive performance evaluation criteria based on objective (financial) as well as subjective indicators further increases the significance of the study. This research opens new avenues for future research into the relevant fields and recommends possible research frameworks for future studies that could also pay a significant contribution to the concerned body of knowledge.

1.7.2 Practical Significance

Several characteristics of this research point towards its practical significance. Firstly, this research is significant in the sense that there are limited researches on the topic in context of Malaysian corporate sector (Daud *et al.*, 2009; Ishak & Napier, 2006).

Malaysian corporate sector plays a massive role in growth and development of national economy. This research presents a strong set of guidelines with respect to relevant variables for the managers in general and Malaysian managers in particular.

This research studies the effects of product diversification strategies (including related as well as unrelated diversification) on corporate performance of Malaysian Public Listed Companies (PLCs). The importance of this research signifies from this point that it studies certain factors which are considered to be of extreme strategic importance for any public listed company. Further, this study examines the moderating effect of corporate parenting roles on diversification strategies – performance relationship. The topic of corporate parenting including corporate parenting roles is itself a crucial strategic and leadership issue faced by strategists of public listed companies (Campbell *et al.*, 1995a; Kruehler *et al.*, 2012; Porter, 1987).

Hence, the interrelationships explored between diversification strategies, corporate parenting roles and corporate performance based on the data for Malaysian PLCs indicates its great significance for the Malaysian PLCs in particular. The guidelines developed as a result of this research guide strategists in improving their managerial decision making. The findings guide Malaysian CEOs, Directors and corporate planners in their choice of product diversification strategies. Particularly, the insights gained in the study regarding the relationship between product diversification strategies and corporate parenting roles direct the strategists in understanding the importance of corporate parenting and using most appropriate corporate parenting role for adding value to their businesses.

The findings serve as an important guideline for Malaysian managers in particular about the selection of type of diversification strategy and recommend them selecting related diversification strategy for corporate expansion and growth. The results suggest that corporate parenting role is a significant strategic factor in product diversification – performance relationship. The results provide important directions to managers about choice of appropriate corporate parenting role for a particular diversification strategy.

Specifically, the research suggests that corporate managers must learn and adopt the role of Synergy Manager and ideally Parental Developer while following related diversification strategy. Corporate managers must understand and play the role of Portfolio Manager while pursuing unrelated diversification strategy. In another way, the findings point towards the importance of developing relevant corporate management capabilities and adopting suitable corporate parenting roles according to the type of diversification strategy. The managers can learn from the findings of this study combined with discussion of relevant theories and interpretation of results.

As discussed before in a previous section that although Malaysia has successfully come out of 2008-09 global financial crises but the economy is faced with external environment challenges in maintaining its growth targets (IMF Staff Country Report, 2012). The discussions made and recommendations provided in this research would certainly provide useful insights in managerial decision making on the relevant issues, for Malaysian strategists in particular and other managers in general. It would help improve the performance of Malaysian corporate sector.

It has been discussed before that Malaysian manufacturing and service sectors pay significant contribution to Malaysia's GDP. The recommendations provided through this research regarding important corporate strategy issues would certainly help manufacturing and service sectors improve their contribution to Malaysian GDP. This would ultimately facilitate in achieving the target of GDP growth rate for concerned years. The findings would guide capital investment decisions made by corporate sector about investing in related or unrelated sectors and industry segments and help achieve better economic balance. Similarly, through providing recommendations about corporate diversification decisions, this research would also contribute in achieving Economic Transformation Programme and Tenth Malaysia Plan (10th MP).

1.8 Scope of the Study

Research into corporate sector is always considered as of bigger scope. This study focused on issues related to product diversification strategies, corporate parenting roles and performance for diversified PLCs on Bursa Malaysia. It collected corporate level primary data as well as secondary data for its analyses purposes. Secondary data was collected through company annual reports, Worldscope Datastream and other sources, whereas primary data was collected through questionnaires sent to top level managers of Malaysian PLCs. The findings obtained through this research are applicable to all diversified companies in general and Malaysian PLCs in particular. The methodology presented in Chapter 3 as well as discussions made in Chapter 5 further magnify the scope of this study.

1.9 Organisation of the Thesis

This thesis is organised around five chapters. Chapter 1 presents overall introduction and background of the study, along with other important contents like problem statements, research objectives and research questions, and study's scope and significance.

Chapter 2 presents literature review. It mainly focuses on concepts, issues and past researches on product diversification strategy and its types (related and unrelated diversification strategy). It includes discussions about underpinning theories relating to different variables. Additionally, it discusses the concept of corporate parenting and elaborates literature available on three corporate parenting roles i.e. Portfolio Manager, Synergy Manager and Parental Developer. Lastly, it discusses the variable of Corporate Performance and how past researches have been measuring corporate performance. The explanations include different indicators for measuring corporate financial performance by past studies with a focus on subjective assessment of corporate performance.

Chapter 3 presents research framework, hypotheses and research methodology. It elaborates on the measurement of independent, dependent and moderating variables along with instrument development and discusses population, unit of analysis, sources of data and pilot study. Chapter 4 presents data analysis and findings of the study. It discusses sample size, respondent companies, and methods of data analysis in the beginning. Then, it presents methods and procedures to ensure validity and reliability of the questionnaire along with commenting on descriptive statistics. After that, it

presents in detail the test results for simple linear regression analysis, moderated regression analysis, and t-tests in a sequence as required by the research questions and research objectives.

Chapter 5 is mainly devoted for conclusions and discussions on the results obtained in Chapter 4. Additionally, it discusses implications of the study and its limitations, and presents recommendations for the future research into relevant areas.

1.10 Chapter Summary

This chapter started by providing overall background and introduction of this research by providing a brief history on past patterns of product diversification strategies, an overview of relevant research in product diversification strategies and corporate performance and gaps in the concerned literature. Then, it provided overview and challenges confronted by Malaysian economy and its corporate sector to highlight the importance of study in Malaysian context. Afterwards, it presented problem statement of the research by focusing on various gaps in the relevant literature regarding different concepts and issues and suggested how to fill those gaps. It was followed by research questions and research objectives. The chapter then proceeded towards explaining theoretical and practical significance of the study followed by its scope. Organisation of thesis was explained in the end.

CHAPTER TWO

LITERATURE REVIEW

2.1 Introduction

This chapter is devoted to critical review of literature on various topics relevant to this research. The chapter starts by presenting an overview of Malaysian corporate sector including various regulatory bodies that govern PLCs in Malaysia along with information about number of PLCs, market indices, and types of Bursa Malaysia markets. Then, it provides basic conceptualization of Product Diversification Strategy and its types in Section 2.3. It proceeds towards explaining motives for Product Diversification Strategy with reference to its underpinning theories in Section 2.3.2.

This is followed by Sections 2.3.3 and 2.3.4 which provide detailed explanation and critical analysis of past studies on product diversification strategy and performance link. The chapter, then advances towards explaining the concept of Corporate Parenting, its rationale and logic, the three Corporate Parenting Roles, and past research conducted on corporate parenting along with theoretical underpinnings of this concept. Lastly, it explains variable of Corporate Performance and makes critical analysis of past studies employing various measures of corporate performance in Section 2.5. In the end, a summary of the chapter is presented.

2.2 Corporate Sector in Malaysia

This section offers a brief explanation about the corporate sector of Malaysia. As the unit of analysis in this study is Public Listed Company (PLC), therefore it starts with presenting a short history and development of corporate sector in Malaysia, Bursa Malaysia's listing requirements for PLCs in brief, number of listed companies and relevant market indices along with regulatory bodies governing PLCs in Malaysia.

Malaysia is presently consisting of 13 states and 3 federal territories. Under the constitution of Malaysia, most of the matters of life are being governed by a uniform body of federal law implemented by a system of national courts (Shuaib, 2012). Although the legal system of Malaysia is predominantly based on English common law, there are also other legal systems of secondary nature that affect certain sections of the law, for instance customary law and Islamic law (Noordin & Supramaniam, 2013). In the early times, companies in Malaysia were controlled by the British ownership, and corporate sector had largely been characterized by companies involved in tin mining, plantation and timber, whereas currently it has transformed itself into high technology industrial platform (Mun, 2007).

The development of corporate sector in Malaysia has been aided by several set of policies made by past governments. For instance, along with policies for promoting industrialization, export orientation, foreign direct investment and privatization, an important policy has been to strengthen Bumiputra business community so as to reduce poverty levels and to ensure equal ownership among various society groups (Ishak & Napier, 2006). In last decade or so, governments have been attracting capital

inflows to the corporate sector by advocating economic power, appreciative government policies, developed infrastructure, well educated workforce, vigorous business environment and improved life quality (Malaysian Investment Development Authority [MIDA], 2014).

In order to ensure government policy implementation, following framework of public corporations and bodies prevail in Malaysia:

1. At first place, there is an organisation structure of ministries along with certain government departments such as Royal Customs and Excise Department, Immigration Department of Malaysia, Marine Department Malaysia and Department of Statistics Malaysia (Noordin & Supramaniam, 2013). This provides umbrella for policy making and sets parameters for policy and system implementation and evaluation.
2. Certain statutory and regulatory bodies are also in place to ensure government policy implementation and adherence. For instance, they are Bank Negara Malaysia, Malaysian Investment Development Authority (MIDA), MATRADE, The Inland Revenue Board of Malaysia, The Malaysian Communications and Multimedia Commission (MCMC), Human Rights Commission of Malaysia (SUHAKAM), and Intellectual Property Corporation of Malaysia (Noordin & Supramaniam, 2013). These regulatory bodies work in collaboration and ensure corporate sector's adherence to policy issues, laws, rules and regulations relating to conduct of business operations in Malaysia.
3. Thirdly, there exists a set of partly or fully owned government organisations for the provision of certain basic and important products and services.

1Malaysia Development Berhad, Khazanah Nasional Berhad, MRT Corp and Petronas are few among them. They are set to fulfil the objective of providing certain goods and services of basic nature for general public welfare.

Hence, along with several privately owned corporations, these public sector organisations and bodies attempt to keep balance over corporate ownership structure. But over the years, there has been a shift in the corporate ownership structure, corporate governance and possibly corporate managerial styles as reflected through the privatization programme of past governments (Tan, 2008). Historically, privatisation guidelines were released by the Economic Planning Unit (EPU) in 1985 and were followed by announcement of Privatisation Masterplan in 1991 (Nambiar, 2009).

Four major privatizations occurring in the past have been the privatisation of Kuala Lumpur Light Rail Transit LRT, national sewerage company IWK, national car company Proton, and national airline MAS (Tan, 2008). From an economic point of view, although privatisation provides benefit to the economy, but in Malaysia it has resulted in both, success and failure (Mun, 2007; Tan, 2008).

As this study is conducted for PLCs, therefore next Section discusses Bursa Malaysia's types of markets and number of PLCs, high and low performing PLCs and regulatory bodies governing PLCs in Malaysia

2.2.1 Public Listed Companies (PLCs) in Malaysia

In Malaysia, PLCs are either listed on the Main Market or on the ACE (which is abbreviation for Access, Certainty, Efficiency) Market of Bursa Malaysia Securities Berhad. The foremost difference between Main Market and ACE Market is in their listing requirements. For instance, for primary listing of local as well as foreign companies, market capitalization of RM500 million at best is prescribed for listing for Main Market, while there is no such requirement for listing on ACE Market (SMEinfo, 2014)[1]. Other than that, there is difference between the two markets with respect to profit level requirements, infrastructure project requirements, IPO price level, public spread and Bumiputera Equity Requirement (SMEinfo, 2014). One of the noteworthy qualitative criteria for listing on the ACE Market is Sponsorship – where a Sponsor is required to judge company's competency for listing and which needs to stay with the company for at least three years after listing (Bursa Malaysia, 2011).

Currently, there are about 800 companies listed on the Main Market and over 100 companies listed on ACE Market of Bursa Malaysia. Table 2.1 provides summary of listed companies on both markets from 2009 to 2014. The companies listed on the Main Market are classified into following sectors: Industrial Products, Construction, Consumer Products, Properties, REITs, Trading and Services, Finance, Technology, Plantations, Mining, SPAC, Hotels, IPC, and Closed-End Funds. Certain companies listed on Bursa Malaysia are categorized as PN17 companies. PN17 is about Practice Note 17/2005 released by Bursa Malaysia.

[1] Comprehensive detail and criteria about primary and secondary listing requirement of local and foreign companies is available on the website: www.smeinfo.com.my through following link: (http://www.smeinfo.com.my/index.php?option=com_content&view=article&id=1148&Itemid=1156, 2014)

These companies are basically financially distressed having various problems such as extremely high geared, financial appetite, or failure to meet minimum capital or equity requirements (Mohammed, 2012). As until 8th July, 2014, 23 companies were classified as PN17 companies[2]. Similarly, certain companies are categorized as GN3 companies – Guidance Note 3 – which also reflects severe financial or structural problems and non-compliance on the part of companies and exposes them to the chances of delisting. As of 8th May, 2014, two companies were classified as GN3 companies[3].

Table 2.1
Total Number of Listed Companies (As at 18th August 2014)

Year	Main Market*	ACE Market	Total
2014	799	108	907
2013	802	109	911
2012	809	112	921
2011	822	119	941
2010	844	113	957
2009	844	116	960

(* excluding ETFs and REITs)
(Source: http://www.bursamalaysia.com/market/listed-companies/initial-public-offerings/listing-statistics/, 2014)

The 1997-98 Asian financial crisis had a noteworthy impact on the profits of Malaysian PLCs which was reflected through the problem of non-performing loans and resulting in 26 KLSE companies not being able to service their debts (Sulaiman, Jili, & Sanda, 2001). But in spite of that, the number of PLCs listed on KLSE has been increasing. Year 2006 marked highest number of total companies (1027) listed altogether on KLSE's main board, second board and MESDAQ market. However, as

[2] Following link for Bursa Malaysia website provides updated information about PN17 companies: (http://www.bursamalaysia.com/market/listed-companies/list-of-companies/pn17-companies/, 2014)
[3] Following link for Bursa Malaysia website provides updated information about GN3 companies: (http://www.bursamalaysia.com/market/listed-companies/list-of-companies/gn3-companies/, 2014)

evident from Table 2.1, the number of PLCs has been decreasing on Bursa Malaysia from 2009 to 2014.

In order to track market performance, a family of indices has been created through partnership between FTSE (Financial Times Stock Exchange) Group and Bursa Malaysia. As per FTSE's July, 2014 report on indices, there are 11 indices of different kind to track market performance of companies. The performance of FTSE Bursa Malaysia Index Series for the month of July, 2014 is presented in Figure 2.1.

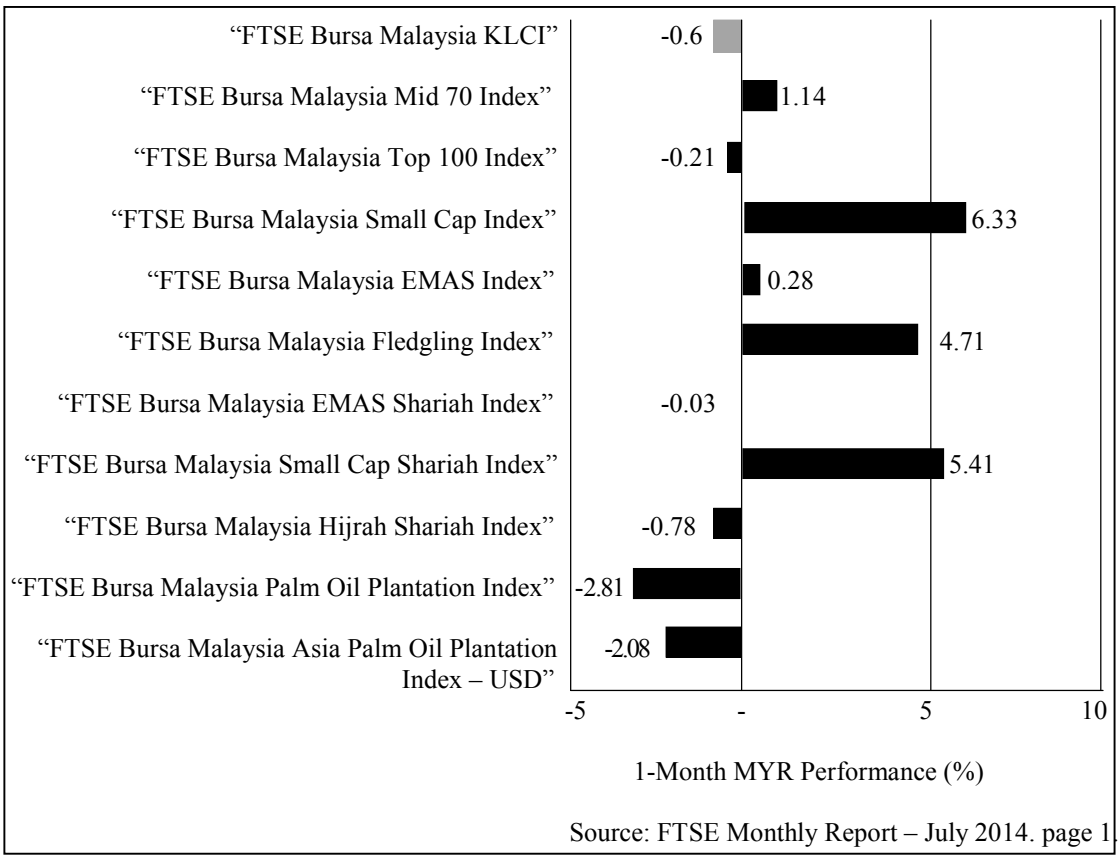

Figure 2.1
Performance of FTSE Bursa Malaysia Index Series (July, 2014)

Among all, the FTSE Bursa Malaysia KLCI Index represents a key stock market index that reflects performance of thirty largest companies on Bursa Malaysia main market, through full capitalization. This index has base value of 100 as on 2nd January, 1977[4]. The Table 2.2 including information about FTSE Bursa Malaysia KLCI top 5 and bottom 5 performers for July, 2014 is provided below. Similarly, FTSE Bursa Malaysia Top 100 Index includes constituents of FTSE Bursa Malaysia KLCI (which is for 30 companies) plus the FTSE Bursa Malaysia Mid 70 Index. Appendix E includes information about top 5 and bottom 5 performers of FTSE Bursa Malaysia Top 100 Index for July, 2014.

Table 2.2
FTSE Bursa Malaysia KLCI Top 5 and Bottom 5 Performers (July, 2014)

Local Code	Company	Subsector	Net Mkt Cap (MYRm)	Index Weight (%)	1M Perf (%)
		Top 5			
1082	Hong Leong Financial	Banks	3,676	0.70	8.18
4162	British American Tobacco	Tobacco	10,065	1.91	7.57
5225	IHH Healthcare	Healthcare Providers	12,875	2.45	7.31
4588	UMW Holdings	Automobiles	7,751	1.47	7.14
1066	RHB Capital	Banks	6,293	1.20	5.96
		Bottom 5			
6033	PETRONAS Gas	Exploration & Production	18,584	3.53	-4.16
6399	Astro Malaysia Holdings	Broadcasting & Entertainment	5,239	1.00	-4.27
1023	CIMB Group Holdings	Banks	36,867	7.01	-4.37
1961	IOI	Farming, Fishing & Plantations	18,599	3.54	-4.76
5681	PETRONAS Dagangan	Integrated Oil & Gas	5,543	1.05	-22.63

Source: FTSE Monthly Report – July 2014. page 8.

[4] Information obtained from website of Trading Economics. Link: (http://www.tradingeconomics.com/malaysia/stock-market, 2014)

Further, PLCs in Malaysia are subject to control by several institutions and regulatory bodies concerned with tax, stock market operations, business incorporation and other matters (Ishak & Napier, 2006). Securities Commission (SC) is the most important statutory body established under the Securities Commission Act 1993. In addition to advising the Government and Bank Negara Malaysia, SC performs a set of extremely crucial roles such as supervising exchanges, registering companies' prospectuses, regulating mergers/takeovers, and warranting suitable market conduct. It also acts as liaison body between Bank Negara Malaysia, Ministry of International Trade and other parties for various matters (Mah-Kamariyah & Koh, 2011).

The Companies Commission of Malaysia (Suruhanjaya Syarikat Malaysia-SSM) acts as government agent to oversee various issues relating to corporations and other businesses, and to facilitate the provision of corporate information and gathering of payment/fee of different kind. Companies in Malaysia are required to adhere to various acts like Securities Commission Act 1993 in principal and other acts like Companies Act 1965, Registration of Businesses Act 1956, Kootu Funds (Prohibition) Act 1971, and Trust Companies Act 1949 (Mah-Kamariyah & Koh, 2011). SSM justifies its existence through proper implementation of these acts.

The Inland Revenue Malaysia also acts as government agent to govern and collect various taxes and loans from various institutions. Bursa Malaysia Securities Berhad serves as self-regulatory body engaged primarily in the enforcement of listing requirements for PLCs, making market observations and ensuring proper compliance and conduct of PLCs (Malaysian Accounting Standards Board [MASB], 2014a). In order to protect small investors and ensure accountability and transparency on the part

of PLCs, Bursa Malaysia has put in place a disclosure-based system along with implementing Malaysian Code of Corporate Governance.

As a professional body, The Malaysian Institute of Chartered Secretaries and Administrators (MAICSA) serves particular needs of the corporate sector through providing education and training in good governance, ethics, undertaking research and advocating sound corporate practices. In addition, companies in Malaysia are required to follow standardized accounting and financial standards set forth by The Malaysian Accounting Standards Board which is an independent authority set under the Financial Reporting Act 1997 (MASB, 2014a). Hence, the combination of different regulatory bodies, laws and acts provide a sound legal and regulatory framework for PLCs in Malaysia to conduct their business operations.

This section discussed number and listing of PLCs on different markets of Bursa Malaysia, indices for gauging performance of PLCs, and the role of different government organisations and institutions governing PLCs in Malaysia. Next, the review of literature on all relevant variables of this research starts from the following section. The section 2.3 presents conceptualization of product diversification strategy and its types, as well as it provides literature review regarding product diversification – performance relationship along with other important contents.

2.3 Product Diversification Strategy

2.3.1 Definition and Types

Diversification or diversify is derived from the word diverse which means variety (Read & Loewenstein, 1995). Applied to business context, product diversification

would mean organisation's growth or expansion into related or unrelated industries (Haberberg & Rieple, 2001; Robbins, Coulter, & Langton, 2007). Product diversification strategy determines an organisation's competitive scope (Porter, 1991).

Historically, Ansoff (1957) defined product diversification as a growth strategy wherein an organisation departs from its existing product lines and existing market structure to new ones. He added that compared with other strategies; product development, market development, and market penetration, product diversification resulted into major structural changes in an organisation as it required new skills, techniques and facilities for its implementation.

As product diversification may drastically increase organisation's scope (Coulter, 2005; Johnson *et al.*, 2008), it could be argued that it is a risky strategy and diversification decision carries extreme significance in any organisation. Product diversification represents organisation's strategic flexibility and it can be classified into two types: related diversification and unrelated diversification (Abdullah, 2009; Jones & Hill, 2010).

2.3.1.1 Related Diversification Strategy

2.3.1.1.1 Definition

Related diversification strategy is company's expansion beyond existing products or markets but within its current core of resources and capabilities (Grant, Butler, Hung, & Orr, 2011; Johnson *et al.*, 2008). In related diversification, company's new business activity is linked with current business activities (Harrison & John, 2010; Lahovnik,

2011; Thompson, Peteraf, Gamble, & Strickland III, 2012) and there might be great commonality among various businesses with respect to resource requirements and key value chain activities that they perform (Teece, 1982; Thompson *et al.*, 2012). Hence, in related diversification, an organisation enters into new industry segments which are part of the same industry the organisation is already working in.

2.3.1.1.2 Examples of Related Diversification Strategy

The acquisition of Procter & Gamble's Folger's coffee business by Smuckers Co. (manufacturer of peanut butter, jam and Crisco Oils) as well as entrance of Tyson Foods into dog food business provide examples of related diversification strategy (David, 2011). Similarly, Samsung, Cisco Systems and Honda are other examples of companies following related diversification strategy (Harrison & John, 2010; Jones & Hill, 2010)

2.3.1.1.3 Reasons to pursue Related Diversification Strategy

Scholars suggest that the primary motive behind related diversification strategy is creation of synergy (David, 2011; Grant *et al.*, 2011). Synergy exemplifies that for two products A and B, the value produced by their combined manufacturing is more than the value produced when the two outputs are manufactured independently (Abdullah, 2009; Hill *et al.*, 1992). In relatedly diversified businesses, synergy results when the combined value created by different businesses working together exceeds the value the same businesses would produce working alone (Gupta *et al.*, 2007; Morden, 2007).

Related diversifiers can enjoy different types of synergies such as operative synergies and growth synergies, as well as synergy benefits might be available in form of scale effects, capability enhancements and entry into new markets (Knoll, 2007; Morden, 2007). Tangible relatedness among organisational resources can result into synergy creation through resource sharing while intangible relatedness provides opportunities for managerial synergy (Harrison & John, 2010). In relatedly diversified firms, the major sources of synergy can be in form of economies of scope, market power, and internal governance benefits (Martin & Eisenhardt, 2001; Yaghoubi *et al.*, 2011).

Related diversifiers gain scope economies in form of cost or differentiation advantages by sharing their resources and capabilities across different businesses (Galván *et al.*, 2007; Haberberg & Rieple, 2001; Nayyar, 1993). Helfat and Eisenhardt (2004) argued that a company using related diversification could benefit from intra-temporal and inter-temporal economies of scope. P&G enjoys economies of scope over its competitors as it shares its R&D cost and marketing cost across different businesses (Jones & Hill, 2010).

However, benefits of economies of scope might be available when there are significant commonalities among different businesses of an organisation and opportunities exist for creating significant competitive advantage for certain businesses of the organisation (Hoskisson, Hitt, & Ireland, 2009; Jones & Hill, 2010). Economies of scope benefits might be available in form of operational relatedness in highly related businesses, whereas these benefits are available through corporate relatedness in moderately related businesses (Gupta *et al.*, 2007; Hitt, Ireland, & Hoskisson, 2011).

Related diversification strategy provides rationale to organisations through increased market power as well (Dess, Lumpkin, Eisner, & McNamara, 2011; Hoskisson *et al.*, 2009). Market power exists when an organisation is able to sell its products at high prices relative to competitors or reduce its costs in relation to competitors through predatory pricing (George, 2007; Martin & Eisenhardt, 2001). Also, market power can be attained by related diversifiers through multipoint competition as well as through vertical integration (Hitt *et al.*, 2011).

In multipoint competition, a relatedly diversified firm sells its products against competitors in variety of product and market segments, thus putting competitive pressures on them (Johnson *et al.*, 2008), whereas in vertical integration, related diversifiers gain greater bargaining power over suppliers and distributors through backward and forward integration respectively (David, 2011; Gupta *et al.*, 2007). Yaghoubi *et al.* (2011) argue that related diversifiers gain increased bargaining power over their buyers through mergers in same or similar industries which give them opportunity to sell their products and services at high prices.

Related diversifiers also gain synergy benefits through internal governance advantages whereby they could create an efficient internal market for rapidly transferring capital and other assets among different businesses (Coase, 1937; Martin & Eisenhardt, 2001; Williamson, 1971). Organisation can finance new promising businesses and can transfer knowledge, personnel and training among different businesses, thus creating its own labour market (Hall, 1995; Teece, 1982).

However, synergy creation programmes are risky and they might not always fulfil expectations of management (Goold & Campbell, 1998; Haberberg & Rieple, 2001). Synergy programmes in related businesses can drastically increase interdependence among those businesses which might prove harmful if external business conditions change and any of the businesses changes its business strategy or approach to market (Hitt *et al.*, 2011).

In relation to such scenario, there are firms who prefer to opt for unrelated diversification strategy which although might not provide operative synergy benefits but it gives them condition to reduce risk and provides them better flexibility to exploit opportunities that exist in entirely different industries or sectors (Galván *et al.*, 2007; Grant *et al.*, 2011)

2.3.1.2 Unrelated Diversification Strategy

2.3.1.2.1 Definition

Unrelated diversification strategy or conglomerate diversification is company's development of products beyond its existing strategic capability (Johnson *et al.*, 2008; Pearce II & Robinson Jr., 2011) and it results into new businesses which have no relationship with existing or previous businesses (Grant *et al.*, 2011; Thompson *et al.*, 2012). So, unrelated diversification takes an organisation away from its current industries and business segments to entirely new ones.

2.3.1.2.2 Examples of Unrelated Diversification Strategy

Entry of IBM into water management business in 2009 and later, production of smart phones by Dell Inc. are prominent examples of unrelated diversification strategy (David, 2011). Similarly, Tata Group, Royal Philips, Hitachi and United Technologies Corporation (UTC) represent examples of unrelatedly diversified organisations (Harrison & John, 2010; Jones & Hill, 2010).

2.3.1.2.3 Reasons to pursue Unrelated Diversification Strategy

The literature on unrelated diversification strategy reveals that one of the primary motives for using unrelated diversification strategy is to increase profitability and reduce overall risk of a company (Grant *et al.*, 2011; Michel & Shaked, 1984). Unrelatedly diversified organisation reduces its overall risk by efficiently using its capital to cross subsidize and manage various businesses with different risk profiles, thus creating financial synergies (Berger & Ofek, 1995; Galván *et al.*, 2007). This is possible through efficient internal capital market the organisation governs, providing itself advantages of financial economies (Hoskisson *et al.*, 2009; Lim, Das, & Das, 2009).

Another form of financial economies available to unrelated diversifiers is through business structuring (Bamford & West, 2010). According to this concept, an organisation goes for unrelated diversification strategy when there are opportunities to add value to undervalued businesses and the organisation uses its financial expertise and strong corporate governance system to turn those businesses into profitable

entities for selling them at higher prices later on (Bamford & West, 2010; Johnson *et al.*, 2011).

2.3.2 Theoretical Background for Product Diversification Strategy

Previous scholars have been referring to different perspectives and theories on benefits and drawbacks of product diversification, for instance; the transaction cost economics and internal capital market efficiency (Bhide, 1993; Lins & Servaes, 1999; Liu & Hsu, 2011; Williamson, 1971), market power view (George, 2007; Martin & Eisenhardt, 2001), resource based view (Teece, 1982; Wernerfelt, 1984), and agency theory (Aggarwal & Samwick, 2003; Amihud & Lev, 1981). While the first three present product diversification as a useful strategy, the agency theory indicates a negative influence of product diversification on performance. A general explanation of each of these is presented in the following sections.

2.3.2.1 Transaction Cost Economics (TCE) and Internal Capital Market

TCE and concept of internal capital market provide powerful arguments for the drive and benefits for product diversification strategy. TCE (Coase, 1937; Williamson, 1971) implies that managers have to choose between external markets and internal organisational hierarchies for structuring and conducting business transactions and they need to carefully compare the relative costs of conducting transactions inside the organisation against those through external market (Liu & Hsu, 2011; Williamson, 1998). Providing the main idea of TCE, Coase (1937) argued that a firm would continue diversification until a point was reached where the costs of conducing

additional transaction inside the firm were levelled to costs of conducting the same transaction with outer market or they become equal to costs of conducting the same transaction with another firm.

Under TCE assumptions, it could be argued that a diversified organisation might be more efficient compared to a single segment firm and could make better investment decisions because it has its own internal capital market (Berger & Ofek, 1995; Kuppuswamy & Villalonga, 2010; Lins & Servaes, 1999) with the help of which, it could make successful allocation of resources across different businesses to improve its performance (Datta *et al.*, 1991; Galván *et al.*, 2007; Teece, 1982). Varanasi (2005) added that diversification could lead to creation of interaction economies through simultaneous supply of inputs and processes across different units.

Diversified organisation could also gain performance benefits by combining businesses which have different flow of earnings (Berger & Ofek, 1995) or lowering variation in year by year cash inflows (Bhide, 1993; Teece, 1982). Diversification through backward and forward integration might lead to better performance through savings in production and transaction costs because in industries where the organisation is working might be engaged in customer-supplier relationships (Fukui & Ushijima, 2006).

However, the benefits of TCE and internal capital market efficiency could be conditional and might not apply to all multi-business organisations. In unrelatedly diversified organisation, sharing of knowledge, implementing internal control mechanisms and gaining cooperation among businesses could be difficult compared

to those following related diversification strategy and therefore, in unrelated ones, governance costs and transaction costs could be greater (Abdullah, 2009; Busija, O'Neill, & Zeithaml, 1997), which could erode internal market advantages. In related diversifiers, excessive levels of diversification beyond optimal point could increase the marginal cost of product diversification causing erosion of internal market efficiency (Palich *et al.*, 2000; Park, 2010).

Similarly, if an organisation has an inefficient internal capital market, its costs will increase if changing industry conditions offer tremendous growth opportunities in one segment and in that case it will be optimal for diversified organisations to refocus (Campa & Kedia, 2002). Additionally, internal capital markets might also be disadvantageous in related as well as unrelated diversifiers due to their slow reaction time, high overhead costs, and continuous cross subsidization of badly performing businesses (Berger & Ofek, 1995; Bhide, 1993).

Moreover, diversification benefits on the basis of TCE and internal capital market efficiency are interpretable in light of different institutional contexts in various countries as well as conditions in the external environment (Claessens *et al.*, 1998; Kuppuswamy & Villalonga, 2010). After the World War II, the pace of conglomerate diversification increased because of the view that corporate headquarters were more efficient in allocating resources and managing various strategic business units as compared to external capital markets (Gupta *et al.*, 2007; Nippa *et al.*, 2011). But diversification gave up its popularity during 1980's and early 1990's because of development of external capital markets in developed economies, particularly in U.S. (Bhide, 1993; Gupta *et al.*, 2007).

In well developed economies, there are efficient product, labour, and capital markets which provide incentives to organisations for external market transactions, and therefore in developed economies, conglomerates might not be successful because external market transaction costs are lower compared to internalization (Mishra & Akbar, 2007a; Nippa *et al.*, 2011). Therefore, organisations prefer external market transactions in conditions when external markets perform well, because in that case they might have lower transaction costs (Nippa *et al.*, 2011; Williamson, 1971).

But, in developing countries, internal capital market could provide greater rewards as external markets are not well developed (Fan, Huang, Oberholzer-Gee, Smith, & Zhao, 2008) and in these conditions diversified group structure might be more beneficial and diversification strategy (related or unrelated) might result in better performance (Claessens *et al.*, 1998; Mishra & Akbar, 2007a).

The arguments regarding TCE and internal capital market gained support during 2008-2009 crisis. For instance, in a research on American firms, Kuppuswamy and Villalonga (2010) reported that value of conglomerate diversification increased during the crisis due to 'more-money' and 'smarter-money' effect attached with internal capital markets. Similarly, in a study of banking industry of nine countries, Elsas, Hackethal, and Holzhäuser (2010) reported evidence against conglomerate discount during sub-prime crisis starting in 2007. Hence, in agreement with Hall (1995) and Park (2010), it could be added that diversification levels need to be managed carefully keeping in view the external conditions and institutional context.

Summarizing the above discussion, it can be said that TCE and internal market efficiency arguments provide support for the benefits of related and unrelated diversification strategies in perspective of emerging economies such as Malaysia. Thus, the perspectives laid by TCE and internal capital market have strong relevance to this study as the present study has been conducted in Malaysian context where it provided a test of TCE and internal market efficiency arguments.

2.3.2.2 Market Power View

Market power advantages could also provide strong motives to strategic decision makers for pursuing product diversification strategy as highly diversified organisations can enjoy their market power in several ways in contrast to focused firms (Benito-Osorio *et al.*, 2012; Park, 2010). For example, in contrast to a focused firm, a diversified organisation with a variety of products and services possesses the opportunity to cross-subsidize a weak product using profits attained from a strong product, hence providing itself a better competitive advantage for the weak product (Johnson *et al.*, 2008; Lee, 2002; Palepu, 1985).

Further, a diversified organisation could use tactic of reciprocal buying and selling by developing favourable reciprocal arrangements with organisations which are its suppliers and customers at the same time (George, 2007; Palich *et al.*, 2000). To illustrate, an arrangement could be established where a company's supplier could be purchasing certain outputs from one of the business unit being acquired by the company and this diversification would result into multiple relationships with other

organisations (buyers or suppliers) providing it greater market power and high performance (George, 2007; Goddard, McKillop, & Wilson, 2008).

Moreover, diversified organisations might use income generated through one market in another market for the purpose of predatory pricing i.e. price cutting (Goddard *et al.*, 2008; Klier, 2009). Using this, a diversified organisation could create entry barriers for new entrants, and push existing rivals out of the market, thus bringing itself a strong strategic position as well as safer business environment in concerned industries (Palich *et al.*, 2000; Saloner, 1985).

Another advantage of market power could be possible in form of 'mutual forbearance', according to which multiproduct organisations would compete less severely amongst themselves when they are competing in number of geographic segments (Bernheim & Whinston, 1990; Martin & Eisenhardt, 2001). However, according to Bernheim and Whinston (1990), this situation might also apply to single product firms. Overall, the views expressed herein support the argument that related or unrelated diversification strategy is beneficial for an organisation as it provides increased market power.

2.3.2.3 Resource Based View (RBV)

The most commonly quoted view explaining motives and benefits of product diversification strategy is the resource based view (Marinelli, 2011; Miller, 2006). According to RBV (Teece, 1982; Wernerfelt, 1984) product diversification is guided by resources and capabilities of an organisation. Therefore, the organisation

diversifies into similar or different industries if it possesses excessive resources and capabilities that it could utilize profitably in those industries (Barney, 1991; Martin & Sayrak, 2003; Wernerfelt, 1984). Related or unrelated diversification becomes more rational in markets where sale of excess resources and capabilities outside the organisation carries significant transaction costs and therefore diversification becomes the best way to utilize them inside the organisation (Goddard *et al.*, 2008; Teece, 1982).

Generally an organisation possesses different types of resources (tangible and intangible) and capabilities and they could be used in different fashion (Fatima, Rehman, & Ali, 2011; Gruber, Heinemann, Brettel, & Hungeling, 2010). For example, in order to improve performance, an organisation could use excess cash for lowering the prices, or buying competitors or suppliers/distributors, or it could exploit other tangible resources such as using same distribution systems and foreign offices for different businesses operating in different markets (Johnson, Scholes, & Whittington, 2005; Tan, 2007).

The direction as well as level of diversification depends upon the package of its available resources and competences, which determines its generalizability (Tallman & Li, 1996; Yaghoubi *et al.*, 2011). If the generalizability of those resources and competences is greater, then level of diversification might as well be higher (Silverman, 1999; Teece, 1982). For example, excess resources in form of special knowledge drives an organisation towards related diversification strategy enabling it to create economies of scope and improve performance (Montgomery, 1994; Palich *et al.*, 2000; Teece, 1982).

Related diversification is better in situations when organisation has excess resources that could be used in related products and services or its technology permits manufacturing of related outputs (Silverman, 1999; Tallman & Li, 1996). On the other hand, organisation would prefer conglomerate diversification if excess capabilities and resources are not potential enough for creating scope economies among related operations, but are potential enough to create internal efficiencies between unrelated businesses for managing performance (Ng, 2007; Tallman & Li, 1996).

In emerging economies, group affiliation provides opportunity to group affiliated firms to share various resources such as cash, information and other tangible resources for diversifying into related or unrelated areas and to build strong competitive advantages in their respective markets (Carney, Gedajlovic, Heugens, Essen, & Oosterhout, 2011; Zhao, 2010).

Over time, RBV has been enriched with new thoughts from different scholars. Barney (1991) enriched the classical resource based view of the firm by incorporating idea of *sustained competitive advantage* which implies that firm resources could provide the firm long term competitive advantage if they (a) are valuable in terms of exploiting opportunities and neutralizing threats in environment, (b) are rare among its potential and current competitors (c) are not perfectly imitable and (d) do not possess close substitutes.

In conclusion, it could be argued that pursuit of product diversification strategy is mainly based on organisation's strategic capability defined by combination of its

unique resources and core competences, and the direction of diversification (related or unrelated) depends upon the nature of resources and competences it possesses. In case, if the resources are related with one another, the motives and benefits available to organisation would be in form of synergy effects or economies of scope through related diversification. On the other hand, if the resources are not related, organisation would then enjoy financial economies or other internal efficiencies through unrelated diversification.

2.3.2.4 Agency Theory

Agency theory presents another perspective on diversification strategy (Montgomery, 1994; Zhao, 2010). Starting from Amihud and Lev's (1981) main contributions, many scholars consider agency problems as reasons for diversification discount (Afza *et al.*, 2008; George, 2007; Hoechle *et al.*, 2012).

Agency theory is based on analysis of conflicts between principals and agents (Jensen, 1986; Wu, 2012). The principal is one delegating the authority to the agent (Eisenhardt, 1989; Lupia, 2001). The concept implies that risk aversive managers do not pursue diversification for organisational betterment, rather than managers take diversification decisions for reducing threat of professional reputation or job loss, resulting in agency cost (Amihud & Lev, 1981; Hitt *et al.*, 2011; Lane, Cannella Jr., & Lubatkin, 1998) or possible diversification discount.

Further, managers might be desperate to implement diversification strategies (related or unrelated) as it might provide them greater incentives, compensation and control

over resources as well as help them stabilize company earnings and reduce the chances of bankruptcy for their own personal advantages (Aggarwal & Samwick, 2003; Jensen, 1986).

The agency cost is high when principal doesn't share common interests with the agent as well as he is unaware of the activities of the agent (Lupia, 2001; Nyberg, Fulmer, Gerhart, & Carpenter, 2010). The agency cost could be reduced, however, through alignment of managerial incentives or increase of monitoring and control by the principals (Bryant & Davis, 2012; Nyberg *et al.*, 2010).

In contrast to agency theory, stewardship theory proposes that managers do not always act against the interests of organisation, rather certain managers acting as stewards are socially driven and tend to increase organisation profitability through better diversification decisions (Martinez-Campillo & Fernandez-Gago, 2008; Miller & Sardais, 2011).

2.3.2.5 Conclusion

The above discussion of underpinning theories of diversification suggests that there could be several motives, advantages or other repercussions of pursuing diversification strategy. Diversifiers, in particular, related ones, might perform better compared to single segment firms as they attain increased market power and resource management benefits. In emerging economies, diversified organisations perform better as they enjoy advantages of lower internal transaction costs and efficient internal markets. As noted before, these benefits are not equally available to related

and unrelated diversifiers. For instance, the benefits discussed under RBV in terms of synergy or economies of scope are only available to related diversifiers. This study makes its contribution to these underpinning theories by investigating effect of product diversification strategies on performance in context of emerging economy of Malaysia. The theoretical implications of the study are elaborated in detail in Section 5.6.1 of Chapter 5.

2.3.3 Empirical Research on the Relationship between Product Diversification Strategy and Performance

2.3.3.1 Introduction and Background

Historically, product diversification – performance relationship has been subject of research for numerous researchers belonging to strategic management, economics and finance (Benito-Osorio *et al.*, 2012; Mehmood & Hilman, 2013; Palich *et al.*, 2000). A number of attempts have been made to discover the mystery behind this relationship but the relationship still remains a puzzle. Perhaps the interest of scholars in product diversification effects on performance aroused in the course of diversification trend that started in 1960's and showed number of companies going conglomerates, particularly in the U.S. The trend continued till 1970's, but in 1980's, diversified companies began restructuring themselves by focusing on limited extent of diversification (Goold & Luchs, 1993).

Porter (1987) analysed diversification record of several U.S. firms and found that many of them pursued divestment during the 1950-1986 period. In U.S., many unprofitable diversified businesses were converted into focused companies through leveraged buyouts (Bruche, 2000). Fall of unrelated diversifiers in the period of

1980's provides support to the proposition that diversification negatively impacted corporate performance (Tan, 2007).

But, Dundas and Richardson (1982) found that certain conglomerates performed successfully in that period and the defeat of unrelated diversification might be due to strategy implementation problems. In the same way, Gottschalg and Meier (2005) argued that Australia's Wesfarmers and France's Finalac were one of very successful conglomerates in the world suggesting support for unrelated diversifiers. The presence of successful conglomerates today such as General Electric (US), Bidvest (South Africa), Wesfarmers (Australia) and ITC (India) doesn't support generalization of diversification discount on all unrelatedly diversified companies (Kenny, 2012).

2.3.3.2 Findings of Past Studies on the Relationship between Product Diversification Strategy and Performance

In empirical research on product diversification – performance relationship, past studies have been focusing on; examining effect of product diversification on performance, comparing related diversifiers with unrelated diversifiers, or comparing focused companies with diversified companies on performance measures. By carefully studying the literature on product diversification – performance relationship, it can be inferred that throughout the history of research in this area, different studies produced inconsistent findings on the topic and so far there is no consensus regarding effect of diversification strategies on performance (Asrarhaghighi *et al.*, 2013; Benito-Osorio *et al.*, 2012; Palich *et al.*, 2000; Santalo & Becerra, 2004). The following subsections present a critical analysis of findings of previous studies on the subject.

2.3.3.2.1 Product Diversification as Useful or Non-Useful Strategy

There are number of studies which suggested that product diversification was useful strategy (Elsas *et al.*, 2010; Kuppuswamy & Villalonga, 2010; Miller, 2006; Mishra & Akbar, 2007a; Singh, Mathur, Gleason, & Etebari, 2001). Similarly, substantial studies concluded that product diversification was an ineffective or non-useful strategy (Daud *et al.*, 2009; Fukui & Ushijima, 2006; Hoechle *et al.*, 2012; Klein & Saidenberg, 2010; Lins & Servaes, 2002). In each of the groups of studies (1. Group of studies saying product diversification is useful and 2. Group of studies saying product diversification is non-useful), the studies were heterogeneous with respect to different aspects such as diversification measurement, performance indicators, time periods, sample sizes, and contexts. In a way, this indicates robustness of results in each group.

Firstly, in the group suggesting product diversification as useful strategy, researchers relied on different types of diversification measurements, such as; entropy measure (Singh *et al.*, 2001), number of segments based on Standard Industrial Classification codes (Kuppuswamy & Villalonga, 2010), diversification categories with respect to Rumelt's guidelines (Pandya & Rao, 1998), and diversification based on technological relatedness (Miller, 2006).

Similarly, they used different types of performance indicators in their studies, for instance; return on assets and return on equity (Singh *et al.*, 2001), Tobin's q (Miller, 2006), and combination of accounting and market measures like average market return, average return on equity, and average return on assets (Pandya & Rao, 1998).

The studies were also different with respect to their sample sizes and time periods. However, as indicated before, the conclusion of all these studies present support for positive effect of product diversification strategy on performance, providing robustness of the findings within the group.

The theoretical arguments in favour of product diversification presented by underpinning theories of diversification such as market power view, resource based view, transaction cost economies and internal capital market efficiency (presented in previous sections) provide support for positive effect of diversification as revealed by these studies. And, based on these studies' results, it could be concluded that diversified organisations perform better compared to focused ones as they enjoy the benefits of lower internal transactions costs, efficient internal market, increased market power and resource sharing.

In the same way, in the other group of studies concluding that product diversification was not beneficial strategy, researchers used different ways for measuring product diversification such as; number of businesses/product segments besides sales or asset based Herfindahl Index (Berger & Ofek, 1995; Lang & Stulz, 1994), Input/Output ratios and Herfindahl Index (Fukui & Ushijima, 2006), and number of segments in North American Industry Classification System (Hoechle *et al.*, 2012). Similarly, the scholars used diverse performance indicators, for instance; Tobin's q (Lang & Stulz, 1994), excess value (Hoechle *et al.*, 2012; Lins & Servaes, 2002), or some combination of accounting and market indicators (Daud *et al.*, 2009; Fukui & Ushijima, 2006).

Traditionally, research by Berger and Ofek (1995) employing a bigger sample of 3659 companies, as well as study by Lang and Stulz (1994) that covered the time period from 1986 to 1991, supported negative effects of product diversification. Both of these studies are well quoted in literature on product diversification – performance relationship. Recent study by Hoechle *et al.* (2012) covering a longer time span (1996-2005), and using greater than 4000 companies' sample proved significant diversification discount on excess value. The conclusion of all studies in this group provides support for product diversification as ineffective strategy and the variation in their research designs indicates robustness of these findings.

Thus, the overall conclusion of this group of studies does not support the arguments laid by resource based view, transaction cost economies and internal capital market, and market power view. The findings of this group actually point towards the justifiability of agency theory which normally attaches a negative effect of diversification on performance. In summarization, the research findings on the topic are divided into separate groups with one group suggesting positive effects and the other group suggesting negative effects of product diversification on performance. Next few sub-sections discuss research findings which are even more different and revealing.

2.3.3.2.2 The Insignificant Causal Link between Product Diversification Strategy and Performance

The review of past studies presented in the previous subsections reveals that some studies either supported positive effects of product diversification strategy, while other studies supported negative effects of product diversification strategy.

Interestingly, however, there had been certain studies that concluded that product diversification did not significantly affect performance (Çolak, 2010; Marinelli, 2011; Montgomery, 1985). In a more recent research, Marinelli (2011) suggested that company performance (accounting or market based) was not dependent on product diversification, rather it was related to factors other than internal capital market efficiency and degree of relatedness among businesses.

His findings are consistent with Chang and Thomas (1989), Lloyd and Jahera Jr. (1994), and Çolak (2010). Montgomery (1985) also found that product diversification – performance relationship was not based on causality, and higher level of product diversification would not lead to higher profits if one controlled for industry concentration, industry profitability, and market share. Therefore, these studies do not fully support arguments of TCE and market power view.

2.3.3.2.3 Curvilinear Relationship between Product Diversification Strategy and Performance

Furthermore, the literature review also depicts that numerous studies on this relationship were designed upon assumption of linear relationship between product diversification and performance (Park, 2010). Product diversification might increase company performance to a certain extent, but later on excessive diversification might actually produce inefficiencies causing performance to deteriorate (Galván *et al.*, 2007; Palich *et al.*, 2000). Certain studies supported this proposition by establishing that product diversification had curvilinear (inverted U-Shaped) effects on performance (Galván *et al.*, 2007; Kahloul & Hallara, 2010; Liu & Hsu, 2011; Menz & Mattig, 2008).

In this regard, study by Palich *et al.* (2000) was important, as it assembled findings from three decades of research. The study used meta-analytic data taken from fifty five past studies to empirically test different models derived from the relevant literature and concluded that moderate level of diversification led to greater performance compared to either limited or broad diversification and therefore, supported the curvilinear model. However, according to Park (2010), the inverted U-Shaped hypothesis (Palich *et al.*, 2000) looks ambiguous as it combines together the effects of related and unrelated diversification strategies on performance, and a need is there to test inverted U-shaped hypothesis separately for related as well as unrelated diversification.

In conclusion, the suggested curvilinear effect of product diversification on performance is comparatively a new finding. But it needs to be further tested in context of underpinning theories by separating the effect of related diversification and unrelated diversification. Only then, it would reveal the true nature of relationship between diversification and performance.

2.3.3.2.4 Conclusion

While summarizing the discussion from Section 2.3.3.2.1 to Section 2.3.3.2.3, it could be concluded that the results of research into product diversification – performance relationship has been mixed. However, there were majority of past studies that reported some sort of product diversification effects on performance as compared to studies suggesting no effect. Further, there were more studies reporting linear relationship between product diversification strategy and performance as compared to

studies suggesting curvilinear relationship between the two. Therefore, on this basis, following hypothesis can be developed:

H1: Extent of Product Diversification Strategy significantly affects Corporate Performance.

As discussed in Section 2.5 and Section 3.3 of this thesis, this study secured subjective assessment of corporate performance as well along with measuring it objectively through financial indicators. Hence, hypothesis H1 above is decomposed further into two hypotheses below:

H1a: Extent of Product Diversification Strategy significantly affects Financial Corporate Performance.

H1b: Extent of Product Diversification Strategy significantly affects Subjective Corporate Performance.

In this study, Financial Corporate Performance is measured through return on assets (ROA), return on equity (ROE), Tobin's q, and price to book value ratio (P/B Value). As the four financial measures/ratios cannot be averaged, therefore all hypotheses in this study concerning Financial Corporate Performance are decomposed into four sub hypotheses for the four ratios. They are stated in Table 3.1 of this thesis.

2.3.3.3 Inconsistency in the Past Findings and the Design of Past Studies

The critical review of studies examining product diversification – performance relationship provides idea about complexity of this relationship as it reveals inconsistencies in the findings. Number of reasons may account for unresolved mystery in this relationship.

2.3.3.3.1 Diversification Measures used by Past Studies in Product Diversification – Performance Research

One of the key considerations in past research over this area has been the measurement of diversification strategy, and the operationalization of this strategy has been under debate over long time (Markides & Williamson, 1994; Montgomery, 1982; Nayyar, 1992; Pehrsson, 2006). Approaches to measure product diversification range from categorical to continuous measures or a combination of the two (Asrarhaghighi *et al.*, 2013; Klier, 2009).

Some scholars have been measuring product diversification through Rumelt's approach (Busija *et al.*, 1997; Dubofsky & Varadarajan, 1987; Ibrahim & Kaka, 2007; Tan, Chang, & Lee, 2007), or Herfindahl Index (Çolak, 2010; Lang & Stulz, 1994; Schmid & Walter, 2008), or Jacquemin and Berry's (1979) Entropy measure (David *et al.*, 2010; Martínez-Campillo & Fernández-Gago, 2008; Ravichandran *et al.*, 2009; Santalo & Becerra, 2004), while others used simple count of business segments (Çolak, 2010; George, 2007; Lang & Stulz, 1994). Every measurement technique possesses its own characteristics and so far there is no one best measure of product

diversification. The inconsistency in the findings of different researches can partly be attributed to different ways of measuring diversification.

2.3.3.3.2 Performance Measures used by Past Studies in Product Diversification – Performance Research

Similarly, different studies on the relationship used diverse measures of performance which provided different results (Capar, 2003). Past studies have been using either accounting based measures, or market based measures (Datta *et al.*, 1991) or some combination of accounting and market based measures in their research on the topic. The discrepancies among performance measures in product diversification – performance research also led to differing conclusions among those researches. A critical review of performance approaches used by past studies is presented in Section 2.5.2 of this thesis.

2.3.3.3.3 Contextual Differences among Past Studies on Product Diversification – Performance Research

Most of the studies concerning the effect of product diversification on performance were conducted in the context of United States, to a lesser extent United Kingdom (Afza *et al.*, 2008; Mehmood & Hilman, 2013; Tan, 2007), and much less in Asian countries. Further, studies conducted in Asian economies produced mixed findings. Study by Chakrabarti *et al.* (2007) involving six East Asian countries confirmed that product diversification negatively impacted performance in more developed countries, while it increased performance of only those companies working in least developed countries. Internal capital market propositions and transaction cost theory provide rationalization for this phenomenon (Fan *et al.*, 2008; Tan, 2007).

However, Daud *et al.* (2009), while relying on sample of seventy companies in Malaysia for the period 2001 – 2005, found that although different measures of performance produced different results but particularly focused firms performed better as compared to diversified firms. Afza *et al.* (2008) conducted study of Pakistani organisations concerning product diversification and performance relationship and the results were consistent with Daud *et al.* (2009). A study of largest Japanese manufacturers (Fukui & Ushijima, 2006) and another study by Lins and Servaes (2002) about organisations in seven Asian countries found that product diversification was negatively related with performance. Curvilinear relationship between product diversification and performance was found by Liu and Hsu (2011) in a study of Taiwanese organisations.

On the other hand, study of Indian firms by Mishra and Akbar (2007a) revealed that product diversification proved as valuable strategy but the benefits of diversification were applicable largely to related diversifiers, supporting resource based view and transaction cost economics. Study of Kuppuswamy and Villalonga (2010) provided test of product diversification against internal capital market efficiency hypothesis with reference to financial crisis of 2007-09, and concluded that unrelated product diversification seemed beneficial for firms in 2007-09 financial crisis because during the crisis, external capital markets became more expensive and access of diversified organisations to internal capital market turned more rewarding. Additionally, according to Kuppuswamy and Villalonga (2010), the diversification proved beneficial as it provided debt co-insurance to diversified firms.

From this analysis, it could be concluded that even within Asian context, where the capital markets are not well developed compared to those in advanced economies, the findings of studies regarding product diversification effects on performance could not be generalized over all Asian countries. Perhaps, the differences among the findings could be attributed to other design characteristics.

2.3.3.3.4 Moderating Variables used by Past Studies in Product Diversification – Performance Research

As argued before, diversification is a complex construct and there appears to be no simple relationship between product diversification and performance. The inconsistency among the findings on product diversification – performance relationship might be attributed to certain unknown variables in the relationship as certain contingency variables might play their role in the relationship (Datta *et al.*, 1991; Mehmood & Hilman, 2013; Ravichandran *et al.*, 2009). Martínez-Campillo and Fernández-Gago (2008) suggested that for getting better insight into this relationship, scholars must place necessary moderating variables in it.

In following the recommendations of these researchers, some past scholars used certain moderating variables such as; market structure (Christensen & Montgomery, 1981), behavioural style of Chief Executive Officer in the company (Martínez-Campillo & Fernández-Gago, 2008), organisational arrangements & control systems (Hill *et al.*, 1992), type of ownership (David *et al.*, 2010), number of specialists in an industry (Santalo & Becerra, 2004), spending on information technology (Ravichandran *et al.*, 2009), organisational structure (Markides & Williamson, 1996),

and business units' relatedness (Galván *et al.*, 2007) in their research on studying this relationship.

Inclusion of those moderating variables enriched the understanding of this relationship in different perspectives. For example, in 2010, study by David *et al.* revealed that this relationship varied with respect to type of ownership – transactional ownership and relational ownership. Specifically, the study revealed that transactional ownership caused product diversification to affect profitability more positively and relational ownership caused product diversification to affect growth more positively.

Another study by Martínez-Campillo and Fernández-Gago (2008) concluded that performance of product diversification depended on behavioural style of CEO's. They report that CEOs tend to maximize profitability when they act as stewards in contrast to when they act as agents in which case the profitability reduces. Santalo and Becerra (2004) reported that product diversification – performance relationship seemed to be based on number of specialist firms in an industry, wherein, the strategy led to good performance only in industries where the number of specialist firms was less than four.

2.3.3.4 Conclusion

From the above discussion, it could be concluded that relationship between product diversification and performance could better be explored through adding certain contingency variables or moderating variables into it. Although the incorporation of certain moderators in the relationship by past studies provided us good insight into the

topic, yet the area doesn't seem to be mature as certain variables of extreme strategic importance remain untested. Hill *et al.* (1992) pointed out that success of product diversification depended greatly on implementation issues. They add that product diversification could not produce superior performance unless it is supported by appropriate internal organisational arrangements.

In the same way, Goold and Campbell (1991) suggested that parenting influence or parenting advantage was most important issue in corporate strategy. This study builds its rationale by bringing diversification strategies and corporate parenting influence (through corporate parenting roles) together in one research design as suggested by previous scholars (Campbell *et al.*, 1995a; Nippa *et al.*, 2011).

2.3.4 Related Diversification Strategy versus Unrelated Diversification Strategy

2.3.4.1 Introduction and Background

Much like the mystery regarding product diversification effects on performance, the ambiguity concerning superiority of related or unrelated diversification strategy stands unresolved (Abdullah, 2009; Gary, 2005; Lahovnik, 2011; Mehmood & Hilman, 2013). In 1974, Rumelt pioneered the study of comparing related diversification with unrelated diversification strategy. He reported that related diversification caused better performance compared to unrelated diversification. Later on, these results were reconfirmed by Rumelt in 1982 and also by Christensen and Montgomery in 1981. Afterwards, Michel and Shaked (1984) found opposite results that unrelated diversification outperformed related diversification on market measures of performance. Following this stream of research, numerous attempts have been

made to compare performance differences among related diversifiers and unrelated diversifiers.

2.3.4.2 Studies Reporting Related Diversification Strategy Dominated Unrelated Diversification Strategy

There are number of researchers which concluded that related diversifiers outperformed unrelated diversifiers (Galván *et al.*, 2007; Markides & Williamson, 1996; Mishra & Akbar, 2007a; Rumelt, 1974, 1982). A deep analysis of these studies reveals that they were diverse in terms of their design, methodologies, and contexts. For instance, there is heterogeneity among these studies with respect to use of performance indicators where some studies used accounting measures, others used market measures, or a combination of those measures. This implies that related diversifiers outperformed unrelated diversifiers on different measures of performance.

Use of multiple performance indicators in one study also led to differing conclusions (Christensen & Montgomery, 1981; Varadarajan & Ramanujam, 1987). For example, research of Varadarajan and Ramanujam (1987) employing return on equity (ROE), return on capital (ROC), sales growth rate, and earnings per share growth rate as performance indicators, revealed that although related diversifiers performed better as compared to unrelated ones, but many unrelated businesses performed better than related ones on ROC. Conclusions like this support inclusion of more than one performance indicators for future researches to gain deeper understanding of the phenomena.

Studies supporting superiority of related diversification strategy over unrelated diversification strategy have also been heterogeneous with respect to context, time frame and sample sizes. Concerning sample size, Berger and Ofek (1995) conducted rich research by taking sample of 3659 firms including single segment and multi segment firms, whereas Palepu's study (1985) relied on sample of only 30 firms. Palepu (1985) also took sample from food industry, whereas, on the other hand, Varadarajan and Ramanujam (1987) did their research on firms belonging to different sectors.

These studies were also heterogeneous with respect to measurement of diversification strategy. Studies using simple categorical measures (Berger & Ofek, 1995; Mishra & Akbar, 2007a) produced relatively straightforward conclusions, whereas studies relying on diversification scheme of Rumelt (1974) produced mixed conclusions. This was because Rumelt specified ten categories of product diversification on the basis of four broad diversification categories; single business, dominant business, related business and unrelated business (Klier, 2009).

Hence, studies relying on diversification schemes of Rumelt (1974) had to interpret their findings with respect to multiple categories of product diversification. For instance, Christensen and Montgomery (1981) revealed that unrelated diversifiers were less successful as compared to related constrained diversifiers, and dominant constrained diversifiers performed better on certain accounting indicators of performance.

2.3.4.3 Studies Reporting Unrelated Diversification Strategy Dominated Related Diversification Strategy

In the same stream of research, comparing related versus unrelated diversification strategy, there are sizable studies revealing that unrelated diversifiers perform better as compared to related diversifiers (Dubofsky & Varadarajan, 1987; Lahovnik, 2011; Marinelli, 2011; Michel & Shaked, 1984). As discussed before, findings of Michel and Shaked (1984) – that unrelated diversification performed better than related diversification – were in opposite to Rumelt (1974, 1982). Later, the results of Michel and Shaked (1984) were confirmed by Dubofsky and Varadarajan (1987). Their research was based on same sample used by Michel and Shaked (1984). However, they introduced return on assets as another measure in the analysis but the results were not statistically significant on that measure.

Lahovnik (2011) conducted his study in Slovenia and used four indicators of corporate performance (return on assets, return on equity, return on sales, and value added per employee). He concluded that unrelated diversification strategy performed better than related diversification strategy on return on sales and results were opposite on other three indicators of performance. Marinelli (2011) concluded that there was no significant effect of product diversification on performance, and a comparison of diversified firms revealed that unrelated diversifiers performed well in comparison to related diversifiers. These studies (which supported superiority of unrelated diversification over related diversification) were also heterogeneous with respect to diversification measures and other design considerations such as performance indicators, thus, providing robustness of results in their findings.

2.3.4.4 Conclusion

On the basis of the discussion made on product diversification strategies so far, it could be argued that apparently there is an ambiguity regarding the effect of these strategies on corporate performance. The ambiguity surrounds the argument that whether related and unrelated diversification strategies impact performance positively or negatively. However, the overall discussion suggests that there appears to be certain kind of effect of diversification strategies on performance. Therefore, following four hypotheses are proposed for two strategies and for each of the two aspects of corporate performance:

H1ai: Extent of Related Diversification Strategy significantly affects Financial Corporate Performance.

H1bi: Extent of Related Diversification Strategy significantly affects Subjective Corporate Performance.

H1aii: Extent of Unrelated Diversification Strategy significantly affects Financial Corporate Performance.

H1bii: Extent of Unrelated Diversification Strategy significantly affects Subjective Corporate Performance.

Regarding the comparison between related diversification strategy and unrelated diversification strategy, there is no strong consensus about the relative superiority of either strategy over the other. Summarizing the discussion again, certain studies suggested related diversification as better strategy than unrelated diversification,

while other studies suggested unrelated diversification as better strategy than related diversification.

Thus, the following hypotheses are developed to reveal performance difference among two groups of strategies:

H3a: A significant difference exists between Predominantly Related Diversifiers and Predominantly Unrelated Diversifiers on Financial measures of Corporate Performance.

H3b: A significant difference exists between Predominantly Related Diversifiers and Predominantly Unrelated Diversifiers on Subjective Assessment of Corporate Performance.

2.3.4.5 Moderating Variables used by Past Studies in Related/Unrelated Diversification Strategies – Performance Relationship

The above analysis reveals that although research efforts regarding relative effects of related and unrelated diversification strategy on performance increased our general understanding on the topic, but the conclusions were mixed. This suggests that diversification strategies – performance relationship is not simple rather it is contingent on certain other variables. In making improvements on this aspect, past studies used certain moderating variables in the relationships between diversification strategies and performance (Christensen & Montgomery, 1981, Hill *et al.*, 1992; Markides & Williamson, 1996; Ravichandran *et al.*, 2009).

For instance, Christensen and Montgomery (1981) improved on the general conclusion presented by Rumelt (1974) by stating that market structure and characteristics played moderating role in product diversification – performance relationship. Markides and Williamson (1996) found that relationship between related diversification and performance was, in a way, dependent upon organisational structures that could allow sharing and transfer of strategic assets and competences across divisions.

In the same line, another study by Hill *et al.* (1992) revealed that related diversifiers performed well if their organisational structure and control systems were designed to facilitate cooperation, whereas, unrelated diversifiers could perform well if the structure and control systems were designed to facilitate competition. A study by Ravichandran *et al.* (2009) on the moderating effect of Information Technology spending on related/unrelated diversification strategies and performance relationship revealed that Information Technology spending moderated the relationship between related diversification and firm performance.

2.3.4.6 Conclusion

On the basis of above discussion it can be concluded that better insights could be gained by incorporating important moderating variables such as corporate parenting roles between types of diversification strategies on one hand and corporate performance on the other hand. Section 2.4.4 includes explanation on three corporate parenting roles; portfolio manager, synergy manager and parental developer suggested by Johnson *et al.* (2005, 2008, 2011), and Section 3.3 includes detailed listing of

hypotheses of the study. The hypotheses state in detail about what corporate parenting role was supposed to be a moderator for which type of diversification strategy. However a general hypothesis regarding the moderating effect of corporate parenting roles for diversification strategies is formulated as below:

H2: Corporate Parenting Roles positively moderate relationship between Product Diversification Strategies and Corporate Performance.

2.4 Corporate Parenting

This section starts by introducing the basic concept of corporate parenting. Then it explains importance and ways of value addition by corporate parents along with conditions in which corporate parents destroy value. After that, the section proceeds towards explaining three corporate parenting roles and the past research conducted on the topic of corporate parenting. Lastly, theoretical background for corporate parenting is discussed in relation to dynamic capabilities perspective, and the connection between corporate parenting roles and diversification strategy is discussed using contingency theory.

2.4.1 Introduction

Corporate strategy determines and influences a company's business portfolio and it is about how corporate managers control different businesses (Porter, 1987). According to Collis (1996), a company's corporate strategy can be represented by a triangle in which organisation's vision, goals and objectives are surrounded by the three sides of

the triangle: resources, businesses and structure, systems and processes. He adds that in an effective corporate strategy, corporate parents create value by providing corporate level resources and capabilities to different businesses either by providing them through structures, systems or processes or by making businesses share different resources and activities between them.

In different organisations, corporate strategy could be well defined or ill defined. According to Goold and Campbell (1994) and Porter (1987), few companies have a clear corporate level strategy and corporate parents know what elements constitute a corporate level strategy, but in others, parents are confused about the domain and issues of corporate level strategy. Management buyouts and the failure of most of the acquisitions in the past could be considered as evidences of weak corporate level strategy (Goold & Campbell, 1991; Goold, Campbell, & Alexander, 1994a).

Structurally, a company's corporate level is separate from its business level and it is supposed to perform those activities that could facilitate overall value creation in a diversified firm (Menz & Mattig, 2008; Mishra & Akbar, 2007b). Corporate parent may be conceived as management level(s) above to the level of businesses where corporate parent managers control and coordinate business level activities and provide different types of services (Johnson *et al.*, 2005, 2008; Mishra & Akbar, 2007b). Because a company's corporate level mostly has no external customers, but surely has a cost, therefore, it should justify its presence through value addition to businesses (Abdullah & Mehmood, 2013; Goold *et al.*, 1998).

In an ideal situation, a parent might respond timely to the needs of a business by providing the necessary resources and advice the businesses require (Sekulić, 2009). Mere the existence of corporate parent might not ensure value creation, rather corporate parents have to pass particular criteria for adding value into the businesses (Campbell & Goold, 1988; Kruehler *et al.*, 2012). In the next section, corporate parent criteria for value addition are discussed along with different ways of value addition. Another section looks at the other side of parenting – value destruction – and talks about conditions in which corporate parents destroy value.

2.4.2 Value Addition by Corporate Parents

As already discussed, businesses in a corporate portfolio do not have choice of having or not having corporate parent (Johnson *et al.*, 2005, 2008). Therefore, satisfaction of business unit managers regarding corporate parent activities may vary from one to another organisation. Business unit managers usually have objections regarding the costs of corporate parents and their intervention in the business unit affairs (Campbell & Goold, 1988). Therefore, in order to justify the existence of corporate parents, their value creation in businesses is very important (Alexander, Campbell, & Goold, 1994; Kruehler *et al.*, 2012). Corporate parents must strictly evaluate their performance and existence on the criteria of value creation as it is considered as a fundamental question in corporate strategy (Campbell & Goold, 1988; Goold & Campbell, 1994).

Many businesses in a diversified group might be better off as independent companies, therefore, in order to justify existence of top level, corporate parent managers must control those businesses to perform better as compared to they would perform as

independent businesses (Campbell, 2007; Sekulić, 2009). Corporate parents compete against one another for the ownership of businesses and therefore, the mission of corporate strategy at the group level is to add more value to the businesses compared to the value potential rival parents would add to them (Campbell, 2007; Pearce II & Robinson Jr., 2007). This implies that corporate parents must strive to be the best owners of their business portfolio. This ambition of the corporate parents has been called as *quest for parenting advantage* (Alexander *et al.*, 1994; Campbell, Goold, & Alexander, 1995b).

2.4.2.1 Corporate Parents' Understanding of Businesses

In order to add best value to the businesses, corporate parents must develop sufficient *feel* for their businesses (fit between businesses' critical success factors and corporate parent's skills, resources and competences) and there must be a good fit between corporate parent's characteristics and the parenting opportunities offered by different businesses (Alexander *et al.*, 1994; Johnson *et al.*, 2008). Corporate parents must continuously evaluate the fit between these dimensions.

Particularly, corporate parents must be constantly observing needs of businesses in the group, and developing the required competences, skills and resources as the businesses demand, and instead they should avoid developing general management practices (Campbell, 2007). This is strategically important because as the external environment will change, businesses might need to change their strategic capability and competitive advantage amidst requiring corporate parent managers to reconfigure

the set of resources and capabilities they possess (Abdullah & Mehmood, 2013; Sekulić, 2009).

When the corporate parents are successful in reconfiguring their resources, skills and competences, a corporate strategy, then evolves which correctly guides corporate parents regarding the nature and direction of product diversification strategy given the portfolio of businesses (Alexander *et al.*, 1994; Kruehler *et al.*, 2012). Hence, it can be concluded that the extent of product diversification strategy must be based on corporate parenting skills and their match with the requirements of the businesses (Campbell, 2007).

2.4.2.2 Ways to Add Value

Corporate parents can create value for their businesses in several different ways. Historically, Reinton and Foote (1988) argued that corporate managers could create value in their businesses by using their experience and analytical skills to develop a strong business strategy, pushing managers for putting more efforts, improving management by careful appointment of key managers in corporate and business levels, transferring skills across businesses and creating synergies, and by redefining business units if the conditions call for it.

According to Johnson *et al.* (2008), value can be added through several ways such as: by providing a common vision and purpose to the businesses which also clarifies company intent and status to external stakeholders and restricts corporate parents from going into unnecessary activities, by enabling business units to develop strategic

capabilities and creating synergies between them through coaching and facilitation, through provision of central resources and services such as investment, human resource advice and brokerage, by intervening in the business units for monitoring and improving their performance when the situations demand. At times, corporate parents can add value through business transformation where they can manage business change process successfully (Goold & Campbell, 1994; Porter, 1987). But all these conditions require corporate parents to meet the criteria of sufficient feel and fit between their competences and business needs.

Goold and Campbell (1994) argued that in order to add value, corporate parents must have a 'parenting map' which is developed through the information managers receive about the businesses as well as through their personal experiences and observations about the businesses. They add that parenting map enables parents to understand the businesses well. It informs parents about important business aspects such as critical success factors and risks faced by businesses and suitable performance targets for each business. Further, they argue that diversification decisions must be taken on the basis of parenting maps and diversification should be done in areas (related or unrelated) where parenting maps could be used in all the businesses.

2.4.2.3 Management of Value Creation

Management of value creation can be simple or complex depending upon the organisation structure. In a complex organisational structure, where there is a lot of interdependency between various businesses, value creation by corporate parents would become more challenging and important because there might be overlap and

sharing of responsibilities between business unit managers and corporate managers (Goold & Campbell, 2002). Similarly, corporate parents must be cautious about creating value in mature businesses as they might represent particular pitfalls and opportunities (Goold, 1996).

Value creation by the corporate parents also requires trade-offs between significant management issues like centralized leadership and autonomy of business units, long-term strategic objectives and short-term financial goals, flexible strategies and tight controls (Campbell & Goold, 1988). A wise choice among these alternatives may ensure peaceful corporate culture.

Summarizing the discussion presented in this section, it can be said that existence of corporate parent in every diversified organisation is a matter of opportunities and pitfalls for various businesses in the group. In ideal situation, corporate parents understand the conditions of businesses and their characteristics match the parenting opportunities offered by those businesses, hence fulfilling the criteria of value addition. However, value addition by the corporate parents might be done in different ways depending upon the conditions faced by businesses.

2.4.3 Value Destruction by Corporate Parents

In the previous section, it has been argued that value creation is the underlying logic of corporate parents and it is important for corporate level managers to have a sufficient feel for their businesses and develop corporate level competences that could be used to exploit parenting opportunities in different businesses. If however, parents

don't have sufficient feel for the businesses, they might instead, destroy value (Alexander *et al.*, 1994; Sekulić, 2009). Similarly, product diversification strategies might fail if the parents do not assess properly that how their skills would match the nature of new businesses they are going to invest in (Goold *et al.*, 1998; Kruehler *et al.*, 2012).

Failure of corporate parents in understanding the businesses and mismatch of corporate level competences with the needs of businesses might lead to number of ways through which the value could be destroyed (Collis, Young, & Goold, 2007; Goold *et al.*, 1998). To illustrate, corporate parents might focus on wrong strategic issues, set inappropriate performance measurement methods, make wrong manager appointments and might develop unrealistic expectations from business unit managers for performance management and about synergy creation between businesses (Abdullah & Mehmood, 2013; Alexander *et al.*, 1994). According to Johnson *et al.* (2008), corporate parents could destroy value by adding management costs (through adding expensive staff and facilities), creating 'bureaucratic fog', and by providing a parental 'safety net' to poor performing businesses by cross subsidizing them through hard earned revenues of good performing businesses.

The real challenge for corporate level managers is to understand the conditions of a business better as compared to business unit managers who are much more involved with the business. Without doubts, business unit managers may be assumed to be more knowledgeable about a business as compared to corporate parents regarding a business's capabilities, competitors, markets, customers and overall external environment. In that condition it is challenging for corporate managers to excel

business managers in the knowledge about businesses. This phenomenon is referred to as *10% versus 100% paradox* (Goold *et al.*, 1994a). It means that how can a chief executive, who is using only 10% of his time in thinking about business strategies of a business unit develop better insight about that business compared to its business unit managers who are sparing 100% of their time to that business.

In their research, Goold and Campbell (1994) have found many cases of value destroying parenting. It might be attributed to the reasons discussed before. Hence, the focus of group level corporate parents must be as much as on minimizing value destruction as it is on maximizing value addition (Campbell, 2007; Goold *et al.*, 1994a).

2.4.4 Corporate Parenting Roles

The criteria and conditions in which corporate parents create value in businesses have been discussed in the previous sections. Though limited in number, but different scholars in the past have provided their categorization of corporate parenting roles or styles. In his classical article "From Competitive Advantage to Corporate Strategy", Porter (1987) argued that corporate strategy concepts or corporate parenting roles could be categorized in four categories: portfolio management, restructuring, transferring skills and sharing activities.

The first two roles were identical in the sense that they created shareholder value through company's relationship with autonomous business units. The other two roles were concerned with value creation through sharing and transferring of skills and

other resources between businesses for creating synergies. Later, Reinton and Foote (1988) presented three corporate parenting roles: controller, coach, and orchestrator. According to them, corporate parents could also play other roles such as 'surgeon' or 'architect', when any business required transformation.

Goold and Campbell (1987) presented three corporate parenting styles: Strategic Planning, Financial Control and Strategic Control. According to Goold *et al.* (1993a), strategic planning style characterises long-term strategic orientation, corporate managers are deeply involved in setting strategic priorities and formulating business level strategies, budgets and targets are flexible and address strategic as well as financial performance. In financial control style, corporate managers delegate business strategy formulation to business unit managers, rely on tighter controls and short-term criteria of achieving financial goals, and usually the businesses are working in relatively stable business environments (Goold *et al.*, 1993a).

Lastly, strategic control style seems like a combination of previous two styles. Strategic control style is characterized by decentralized profit centres, divisional coordination and higher business unit autonomy. Strategic control companies maintain tight financial controls but they are also involved in business level planning where they can review and challenge business unit strategies (Goold *et al.*, 1993a, 1993b). Different categorizations of corporate parenting roles or styles provide an idea about different ways corporate parents could add value to their businesses. Corporate parents must however rely on any one dominant role for value addition for a group of businesses, as different roles might have unique and conflicting requirements (Johnson *et al.*, 2008; Reinton & Foote, 1988).

Johnson *et al.* (2005, 2008, 2011) have provided three categorizations of corporate parenting roles: portfolio manager, synergy manager and parental developer, which according to them are coherent within themselves and unique from others. They have discussed logic of each role along with its strategic requirements and organisational requirements which provide a broad and comprehensive picture of each of the roles. According to Johnson *et al.* (2005, 2008), the first two roles – portfolio manager and synergy manager – are based on the work of Porter (1987) and the third role – parental developer – is based on the work of Goold, Campbell, and Alexander (1994b).

The matrix providing summarization of each of these roles as given in Johnson *et al.* (2005) is reproduced in Table 2.3. The matrix provides a differentiation between the three corporate parenting roles by presenting the logic, strategic requirements and organisational requirements of the three roles.

Table 2.3
The Three Corporate Parenting Roles - Portfolio Managers, Synergy Managers and Parental Developers

	Portfolio Managers	**Synergy Managers**	**Parental Developers**
Logic	'Agent' for financial markets Value creation at SBU level limited	The achievement of synergistic benefits	Central competences can be used to create value in SBUs
Strategic requirements	Identifying and acquiring undervalued assets	Sharing activities/resources or transferring skills/competences to enhance competitive advantage of SBUs	SBUs not fulfilling their potential (a parenting opportunity)
	Divesting low-performing SBUs quickly and good performers at a premium	Identification of appropriate bases for sharing or transferring	The parent has clear and relevant resources or capabilities to enhance SBU potential
	Low level strategic role at SBU level	Identification of benefits which outweigh costs	The portfolio is suited to parent's expertise

Table 2.3 (Continued)

	Portfolio Managers	Synergy Managers	Parental Developers
Organisational requirements	Autonomous SBUs	Collaborative SBUs	Corporate managers understand SBUs ('sufficient feel')
	Small, low cost corporate staff	Corporate staff as integrators	Effective structural and control linkages from parent to SBUs
	Incentives based on SBU results	Overcoming SBU resistance to sharing or transferring	SBUs may be autonomous unless collaboration is required
		Incentives affected by corporate results	Incentives based on SBU performance

Source: Johnson *et al.* (2005). page 309.

Explanation of each of these roles is given in the following sub-sections.

2.4.4.1 Portfolio Manager

On the basis of explanation provided by Johnson *et al.* (2005, 2008) about the portfolio manager role, it can be summarized that, as a Portfolio Manager:

- Role of corporate parents is limited to acting as *agents* for financial markets and shareholders.
- Corporate parents spot opportunities in acquiring undervalued assets and businesses for the purpose of improving them and selling them at high prices later on.
- Corporate parents might be involved in frequent buying and selling of SBUs where they may sell off poorly performing businesses quickly. They might sell good performing businesses at a premium and buy other businesses with promising futures.

- Corporate parents do not involve themselves in the business level affairs of various businesses and there is limited value creation at the business unit level through corporate level resources and competences. Hence, corporate parents rely on a decentralized organisation structure where all SBUs are autonomous.
- There are, however strict evaluation criteria for business unit managers and CEOs which promises them rewards on the basis of business unit performance only.
- As a portfolio manager, corporate managers can manage more number of businesses and can afford to keep small size corporate staff with low cost.
- Due to its inherent nature, portfolio manager role might be suitable for conglomerates or unrelated diversifiers (Johnson *et al.*, 2005, 2008).

Hence, on the basis of characteristics discussed for portfolio manager role, coupled with arguments from Johnson *et al.* (2005, 2008), this study examines the effect of Portfolio Manager role as a moderator variable between Unrelated Diversification Strategy and Corporate Performance.

Therefore, following hypotheses are formulated:

H2aiii: Portfolio Manager Role positively moderates the relationship between Unrelated Diversification Strategy and Financial Corporate Performance.

H2biii: Portfolio Manager Role positively moderates the relationship between Unrelated Diversification Strategy and Subjective Corporate Performance.

2.4.4.2 Synergy Manager

The characteristics of Synergy Manager role as presented by Johnson *et al.* (2005) are given in Table 2.3. On the basis of explanation provided by Johnson *et al.* (2005, 2008) about the Synergy Manager role, it can be summarized that, as a Synergy Manager:

- Corporate parents are supposed to make policies and procedures for mutual sharing and transfer of resources and competences across businesses in their portfolio for creation of synergies.
- Corporate parents have to define common culture and also provide central services and resources. They have to make sure that extent of collaboration among different businesses is high.
- Corporate parents have to make sure that the benefits of sharing assets and competences for creating synergies outweigh the costs of sharing those assets and competences.
- Corporate parents have to manage resistances among business unit managers against mutual sharing and cooperation.
- Corporate parents have to assure that the corporate staff primarily works for integration of different capabilities across businesses.
- The incentives provided to different businesses in the portfolio are dependent on the corporate results.

It was discussed in Chapter 2 that synergies could be of operational nature or financial nature. Operational synergies require certain degree of relatedness and cooperation between the business units of a firm (Gottschalg & Meier, 2005; Oijen & Douma,

2000), whereas, financial synergies could be created through unrelated diversification as well by combining different cash flows of businesses (Gottschalg & Meier, 2005; Hoskisson *et al.*, 2009).

On the basis of explanation provided by Johnson *et al.* (2005, 2008) regarding Synergy Manager role, it can be concluded that this role is concerned with creation of operational synergies rather than financial synergies. Therefore, it requires certain degree of relatedness among different businesses. Keeping this in view, this study examines the effect of Synergy Manager as a moderator variable between Related Diversification Strategy and Corporate Performance. Hence, following hypotheses are formulated:

H2ai: Synergy Manager Role positively moderates the relationship between Related Diversification Strategy and Financial Corporate Performance.

H2bi: Synergy Manager Role positively moderates the relationship between Related Diversification Strategy and Subjective Corporate Performance.

Also, sub-section 2.3.1.1.3 discussed that synergy creation in relatedly diversified businesses could be accomplished through achieving economies of scope benefits, increased market power and internal governance benefits (Dess *et al.*, 2011; Haberberg & Rieple, 2001; Hall, 1995; Martin & Eisenhardt, 2001), but high degree of relatedness among different businesses might not always promise synergy benefits and therefore synergy programmes might prove unsuccessful due to different reasons (Goold & Campbell, 1998; Haberberg & Rieple, 2001; Hitt *et al.*, 2011).

Campbell (2007) argues that instead of putting efforts on synergy creation, managers must be paying more attention to creating value using stand-alone influence. Therefore, it can be said that in certain situations, among related diversifiers, Parental Developer role proves more successful as compared to Synergy Manager role (Campbell, 2007; Goold *et al.*, 1994a). On the basis of this argument, following set of hypotheses is proposed:

H3c: Among predominantly Related Diversifiers, those having corporate parents adopting Parental Developer Role outperform others having corporate parents adopting Synergy Manager Role on Financial measures of Corporate Performance.

H3d: Among predominantly Related Diversifiers, those having corporate parents adopting Parental Developer Role outperform others having corporate parents adopting Synergy Manager Role on Subjective measure of Corporate Performance.

The next sub-section provides detail about Parental Developer role.

2.4.4.3 Parental Developer

The basic difference between the three corporate parenting roles suggested by Johnson *et al.* (2005, 2008) is the extent of corporate parent involvement in the business affairs of different businesses. While the degree of corporate parent's involvement in business affairs is low in Portfolio Manager, it is considerably high in Parental Developer. The conditions for adding value discussed in the previous

sections – about having sufficient feel for the businesses and match of corporate parent's resources, skills, competences with the parenting opportunities provided by the businesses – are rather most important conditions for Parental Developer role.

Parental Developer role correspondents to stand-alone influence discussed by Goold *et al.* (1994a) historically. According to Goold *et al.* (1994a), as a stand-alone influence, corporate parents add value to businesses through activities like effective strategy reviews, careful selection of business managers, better capital investment decisions, and good budgetary controls. They add that, for doing this, corporate managers must have sufficient feel for their businesses, they must possess the necessary skills, resources and other characteristics to add value and there must be a parenting opportunity offered by businesses.

On the basis of explanation provided by Johnson *et al.* (2005, 2008) about the Parental Developer role, it can be summarized that, as a Parental Developer:

- Corporate parents directly intervene in the business units' affairs through using their skills or knowledge for creating value. For example, corporate managers in Cooper Industries add value to different businesses through providing services like audit of manufacturing operations, improving accounting activities of businesses and centralization of union negotiations (Dess, Lumpkin, & Eisner, 2010).
- Corporate managers understand well the critical success factors of their businesses.
- Corporate managers identify and help those businesses which provide them parenting opportunities to add value in different ways.

- Corporate parents possess those resources and competences which can be really helpful in creating value in different businesses and therefore business portfolio is well suited to corporate parent's expertise.
- Corporate managers develop effective structural and control linkages between corporate centre and its businesses.
- Corporate parents provide autonomy to their businesses in their business level strategies unless they feel there is some need for them to intervene. This happens when there exists a clear opportunity to add value through corporate level resources and competences.
- Corporate parents provide incentives to different businesses on the basis of business unit performance.
- The focus on synergy creation is lesser and is greater on direct value addition by the parents. Hence, given the nature of involvement in this role, Parental Developer is suggested for relatedly diversified businesses as the creation and up gradation of corporate level resources and competences could be feasible for set of related businesses (Johnson *et al.*, 2005, 2008).

Therefore, keeping in view the above summarization of the role together with the arguments from Johnson *et al.* (2005, 2008), this study examined the effect of Parental Developer as a moderator variable between Related Diversification Strategy and Corporate Performance. Hence, following hypotheses are formulated for this purpose:

H2aii: Parental Developer Role positively moderates the relationship between Related Diversification Strategy and Financial Corporate Performance.

H2bii: Parental Developer Role positively moderates the relationship between Related Diversification Strategy and Subjective Corporate Performance.

2.4.4.4 Conclusion

Every corporate parenting role is based on its logic and characterises its own ways of value creation and organisational setting. Corporate managers must understand the strengths and weaknesses of different roles/styles and adopt the most appropriate one (Campbell & Goold, 1988; Oijen & Douma, 2000). The selection of most appropriate role will clarify importance of corporate level management whereas, wrong selection will lead to excessive costs and weakening of business units (Oijen & Douma, 2000). In certain situations, however, corporate parents may not dominantly play a particular role and might be playing mixed parenting roles (Johnson *et al.*, 2005).

On the basis of explanation provided by Johnson *et al.* (2005, 2008) about corporate parenting roles, it can be said that selection of appropriate corporate parenting role depends primarily upon extent of relatedness among business units. Oijen and Douma (2000) argued that selection of corporate parenting role is contingent upon company's corporate level strategy. Caldart and Ricart (2006) conducted research on the suitability of corporate parenting styles suggested by Goold and Campbell (1987) with respect to nature of environment. They report that success of each style depends upon characteristics of environment the company faces, and that strategic planning style provides better results as compared to other two styles in less complex business environments, whereas, in environment with high complexity and dynamism, strategic control style outperforms other styles.

This study is based on the assumption that successful product diversification strategy might require a particular corporate parenting role (Kruehler *et al.*, 2012; Oijen & Douma, 2000). Related diversification strategy might be successful if corporate parents adopt Synergy Manager role or Parental Developer role, whereas, unrelated diversification strategy could be successful if corporate parents adopt Portfolio Manager role (Johnson *et al.*, 2005, 2008; Porter, 1987). Further, research on top managers' competences or roles has been limited in Malaysian context (Alhaji & Yusoff, 2013; Yusoff & Amrstrong, 2012) and therefore this research provides information about the types of corporate parenting roles played by Malaysian managers in their companies.

2.4.5 Research on Corporate Parenting

Parenting advantage and corporate parenting roles have a strong relevance with product diversification strategies. While there is an abundance of literature on product diversification – performance relationship (Palich *et al.*, 2000) yet research in the area of corporate parenting is very limited (Abdullah & Mehmood, 2013; Caldart & Ricart, 2006; Menz & Mattig, 2008; Oijen & Douma, 2000).

A research by Menz and Mattig (2008) on corporate level capabilities found that diversified companies benefit from corporate level capabilities to 'foster cross business coordination' and capabilities for 'risk management'. However, authors used proxies for measurement of corporate level capabilities which highlighted only limited aspect of those capabilities instead of achieving their comprehensive

measurement through some primary data. Further, their study was conducted in banking sector, and therefore the results could not be generalized across other sectors.

In another perspective, research by Lange *et al.* (2009) revealed that when well established companies diversified into new industries (born by disorderly technological changes), they caused the performance of their own new business units become weaker as compared to independent businesses. In another study, Gottschalg and Meier (2005) found that availability of corporate level resources as well as need of business units for the corresponding corporate services act as moderators for value addition in unrelated diversified firms. The scope of the study was however limited due to exclusive focus on private equity firms and leveraged buyout associations.

The availability of limited researches on the topic, therefore, calls for more enquiries into the subject. As stated before, research on corporate leadership, managerial competences and parenting roles is extremely limited in Malaysian context (Alhaji & Yusoff, 2013; Ansari, Ahmad, & Aafaqi, 2004; Yusoff & Amrstrong, 2012). In the given scenario, examining the moderating role of corporate parenting roles in product diversification – performance relationship carries extreme significance for Malaysia in particular, and this has been the primary objective of this study.

2.4.6 Theoretical Background for Corporate Parenting

Theoretical underpinnings for corporate parenting could be traced back to dynamic capabilities perspective. Further, the connection between product diversification

strategies and corporate parenting roles could be discussed in light of contingency theory. Following sub-sections offer explanation on each of these theories.

2.4.6.1 Dynamic Capabilities Perspective (DCP)

According to certain scholars (Bowman & Ambrosini, 2003; Sohl, 2011) corporate parenting and corporate value addition is largely rooted in the dynamic capabilities perspective proposed by Teece, Pisano, and Shuen (1997). This perspective is augmentation of resource based view and it presents evolutionary nature of organisational capabilities and resources to create competitive advantage (Bitar & Somers, 2004; Wang & Ahmed, 2007). In contrast to RBV which presents a static scenario of organisation position and environment, dynamic capabilities perspective addresses dynamic nature of environment and the need to constantly evolve and improve organisational capacity to address changing businesses conditions (Bitar & Somers, 2004; Zaidi & Othman, 2011).

In the term *'dynamic capabilities'*, 'c*apabilities'* refer to management's ability in successfully aligning, integrating and reconfiguring organisational resources, skills, internal and external competences to cope up with swiftly changing external environments, whereas, *'dynamic'* refers to management's capacity to renovate organisation's competences to address changing business environment which characterises high elements of uncertainty and challenges (Teece *et al.*, 1997; Wang & Ahmed, 2007; Zaidi & Othman, 2011).

Hence, the perspective holds that management can create sustainable competitive advantage in ever changing business environments which the help of dynamic capabilities it possesses (Johnson *et al.*, 2008; Teece *et al.*, 1997). However, dynamic capabilities must be based on resources and competences which are rare, valuable, robust and non-substitutable, making it difficult for competitors to imitate or build them in short period of time (Barney, 1991; Symeou & Kretschmer, 2012)

Dynamic capabilities are based on organisation's resource base and their development is based on organisational learning encompassing coevolution of experience accumulation, knowledge articulation, and knowledge codification processes (Symeou & Kretschmer, 2012; Zollo & Winter, 2002). Bitar and Somers (2004) add that development of dynamic capabilities is a collective activity and it requires leveraging all organisational processes to achieve sustainable competitive advantage through sharing of knowledge.

The performance of a diversified organisation largely depends upon existence of corporate level distinctive competences (Hitt & Ireland, 1986; Sohl, 2011). The success of related or unrelated diversification depends upon parenting strategy, and therefore, a company's corporate centre must actively seek rare, valuable, robust and non-substitutable resources for its businesses and conduct those activities and processes that could convert those resources into core competences leading to strong and sustainable competitive advantage for their businesses (Bowman & Ambrosini, 2003; Kruehler *et al.*, 2012). Hence, a company's corporate level capability is indicated in corporate management's capacity to build, improve and alter

organisation's asset base to create dynamic capabilities for its businesses (Bowman & Ambrosini, 2003; Menz & Mattig, 2008).

Past literature on dynamic capabilities with reference to corporate parents argues that alignment of corporate parent's capabilities and degree of product diversification is important for corporate performance (Johnson *et al.*, 2005, 2008; Oijen & Douma, 2000; Porter, 1987). Limited studies have examined the interrelationships between related or unrelated diversification strategy and corporate level competences, and there is a need of more empirical researches into the topic (Hitt & Ireland, 1986; Liu & Hsu, 2011; Menz & Mattig, 2008). Further, as mentioned before, the research about directors' competences and managerial roles in Malaysian context is limited. In fact, a recent study by Yusoff and Amrstrong (2012) into the competences of Malaysian directors found that among others, the directors' competences in corporate planning played significant role in planning their companies' future.

This study enriches the body of knowledge on corporate level distinctive competences, as corporate parenting roles are tested as moderating variables between related/unrelated diversification strategy and performance relationship.

2.4.6.2 Contingency Theory

Contingency theory, also called as 'it all depends theory' argues that best methods are always based on contingencies of the situation (Schoech, 2006). This theory was developed by improving on the previous ideas provided by Frederick Taylor, Henri Fayol and Max Weber which suggested that certain recommendations proved

effective under any circumstances (Matyusz, 2012). Alternatively, contingency theory proposes that under different conditions, different solutions might prove useful (Dobák & Antal, 2010; Matyusz, 2012). Hence, the theory negates universally applicable management practices such as particular managerial styles to all situations.

Therefore, this theory has a strong relevance to this research with reference to corporate parenting roles as this research hypothesizes that different corporate parenting roles are suitable for different types of diversification strategies. Contingency theory was initially discussed in the management literature in 1967 by Lawrence and Lorsch and currently it is being used to relate research on several management variables such as managerial decision making, organisation design, environmental forces and technology (Matyusz, 2012; Schoech, 2006). Particularly, the reference to this theory has been made several times by studies relating to organisation structure, leadership and motivation (Baranyi, 2001; Beckford, 2002).

Contingency theory considers an organisation as a product of several interacting elements where the demand of each element must be met keeping in view the broad organisational context (Beckford, 2002). This would establish that an appropriate combination of all organisation elements would help improve its performance. Past studies conducted to examine the effect of certain moderating variables invariably accept the validity of contingency theory (David *et al.*, 2010; Hill *et al.*, 1992; Martínez-Campillo & Fernández-Gago, 2008; Ravichandran *et al.*, 2009).

This research presents another test of contingency theory and provides arguments in its support. Specifically, it adds to the validity of contingency theory by suggesting

that roles of Synergy Manager and Parental Developer are suitable for Related Diversification Strategy. Further, although Unrelated Diversification Strategy has a negative effect on Corporate Performance as revealed by the analyses, but the negative effect is countered if this strategy is combined with Portfolio Manager role. More is discussed on this matter and the contribution to contingency theory in Chapter 5.

2.5 Corporate Performance

2.5.1 Background

In strategic management, 'firm performance' has been frequently used dependent variable (Santos & Brito, 2012). Also, the link between strategy and performance has been well researched area among researchers in the past (Jusoh & Parnell, 2008; Wiersema & Bowen, 2011). Particularly, the performance of product diversification strategies has been a popular area among various researchers (Galván *et al.*, 2007; Hoechle *et al.*, 2012; Kahloul & Hallara, 2010; Palepu, 1985; Rumelt, 1974).

However, the construct of firm performance has passed through variety of measurement techniques and obtained numerous indicators (Akkermans, 2010; Asrarhaghighi *et al.*, 2013). According to Denton (2005), one can develop a long list of performance indicators used by researchers and categorize them into; financial measures such as R&D expenditures, product cost, labour cost, and design cost, and non-financial measures such as average time between innovations, customer satisfaction, number of complaints, and new product development time.

2.5.2 Performance Indicators used by Past Research on Product Diversification – Performance Relationship

Most of the past studies examining product diversification effects on performance used financial indicators of performance. Past researches could be divided into three groups regarding their selection of performance indicators/ratios in this field. Firstly, there are studies which used accounting ratios (Delios & Beamish, 1999; Hill *et al.*, 1992; Marinelli, 2011; Martínez-Campillo & Fernández-Gago, 2008). Secondly, there are studies which used market ratios (Campa & Kedia, 2002; Hoechle *et al.*, 2012; Ishak & Napier, 2006; Schmid & Walter, 2008). Thirdly, many researches employed a blend of accounting and market based performance ratios (Daud *et al.*, 2009; Doukas & Lang, 2003; Kahloul & Hallara, 2010; Pandya & Rao, 1998).

This analysis of performance ratios for studying effects of product diversification strategies used by past studies reveals that, whereas use of different performance indicators by certain studies produced different results (Michel & Shaked, 1984; Rumelt, 1974), use of similar performance indicators by certain studies also produced different results (Hoechle *et al.*, 2012; Lins & Servaes, 2002; Miller, 2006; Mishra & Akbar, 2007a). Therefore, in order to obtain deeper understanding of product diversification effects on performance, one should employ variety of performance measures.

2.5.3 Widely Used and Powerful Indicators of Financial Corporate Performance

In research on product diversification strategies, the analysis of accounting based measures unfolds that although past studies employed variety of accounting based measures of corporate performance, but certain measures remained dominant among

others in the field. Return on assets (ROA) and return of equity (ROE) are among those measures that were used quite frequently by past studies in the research on product diversification – performance relationship. According to Ross, Westerfield, Jaffe, and Jordan (2011), ROA and ROE are best known and frequently used measures of company profitability.

Recognizing the strength and importance of ROA in measuring company performance, certain past studies on product diversification – performance relationship relied on ROA as one of the measures of company performance (Ibrahim & Kaka, 2007; Kahloul & Hallara, 2010; Lahovnik, 2011; Ravichandran *et al.*, 2009). A deeper analysis of past studies reveals that certain researches have rather exclusively relied on ROA as indicator of company performance such as those conducted by George (2007), Hill *et al.* (1992), and Chang and Thomas (1989).

In the same way, recognizing the strength and importance of ROE in measuring company performance, certain past studies have relied on ROE as one of the measures of company performance (Delios & Beamish, 1999; Ibrahim & Kaka, 2007; Lahovnik, 2011). Additionally, the analysis of market based measures in this research area reveals that Tobin's q has been most accepted and widely used market measure of performance (Fukui & Ushijima, 2006; Kahloul & Hallara, 2010; Ravichandran *et al.*, 2009). In fact, in acknowledging the power of Tobin's q, certain past studies have relied exclusively on it for measuring company performance (Chari *et al.*, 2008; Gomes & Livdan, 2004; Guo & Cao, 2011; Lang & Stulz, 1994).

In comparison to number of previous researches that used other market measures of performance such as excess value, Tobin's q, market adjusted return (Daud *et al.*, 2009; Guo & Cao, 2011; Kuppuswamy & Villalonga, 2010), there are few researches that used 'price to book value ratio' as indicator of company performance, representing a gap. But, this ratio is powerful market measure of corporate performance as according to Berk, DeMarzo, and Harford (2009), it represents value added by the management and offers feedback to company managers on the market's appraisal of their decisions. Hence, realizing this gap, the use of price to book value ratio in this study is yet another differentiating feature of this research.

In context of Malaysia as well, these ratios being powerful, remained popular and were used quite frequently to gauge performance of Malaysian PLCs. For instance, researchers have used Price to Book Value (Chin, 2009), Tobin's q (Kanapathy, 2005), or a combination of; Tobin's q and ROA (Razak, Ahmad, & Joher, 2011; Rokiah, 2010), ROA and Market to Book Value (Shahida & Sapiyi, 2013), and ROA, ROE, and Tobin's q (Amran & Ahmad, 2013) for measuring corporate performance of Malaysian PLCs. Additionally, Price to Book Value has been considered by Securities Commission Malaysia as one of the important yardsticks for estimating companies' performance (Hwa, 2014).

Similarly, Bursa Malaysia considers ROA and ROE as one of the key financial data on corporate performance which could be used by investors to appraise companies' performance (Bursa Malaysia, n.d.a, n.d.b). Thus, on the basis of above arguments, this study relies on using ROA, ROE, Tobin's q and P/B Value as four indicators of

Financial Corporate Performance which provides best blend of accounting and market performance measures.

2.5.4 Shortcomings of Financial Performance Indicators

The financial performance measures have been extensively used in product diversification – performance research which indicates practical as well as academic importance of financial performance indicators. However, the problem with the financial indicators is that they capture after-the-fact consequences (Chavan, 2009; Denton, 2005; Smandek *et al.*, 2010). Although accounting measures of performance are widely used indicators of corporate performance, but they are subject to several problems such as accounting manipulation, assets' undervaluation and absence of standardization in international accounting principles (Asrarhaghighi *et al.*, 2013; Chakravarthi, 1986). Alternatively, market measures of performance represent a company's external evaluation by stakeholders and forecast of company's future performance (Santos & Brito, 2012). But market measures of performance might also not fully reflect corporate performance.

Sole reliance on financial measures of performance which encourage only short-term behaviour at the cost of long-term value creation is usually perplexing and confusing (Chavan, 2009; Ghosh & Mukherjee, 2006). Moreover, according to Venkatraman and Ramanujam (1986), financial performance is only a subset of organisational effectiveness and therefore it may not adequately capture strategy effects. In supporting this view, Walters (1999) argues that being a multidimensional variable,

organisation's effectiveness might provide different results to different researchers measuring different aspects of it.

These arguments would imply that financial indicators of performance might not be able to comprehensively evaluate product diversification strategy. Besides, reliance on only profit based measures of performance has been criticized in the past; especially in relevance to the service industry where the outputs are difficult to measure and quantify (Brown & McDonnell, 1995). Certain scholars argue that organisations as well as researchers must rely on multiple indicators of performance in studying relationships among variables, and in so doing, their focus should be on stakeholder issues rather than on shareholder issues only (Asrarhaghighi *et al.*, 2013; Micheli, Mura, & Agliati, 2011).

2.5.5 Subjective Assessment of Corporate Performance

Measurement of organisation's performance through non-financial indicators might provide insight that may not be available through financial indicators (Jusoh & Parnell, 2008). Wall *et al.* (2004) confirmed validity of subjective measures of performance against objective measures and recommended using combination of objective and subjective measures of performance.

Keeping in view the short sightedness of single performance measure, many organisations are relying on use of multiple measures of performance (Jusoh & Parnell, 2008). In this regard, the Balance Scorecard (BSC) developed by Kaplan and Norton (1992) is worth mentioning. It is a multidimensional performance evaluation

guide for a business and employs financial as well as non-financial criteria (Ghosh & Mukherjee, 2006; Hepworth, 1998). Although BSC was supposed to overcome many problems in business performance measurement (Kaplan & Norton, 1992), but every business strategy is unique in its own and requires its own performance goals and measures (Jusoh & Parnell, 2008).

Therefore, use of BSC might be practically limited to business level strategy and may not be extended to corporate level strategy because a diversified organisation represents a portfolio of businesses with each one having its own business level strategy. In that condition, obtaining a balance scorecard for a corporate level strategy that covers various businesses together would be difficult for any researcher.

Different studies in the past have obtained subjective assessment of firm performance in strategy research (Nandakumar, Ghobadian, & O'Regan, 2010; Tan *et al.*, 2007). Given the fact that product diversification strategy might not necessarily provide short-term benefits in terms of financial returns but it might immediately provide returns as far as strategic or subjective performance is concerned, along with validity of subjective performance measures, and lastly, in making agreement with the researches using subjective assessment of performance, this study relied on measuring organisation performance through objective (financial) as well as subjective measures. This research design provided a comprehensive evaluation of diversification strategies on corporate performance.

The next chapter discusses in detail the methods of measuring Financial Corporate Performance as well as Subjective Corporate Performance.

2.6 Chapter Summary

This chapter was devoted to critical review of literature on the relevant theories and past studies. It started by providing detail on Malaysian corporate sector along with number of PLCs, governing bodies and Bursa Malaysia markets. Then, it presented basic conceptualization and definition of product diversification strategy along with its types. This was followed by explanation of underpinning theories of product diversification. A critical analysis was presented on past researches conducted on exploring effect of product diversification on performance followed by critical discussion of researches examining relative superiority of related versus unrelated diversification strategy.

Afterwards, the chapter provided detailed explanation of corporate parenting concept and value addition/value destruction by corporate parents. Explanation on corporate parenting roles was also provided, followed by past studies conducted in the area of corporate parenting. This was followed by underpinning theories for corporate parenting. Lastly, a critical review of corporate performance indicators used by previous researches along with a foresight for the future research regarding subjective assessment of corporate performance was presented.

CHAPTER THREE

THEORETICAL FRAMEWORK, HYPOTHESES DEVELOPMENT AND RESEARCH METHODOLOGY

3.1 Introduction

According to Cooper and Schindler (2006), research design expresses the strategy of any research activity as it specifies procedures and methods for data collection, data measurement and data analyses. Therefore, the quality of any research depends upon good research design and well planned research methodology. This chapter presents in detail the research design and methodology of this study by providing detail on various aspects such as data collection, data measurement and data analyses, along with presenting theoretical framework and hypotheses in the initial part.

The chapter starts by presenting theoretical framework of the study that shows the concerned variables in the study and proposed relationships between them in Section 3.2. The chapter, then proceeds towards presenting hypotheses of the study, population and unit of analysis, and time period of the study in Section 3.3, Section 3.4, and Section 3.5 respectively. Research hypotheses are decomposed into several sub hypotheses for making clarity on the issues. Afterwards, a detailed explanation follows regarding the measurement of independent variable, dependent variable and moderating variable. Section 3.6.1 presents explanation about measurement of Product Diversification Strategy including the techniques and formulae for its measurement as well as justifications for using the proposed techniques.

Section 3.6.2 includes explanation on the measurement of Corporate Parenting Roles along with design of questionnaire for measuring Corporate Parenting Roles. Section 3.6.3 provides detail on the measurement of Corporate Performance with its sub-sections providing detail on the measurement of Financial as well as Subjective Corporate Performance. These sub-sections include formulae to calculate different ratios which are part of Financial Corporate Performance as well as they discuss design of questionnaire sent to respondents for measuring Subjective Corporate Performance.

This is followed by Section 3.6.4 which provides detail on the control variables of the study along with justifications for using them. Section 3.7 and Section 3.8 include explanation regarding data collection and data sources, and pilot study for questionnaire pretesting. In the end, a summary of the chapter is presented.

3.2 Theoretical Framework

The theoretical framework proposed for this research is presented in Figure 3.1. This framework is based on research questions and research objectives provided in Chapter 1. Figure 3.1 indicates that one of the objectives of this research is to test the effect of Product Diversification Strategy, Related Diversification Strategy, and Unrelated Diversification Strategy on Financial Corporate Performance (using one ratio at a time) and Subjective Corporate Performance. Whereas the figure shows that primary objective of this study is to test moderating effect of Synergy Manager and Parental Developer on the relationship between Related Diversification Strategy and Financial Corporate Performance (using one ratio at a time) and Subjective Corporate

Performance, as well as to test moderating effect of Portfolio Manager on the relationship between Unrelated Diversification Strategy and Financial Corporate Performance (using one ratio at a time) and Subjective Corporate Performance. The hypotheses of this study have already been stated in Chapter 2 under the relevant portions but to summarize, a brief explanation and justification of all these hypotheses is provided again in Section 3.3.

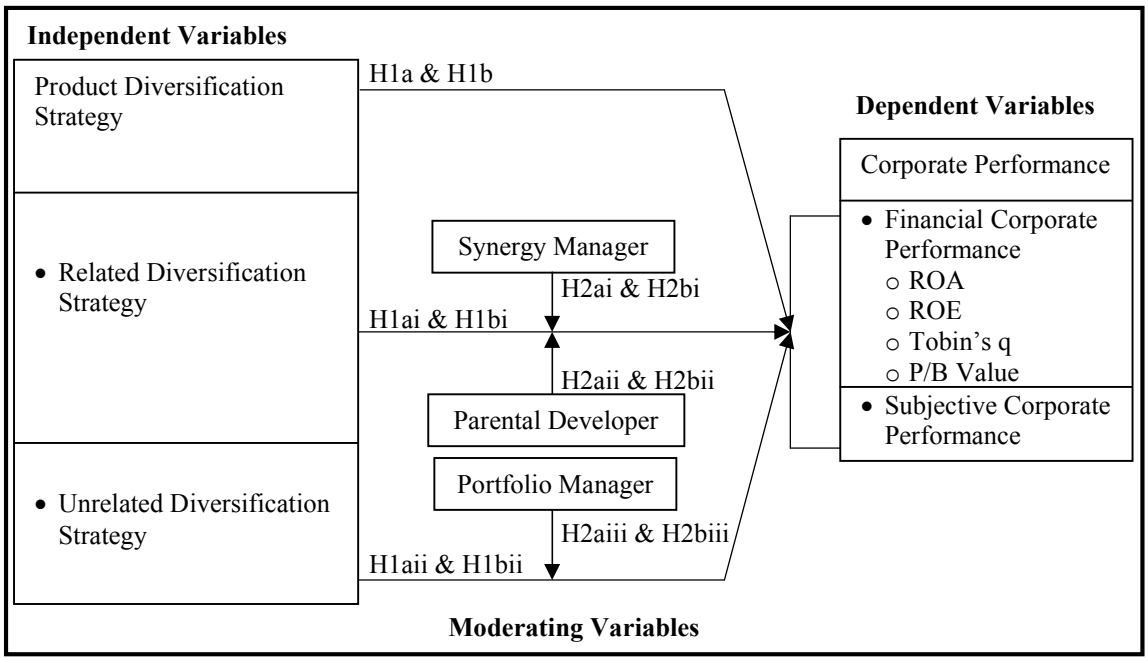

Figure 3.1
Theoretical Framework

3.3 Research Hypotheses

The statement of each of the hypotheses proposed in this study is presented in this section. The hypotheses statements are formulated on the basis of 'research questions and research objectives' outlined in Chapter 1, 'literature review' discussed in Chapter 2, and 'theoretical framework' presented above. Furthermore, different set of hypotheses are formulated for testing because each variable (independent, dependent

as well as moderating variable) consists of sub variables. A brief detail and justification is added with every hypothesis to clarify its need and significance for this study.

A comprehensive discussion of studies supporting positive effects of product diversification (Kuppuswamy & Villalonga, 2010; Miller, 2006; Mishra & Akbar, 2007a; Pandya & Rao, 1998) and negative effects of product diversification (Braakmann & Wagner, 2009; Hoechle *et al.*, 2012; Ibrahim & Kaka, 2007) has been presented in Chapter 2. Moreover, the discussion also included review of studies supporting curvilinear effect of product diversification on performance (Galván *et al.*, 2007; Liu & Hsu, 2011; Palich *et al.*, 2000) as well as analysis of studies stating that product diversification had no significant effect on performance (Chang & Thomas, 1989; Çolak, 2010; Lloyd & Jahera Jr., 1994; Marinelli, 2011; Montgomery, 1985).

A critical analysis of these studies reveals that there are more studies stating that product diversification had some sort of effect on performance as compared to studies concluding that there was no effect of product diversification on performance. Moreover, greater studies have supported linear relationship between product diversification and performance as compared to studies supporting curvilinear relationship between the two. Among those studies which state that product diversification had certain impact on performance, there are considerable studies proving positive effects of product diversification on performance as well as there are sizable studies proving negative effects of product diversification on performance.

Therefore, there lies greater ambiguity about whether product diversification is useful or non-useful strategy. In light of this analysis, an initial hypothesis concerning any effect of product diversification strategy on performance is presented below:

H1: Extent of Product Diversification Strategy significantly affects Corporate Performance.

A critical review of performance indicators used in product diversification – performance relationship research has been provided in the previous chapter. The review concluded that until now, majority of the studies relied only upon financial performance indicators. But as financial performance has been said to be a subset of overall organisational effectiveness (Venkatraman & Ramanujam, 1986), scholars have recommended that performance should be measured using multiple indicators of performance reflecting broader stakeholder issues (Micheli *et al.*, 2011) or emphasis should also be laid on non-financial indicators of performance (Jusoh & Parnell, 2008).

Wall *et al.* (2004) recommended using a combination of objective and subjective measures of performance in order to have better insight into the performance construct. In this study, following the recommendations of these scholars, corporate performance is measured objectively (using financial ratios) and subjectively and the main hypothesis H1 above is divided into two sub-hypotheses as below:

H1a: Extent of Product Diversification Strategy significantly affects Financial Corporate Performance.

H1b: Extent of Product Diversification Strategy significantly affects Subjective Corporate Performance.

As stated before, many past studies established linear relationship between total diversification and performance. It was concluded before that rich insight could be gained into positive or negative nature of product diversification strategy by decomposing diversification strategy into two types: related diversification strategy and unrelated diversification strategy. Further, the use of multiple indicators of performance (objective and subjective) in this study enable complete evaluation of related and unrelated diversification strategies.

Following above discussion, the set of hypotheses for related and unrelated diversification strategies and for various categories of corporate performance are formulated as:

H1ai: Extent of Related Diversification Strategy significantly affects Financial Corporate Performance.

H1bi: Extent of Related Diversification Strategy significantly affects Subjective Corporate Performance.

H1aii: Extent of Unrelated Diversification Strategy significantly affects Financial Corporate Performance.

H1bii: Extent of Unrelated Diversification Strategy significantly affects Subjective Corporate Performance.

Hypotheses H1a and H1b, which include 'extent of Product Diversification Strategy', are tested using the Total Diversification Score (DT) as obtained by using Entropy Measure of Diversification. Total Diversification Score is the sum of Related Diversification Score and Unrelated Diversification Score. Similarly, the hypotheses that include 'extent of Related Diversification Strategy' are tested using Related Diversification Score (DR) and the hypotheses that include 'extent of Unrelated Diversification Strategy' are tested using Unrelated Diversification Score (DU). The entropy measure of diversification (Jacquemin & Berry, 1979) used in this study enables decomposition of Total Diversification Score into Related Diversification Score and Unrelated Diversification Score (Complete details on measurement of Independent Variables and entropy formulae are provided in Section 3.6.1).

It has been argued before that better insight could be gained into product diversification – performance relationship with the inclusion of additional variables (Daud *et al.*, 2009; Gary, 2005; Marinelli, 2011) or moderators (Martínez-Campillo & Fernández-Gago, 2008) into the relationship. Importantly, scholars suggested that researchers should include important contingency variables in their research frameworks when the purpose is to study relationship between related diversification strategy and performance, as well as to study unrelated diversification strategy and performance (Datta *et al.*, 1991; Ravichandran *et al.*, 2009). Nippa *et al.* (2011) have suggested using parenting advantage as a moderating variable in product diversification – performance relationship. Based on these arguments, following general hypothesis is formulated. However, this hypothesis was only tested by decomposing it into different hypotheses for different types of corporate parenting

roles and with different categories of corporate performance as discussed in the next paragraphs.

H2: Corporate Parenting Roles positively moderate relationship between Product Diversification Strategies and Corporate Performance.

The literature on diversification strategies points that the motives and benefits for related diversification strategy and those for unrelated diversification strategy are supposed to be different. As related diversification strategy entails expansion of a company into related industry segments, therefore the motives behind related diversification strategy could be creation of synergies or economies of scope benefits (David, 2011; Grant *et al.*, 2011; Helfat & Eisenhardt, 2004; Hill *et al.*, 1992; Nayyar, 1993).

Oijen and Douma (2000), and Gottschalg and Meier (2005) stated that realization of synergies, particularly operational synergies between businesses, require certain degree of relatedness and cooperation between the businesses. On the basis of these arguments, it is supposed that related diversification will positively contribute to corporate performance if it is followed by synergy management efforts by corporate parent managers (Johnson *et al.*, 2005, 2008). Therefore, the role of Synergy Manager is hypothesized to positively moderate relationship between Related Diversification Strategy and Corporate Performance as stated below:

H2ai: Synergy Manager Role positively moderates the relationship between Related Diversification Strategy and Financial Corporate Performance.

H2bi: Synergy Manager Role positively moderates the relationship between Related Diversification Strategy and Subjective Corporate Performance.

Parental Developers are concerned with finding parenting opportunities in the businesses and helping those businesses through resources and capabilities they possess as corporate managers, such as a specialist skill in financial management (Johnson *et al.*, 2008). According to Johnson *et al.* (2005, 2008), this role is more likely to be played in relatedly diversified companies as compared to unrelatedly diversified companies. Naturally, it may seem easier for corporate parent managers to develop or acquire resources, competences, and skills with the help of which they could benefit related businesses as compared to possessing resources, competences or skills to simultaneously add value to many unrelated businesses. On the basis of these arguments, following hypotheses are formulated:

H2aii: Parental Developer Role positively moderates the relationship between Related Diversification Strategy and Financial Corporate Performance.

H2bii: Parental Developer Role positively moderates the relationship between Related Diversification Strategy and Subjective Corporate Performance.

As argued in sub-section 2.4.4.3, The Parental Developer Role seems to resemble stand-alone parenting influence discussed by Goold *et al.* (1994a). As synergy expectations, sometimes, might fail management expectations (Goold & Campbell, 1998), therefore, scholars have suggested that as compared to synergy management, stand-alone influence or Parental Developer Role could perform better in related organisations (Campbell, 2007; Goold *et al.*, 1994a). As there are substantial

arguments for using Synergy Manager Role and Parental Developer Role as moderators for relatedly diversified businesses, therefore, it could be hypothesized that those relatedly diversified businesses in which corporate parents are acting as Parental Developers outperform other related businesses where corporate parents are acting as Synergy Managers. Hence, on this basis, following hypotheses are proposed:

H3c: Among predominantly Related Diversifiers, those having corporate parents adopting Parental Developer Role outperform others having corporate parents adopting Synergy Manager Role on Financial measures of Corporate Performance.

H3d: Among predominantly Related Diversifiers, those having corporate parents adopting Parental Developer Role outperform others having corporate parents adopting Synergy Manager Role on Subjective measure of Corporate Performance.

Management motives behind unrelated diversification strategy could be to decrease overall risk of the company and to enhance profitability (Galván *et al.*, 2007; Grant *et al.*, 2011). A company could use unrelated diversification strategy when it feels there are opportunities to add value to certain undervalued businesses which are having good future growth prospects and which it can invest in (Bamford & West, 2010). These conditions characterise Portfolio Manager Role.

According to Johnson *et al.* (2005, 2008), Portfolio Manager Role is more suitable for unrelatedly diversified organisations or conglomerates where a company is not concerned about the relatedness of businesses in its portfolio. They add that being

portfolio managers, corporate parents only intervene through buying and selling of businesses or provision or withdrawal of investment, hence acting as agents for financial markets. On the basis of these arguments, following hypotheses are formulated:

H2aiii: Portfolio Manager Role positively moderates the relationship between Unrelated Diversification Strategy and Financial Corporate Performance.

H2biii: Portfolio Manager Role positively moderates the relationship between Unrelated Diversification Strategy and Subjective Corporate Performance.

Lastly, a review of studies comparing performance effects of related versus unrelated diversification strategy has also been presented in the previous chapter. There is considerable support of related diversification strategy winning unrelated diversification strategy (Berger & Ofek, 1995; Markides & Williamson, 1996; Mishra & Akbar, 2007a; Rumelt, 1974, 1982), as well as there is substantial evidence regarding unrelated diversification strategy outperforming related diversification strategy (Dubofsky & Varadarajan, 1987; Marinelli, 2011; Michel & Shaked, 1984).
In this study, the objective is also to compare the two types of diversification strategies on multiple indicators of performance (financial as well as subjective). In light of this, following hypotheses are formulated.

H3a: A significant difference exists between Predominantly Related Diversifiers and Predominantly Unrelated Diversifiers on Financial measures of Corporate Performance.

H3b: A significant difference exists between Predominantly Related Diversifiers and Predominantly Unrelated Diversifiers on Subjective Assessment of Corporate Performance.

The detailed list of all hypotheses tested in this study is provided in Table 3.1. As this research studies product diversification, therefore whenever 'Total Diversification' is quoted, it means 'Total Product Diversification', 'Related Diversification' means 'Related Product Diversification' and 'Unrelated Diversification' means 'Unrelated Product Diversification'. This study has used entropy measure of diversification to calculate Total Diversification (DT), Related Diversification (DR) and Unrelated Diversification (DU) Scores as elaborated in section 3.6.1.

Further, as mentioned earlier in 2.3.3.2.4, all the hypotheses concerning Financial Corporate Performance (H1a, H1ai, H1aii, H2ai, H2aii, H3c, H2aiii, H3a) were decomposed into four sub hypotheses for testing for each of four ratios used in this study (ROA, ROE, Tobin's q, and P/B Value)

Table 3.1
List of all Hypotheses Tested in the Study

No.	Hyp. Nos.	Statements of Hypotheses
Hypotheses concerning Effect of Total Diversification on Corporate Performance		
1	H1a1	Extent of Product Diversification Strategy (DT) significantly affects ROA
2	H1a2	Extent of Product Diversification Strategy (DT) significantly affects ROE
3	H1a3	Extent of Product Diversification Strategy (DT) significantly affects Tobin's q

Table 3.1 (Continued)

No.	Hyp. Nos.	Statements of Hypotheses
4	H1a4	Extent of Product Diversification Strategy (DT) significantly affects P/B Value
5	H1b	Extent of Product Diversification Strategy (DT) significantly affects SCP
Hypotheses concerning Effect of Related Diversification on Corporate Performance		
6	H1ai1	Extent of Related Diversification Strategy (DR) significantly affects ROA
7	H1ai2	Extent of Related Diversification Strategy (DR) significantly affects ROE
8	H1ai3	Extent of Related Diversification Strategy (DR) significantly affects Tobin's q
9	H1ai4	Extent of Related Diversification Strategy (DR) significantly affects P/B Value
10	H1bi	Extent of Related Diversification Strategy (DR) significantly affects SCP
Hypotheses concerning Effect of Unrelated Diversification on Corporate Performance		
11	H1aii1	Extent of Unrelated Diversification Strategy (DU) significantly affects ROA
12	H1aii2	Extent of Unrelated Diversification Strategy (DU) significantly affects ROE
13	H1aii3	Extent of Unrelated Diversification Strategy (DU) significantly affects Tobin's q
14	H1aii4	Extent of Unrelated Diversification Strategy (DU) significantly affects P/B Value
15	H1bii	Extent of Unrelated Diversification Strategy (DU) significantly affects SCP
Hypotheses concerning Moderating Effect of Synergy Manager and Parental Developer on the relationship between Related Diversification and Corporate Performance		
16	H2ai1	Synergy Manager role positively moderates the relationship between Related Diversification Strategy (DR) and ROA
17	H2ai2	Synergy Manager role positively moderates the relationship between Related Diversification Strategy (DR) and ROE

Table 3.1 (Continued)

No.	Hyp. Nos.	Statements of Hypotheses
18	H2ai3	Synergy Manager role positively moderates the relationship between Related Diversification Strategy (DR) and Tobin's q
19	H2ai4	Synergy Manager role positively moderates the relationship between Related Diversification Strategy (DR) and P/B Value
20	H2bi	Synergy Manager role positively moderates the relationship between Related Diversification Strategy (DR) and Subjective Corporate Performance (SCP)
21	H2aii1	Parental Developer role positively moderates the relationship between Related Diversification Strategy (DR) and ROA
22	H2aii2	Parental Developer role positively moderates the relationship between Related Diversification Strategy (DR) and ROE
23	H2aii3	Parental Developer role positively moderates the relationship between Related Diversification Strategy (DR) and Tobin's q
24	H2aii4	Parental Developer role positively moderates the relationship between Related Diversification Strategy (DR) and P/B Value
25	H2bii	Parental Developer role positively moderates the relationship between Related Diversification Strategy (DR) and Subjective Corporate Performance (SCP)
Hypotheses concerning Moderating Effect of Portfolio Manager on relationship between Unrelated Diversification and Corporate Performance		
26	H2aiii1	Portfolio Manager role positively moderates the relationship between Unrelated Diversification Strategy (DU) and ROA
27	H2aiii2	Portfolio Manager role positively moderates the relationship between Unrelated Diversification Strategy (DU) and ROE
28	H2aiii3	Portfolio Manager role positively moderates the relationship between Unrelated Diversification Strategy (DU) and Tobin's q
29	H2aiii4	Portfolio Manager role positively moderates the relationship between Unrelated Diversification Strategy (DU) and P/B Value
30	H2biii	Portfolio Manager role positively moderates the relationship between Unrelated Diversification Strategy (DU) and Subjective Corporate Performance (SCP)
Hypotheses concerning significant performance differences between predominantly Related and Unrelated Diversifiers		
31	H3ai	There is a significant difference between predominantly Related Diversifiers and predominantly Unrelated Diversifiers on ROA

Table 3.1 (Continued)

No.	Hyp. Nos.	Statements of Hypotheses
32	H3aii	There is a significant difference between predominantly Related Diversifiers and predominantly Unrelated Diversifiers on ROE
33	H3aiii	There is a significant difference between predominantly Related Diversifiers and predominantly Unrelated Diversifiers on Tobin's q
34	H3aiv	There is a significant difference between predominantly Related Diversifiers and predominantly Unrelated Diversifiers on P/B Value
35	H3b	There is a significant difference between predominantly Related Diversifiers and predominantly Unrelated Diversifiers on SCP
Hypotheses concerning superiority of Dominant Parental Developers against Dominant Synergy Managers regarding their Corporate Performance		
36	H3ci	Among Related Diversifiers, Dominant Parental Developers outperform Dominant Synergy Managers on ROA
37	H3cii	Among Related Diversifiers, Dominant Parental Developers outperform Dominant Synergy Managers on ROE
38	H3ciii	Among Related Diversifiers, Dominant Parental Developers outperform Dominant Synergy Managers on Tobin's q
39	H3civ	Among Related Diversifiers, Dominant Parental Developers outperform Dominant Synergy Managers on P/B Value
40	H3d	Among Related Diversifiers, Dominant Parental Developers outperform Dominant Synergy Managers on SCP

3.4 Population and Unit of Analysis

As discussed before, this research studied the effect of *Corporate* level Product Diversification Strategy on *Corporate* Performance. Further, it tested whether *Corporate* Parenting Role moderated any relationship between Diversification Strategies and Corporate Performance. As this study was done on diversified organisations, therefore the unit of analysis in this study is diversified Public Listed Company (PLC) reporting multiple product segments. The word 'company' used in

this research for all Malaysian organisations actually represents a diversified business group.

The population frame for this study consisted of all diversified PLCs listed on Bursa Malaysia Main Market who reported multiple product segments for the required years. Companies listed only on the Main Market of Bursa Malaysia were included in the population frame as there are various differences in the listing requirements for companies for Main Market versus ACE Market as discussed already in Chapter 2. Hence, to maintain homogeneity among companies, only Main Market companies were included in the analyses.

Furthermore, in Malaysia, companies are required to report their business/product segments detail as per *FRS 8 Operating Segments* issued by MASB (Malaysian Accounting Standards Board). Hence, a company was categorized as diversified company if the number of product segments disclosed under *FRS 8 Operating Segments* was more than 1 (David *et al.*, 2010; Palepu, 1985; Santalo & Becerra, 2004). On similar grounds, companies reporting only 1 product segment were considered as focused companies and were not included in the population frame and hence they were not part of the analyses.

3.5 Time Period of the Study

This study has relied on three years data (2010 – 2012) in consistent with the work of Hill *et al.* (1992), Afza *et al.* (2008), and Singh, Davidson, and Suchard (2003). As a company's strategy may change drastically over a long period of time, therefore in

diversification studies, a shorter time period is desirable (Daud *et al.*, 2009). The study is consistent with the work of Afza *et al.* (2008), Singh *et al.* (2003), and Christensen and Montgomery (1981) in terms of relying on three years data for various financial ratios.

Further, a three year average of all variables is calculated. It is because a three year average of variables helps smooth out period by period variation in the variables (Afza *et al.*, 2008; Hill *et al.*, 1992). And further, the calculation of three year average for financial ratios is consistent with Afza *et al.* (2008) and Christensen and Montgomery (1981) who also calculated three year averages for various financial ratios for their studies. A three year average score of diversification using entropy measure is also consistent with Hill *et al.* (1992).

An average of all secondary nature variables (except company age and experience) for the three years is computed in this study and thus all the analyses are conducted with it. Primary nature variables (Corporate Parenting Roles and Subjective Corporate Performance) also secure respondents' judgment with respect to three years. Hence, there is a consistency between all the variables with respect to their time period.

There is another justification also for relying on three years data, 2010-2012. It is in relation to calculation of diversification scores using entropy measure. It is discussed and demonstrated in the later sections of the thesis that entropy measure of product diversification makes use of data on companies' reporting of business/product segments in their annual reports. In Malaysia, companies are required to report their business/product segments according to *FRS 8 Operating Segments* issued by MASB.

Now, FRS 8 has already replaced FRS 114_{2004} in 2009 and all companies in Malaysia adhered to the new FRS 8 in their annual reports since 2010 (Benjamin, Muthaiyah, Marathamuthu, & Murugaiah, 2010; MASB, 2014b; Malaysian Institute of Accountants [MIA], 2010).

The rules and regulations regarding disclosure of business segments and other relevant matters in *FRS 8 Operating Segments* significantly differ from those in FRS 114_{2004} (MASB, 2014b; MIA, 2010). This implies different number of and nature of reported product segments along with other financial details in the two regulations. Therefore, companies' diversification scores calculated on the basis of new *FRS 8 Operating Segments* couldn't be combined or averaged with the diversification scores calculated using old *FRS* 114_{2004}. Therefore, starting since 2010, reliance on the use of 2010-2012 data for which companies reported their business segments in accordance with new *FRS 8 Operating Segments* is justified.

3.6 Measurement of Variables

This section provides detail on the measurement techniques, formulae and instruments for all the variables studied in this research.

3.6.1 Measurement of Product Diversification Strategy

Approaches to measure product diversification have been subject of discussion and debate over the last many years (Montgomery, 1982; Palepu, 1985; Pitts & Hopkins, 1982) and past researchers have employed many different ways for calculating

companies' extent of product diversification. Product Diversification measures range from categorical to continuous measures (Asrarhaghighi *et al.*, 2013; Klier, 2009) with each one serving a particular purpose. Continuous measures of product diversification have an advantage that they provide ratio data and therefore, they can be considered to be more accurate in measuring degree or extent of diversification (Chari *et al.*, 2008; Palepu, 1985). This study needed data about extent or degree of diversification pursued by companies and therefore it required continuous measure of diversification.

Further, the study was concerned with making categories of related diversifiers and unrelated diversifiers for testing various hypotheses. Therefore, given the purpose of this research and the nature of analyses, this study relied on 'Entropy Measure' of product diversification (Jacquemin & Berry, 1979; Palepu, 1985). Use of entropy measure is widespread in diversification literature and a number of past studies used this measure of product diversification in related researches (David *et al.*, 2010; Kahloul & Hallara, 2010; Marinelli, 2011; Martinez-Campillo & Fernandez-Gago, 2008; Ravichandran *et al.*, 2009).

The entropy measure not only measures degree of company's total product diversification, but also decomposes it into two components – degree of related diversification and degree of unrelated diversification. Based on comparison of a company's score of related and unrelated diversification, a company can be categorized as either 'Predominantly Related Diversifier' or 'Predominantly Unrelated Diversifier'. Hence, entropy measure provides continuous data as well as possibility of categorizing companies into two categories.

The entropy measure provides following three measurements or scores:

1. Entropy measure or score of total product diversification (named as DT in this research).
2. Entropy measure or score of related diversification (named as DR in this research).
3. Entropy measure or score of unrelated diversification (named as DU in this research).

Below is the expression of formulae for three components of entropy measure as given in Palepu (1985).

Entropy measure of total diversification (DT) can be calculated as:

$$\mathrm{DT} = \sum_{i=1}^{N} P_i \ln(1/P_i)$$

Where;

DT = Total Product Diversification Score and

P_i = share of *i*th segment in total sales of the firm.

N = number of industry segments where a firm is working.

Entropy measure of related diversification can be calculated as:

$$\mathrm{DR} = \sum_{j=1}^{M} \mathrm{DR}_j P^j$$

DR = Total Related Diversification Score (Actually, DR represents weighted average of related diversification within all industry groups).

P^j = share of *j*th group sales in the total sales of the firm and

M = Number of industry groups where a firm is working.

DR_j above can be calculated as:

$$\mathrm{DR}_j = \sum_{i \varepsilon j} P^j{}_i \ln(1/P^j{}_i)$$

$P^j{}_i$ = share of the segment i of group j in the total sales of the group.

Entropy measure of unrelated diversification can be calculated as:

$$\mathrm{DU} = \sum_{j=1}^{M} P^j \ln(1/P^j)$$

P^j = share of jth group sales in the total sales of the firm and

M = Number of industry groups where a firm is working.

Entropy measure requires product segment sales data, product segment description explaining the nature of product or services in each segment, and classification scheme for industry groups and industry segments along with their SIC (Standard Industrial Classification) codes. It is mentioned before that PLCs in Malaysia are required to disclose their product segment reporting data in their annual reports as per *FRS 8 Operating Segments* issued by MASB (Ishak & Napier, 2006).

This includes product segment description about nature of products or services in each segment along with product segment financial data including product segment sales data. The data about product segment sales is also available in Datastream. For this study, this data was accessed from annual reports as well as from Datastream and was cross verified for its accuracy. Product segment description data was accessed through annual reports.

SIC codes are used to differentiate among industry segments and industry groups. In case of a four digit SIC code, the difference in the first two digits represents different industries whereas the difference in the last two digits represents different segments in a particular industry. Chari *et al.* (2008) provide detail about different components of entropy measure. As per their arguments, related component of entropy measure (DR) measures the diversity of company's operations in different industry segments within the same two-digit SIC code. Unrelated component of entropy measure (DU) measures the diversity of company's operations in different two-digit SIC codes. Finally, total product diversification (DT) measures the extent of company's operations in different industries whether they are related or unrelated. Total Diversification (DT) of a company is equal to sum of its related diversification (DR) and unrelated diversification (DU).

During entropy score calculations, this study used Thomson Reuters Worldscope categorization of industry groups which is available on the basis of four (4) digits SIC codes[5]. This categorization is also provided in Appendix C. It is because the SIC codes are not readymade for Malaysian PLCs. Therefore, SIC codes were assigned manually to all product segments (based on Worldscope categorization of industries) on the basis of product segment description available in companies' annual reports. In the procedure, if for any two product segments, the initial two digits of their SIC codes were different, then the two segments belonged to different industries. However, in so doing, if the two product segments had same first two digits in their SIC codes but different last two digits in their SIC codes, then the two segments belonged to the same industry.

[5] Worldscope Database: Data Definitions Guide (Issue 14, 2012). Page 511-516.

Specifically, following procedure was adopted to calculate entropy scores for diversification:

1. Initially, product segment detail disclosed in the annual reports under *FRS 8 Operating Segments* was studied for every company to reveal the number of operating segments by product and their description.
2. Secondly, Worldscope classification of industry groups was used to assign codes to the product segments based on their description.
3. After that, product segment external sales data was used to calculate diversification scores using entropy formulae. Initially total diversification score was calculated, followed by related diversification score and unrelated diversification score. In the end, related and unrelated diversification scores were added to compare with the total diversification score as a cross verification.

Demonstration of product diversification scores calculation using entropy measure is available in Appendix D for three companies (Pharmaniaga Berhad, Komarkcorp Berhad, and Public Packages Holdings Berhad).

3.6.2 Measurement of Corporate Parenting Roles

Explanation about corporate parenting and corporate parenting roles has already been provided in Section 2.4 of this thesis. As the information about corporate parenting roles is not available through secondary sources, therefore, the measurement of corporate parenting roles was done by collecting primary data with the help of

questionnaire. The development and design of questionnaire for measuring corporate parent roles is discussed in the following sub-section.

3.6.2.1 Development and Design of Questionnaire for Measuring Corporate Parenting Roles

The questionnaire items designed for measuring corporate parenting roles are provided in Part A of the questionnaire provided in Appendix B. Those items are designed on the basis of dimensions provided by Johnson *et al.* (2005) for the three corporate parenting roles: Portfolio Manager, Synergy Manager, and Parental Developer.

Item numbers 1 to 3 are classification questions designed to categorize respondents with respect to their designation, experience and area of expertise. Item numbers 4 to 17 are designed to measure Portfolio Manager Role. Item numbers 18 to 31 are designed to measure Synergy Manager Role and item numbers 32 to 45 are designed to measure Parental Developer Role. A total of 14 questions were employed to measure each of the Corporate Parenting Role. In this way, a total of 42 questions were used for measurement of Corporate Parenting Roles.

A 7-point Likert-type scale was used for all items from 4 to 45, and it ranged from strongly disagree (1) to strongly agree (7). Likert scales are most frequently used in business research, are more reliable, easy to administer and they contain alternatives that normally range from 3 to 9 (Cooper & Schindler, 2008; Zikmund, 2003). A 7-point Likert-type scale was used in this research as it provides better approximation of normal response curve and ensures greater validity of information (Cooper &

Schindler, 2008). Every item required respondents to circle a particular position on the scale keeping in view the conditions prevailing in their companies during last three years. The design of questionnaire allowed for calculating mean scores for all three corporate parenting roles and categorization of all companies in their dominant corporate parenting roles.

3.6.3 Measurement of Corporate Performance

It has been argued in the previous two Chapters that most of the past studies relied only on objective (financial) measures of corporate performance (mostly accounting or market measures or their combination) and there are few studies that used managers' subjective assessment of corporate performance.

Studies like those of Nandakumar *et al.* (2010) and Tan *et al.* (2007) obtained managers' subjective assessment of firm performance and revealed significant importance of obtaining such an assessment. Building on that idea, this study attempted to differentiate itself by incorporating objective (financial) as well as subjective assessment of corporate performance. Details about both categories of performance are provided in the following sections.

3.6.3.1 Measurement of Financial Corporate Performance

It has been discussed in the previous chapters that past studies used different types of financial measures for measuring corporate performance. Certain studies (Campa & Kedia, 2002; Chang & Thomas, 1989; George, 2007; Guo & Cao, 2011; Markides &

Williamson, 1994) relied on only one indicator of corporate performance. But, reliance on limited measures of financial performance may not provide detailed insight into the topic. Therefore, in consistent with other past studies that used combination of accounting and market based performance measures (Daud *et al.*, 2009; Fukui & Ushijima, 2006; Pandya & Rao, 1998; Ravichandran *et al.*, 2009), this study planned to measure objective or financial performance of companies through accounting as well as market measures.

The following two sub-sections provide detail and justification for using various accounting and market measures of performance. Further, data about accounting measures (ROA, ROE) and market measures (Tobin's q, P/B Value) of performance was initially accessed from Datastream. However, it resulted in missing data for different ratios and accounts for a number of companies. Therefore, all ratios were calculated manually through formulae by taking observations from the companies' annual reports for all years. Section 3.7.1 talks more about this. Formulae used to calculate these ratios are discussed in the following sub-sections along with justifications.

3.6.3.1.1 Accounting Measures of Performance

This study relied on using following accounting measures of corporate performance.

1. Return on Assets (ROA)
2. Return on Equity (ROE)

3.6.3.1.1.1 Return on Assets (ROA)

ROA provides measurement about how much profit is generated by per dollar of assets (Ross *et al.*, 2011). Generally, ROA can be computed by dividing Net Income of a company by its Total Assets (Berk *et al.*, 2009; Ross *et al.*, 2011).

Following formula was used to calculate ROA as suggested by Ross, Westerfield, and Jordan (2009), and Gitman and Zutter (2011).

Return on Assets (ROA) = Net Income / Total Assets

Previous researchers have also used same formula to calculate ROA (Afza *et al.*, 2008; Pandya & Rao, 1998). In consistent with the other variables' data, an average of three years (2010-2012) for each company was calculated for ROA.

3.6.3.1.1.2 Return on Equity (ROE)

In an accounting sense, ROE is the true bottom line measure of company's performance as it measures how much profit is being created by every dollar in equity (Ross *et al.*, 2011). A high ROE indicates that company is able to locate profitable opportunities for investment (Berk *et al.*, 2009) and vice versa.

Just like other ratios, a three year average (2010-2012) of ROE was calculated for all companies using manual calculations. Following formula was used to calculate ROE as suggested by Ross *et al.* (2009), and Gitman and Zutter (2011).

Return on Equity (ROE) = Net Income / Total Equity

Previous researchers have also used same formula to calculate ROE (Afza *et al.*, 2008; Pandya & Rao, 1998).

3.6.3.1.2 Market Measures of Performance

As discussed before, financial performance could be crafted using different accounting methods or procedures. Therefore, reliance on only accounting measures of performance might lead to misinterpretations. For this reason, this study also relied on using market measures of performance along with accounting measures. Following two ratios were calculated and the justifications and formulae for using these ratios are provided in the proceeding sections.

1. Tobin's q
2. Price to Book Value

3.6.3.1.2.1 Tobin's q

Tobin's q is better measure of company performance as it is implicitly adjusted to the risk, is less susceptible to accounting distortions as it is based on stock market values, and is forward looking because it not only incorporates current profitability but also takes into account future profitability as gauged by the stock market valuation of future cash flows (David *et al.*, 2010; Kahloul & Hallara, 2010; Ravichandran *et al.*,

2009). Although there are slight variations in calculating Tobin's q ratio but this study calculated this ratio based on common practices.

Specifically, following formula was used to calculate this ratio as suggested by Thomson Reuters (Lhoyd, personal communication, June 11, 2012) and as followed by David *et al.* (2010), Kahloul and Hallara (2010), and Fukui and Ushijima (2006).

$$\textbf{Tobin's q} = \frac{\textbf{Market Value of Equity + Book Value of Liabilities}}{\textbf{Book Value of Equity + Book Value of Liabilities}}$$

In parallel with other variables' data, Tobin's q was also calculated for three years (2010-2012) and later, an average was calculated for these years.

3.6.3.1.2.2 Price to Book Value (P/B Value)

P/B Value (also called as 'market to book value ratio') is a ratio of 'market value of equity' to 'book value of equity' (Berk *et al.*, 2009; Ross *et al.*, 2011). This ratio provides comparison of market value of company's investments to their cost, in which sense a value less than 1 would show that the company has been unsuccessful in creating value for its stockholders (Ross *et al.*, 2011). Therefore, a value of greater than 1 is considered favourable. Previous scholars have been relying on price to book value or market to book value in diversification – performance research (Elsas *et al.*, 2010; Hill & Hansen, 1991) and following formula as used in this study represents its calculation.

$$\text{P/B Value} = \frac{\text{Market Price per Share}}{\text{Book Value per Share}}$$

In consistent with data of other variables, an average of three years P/B Value was obtained from 2010 to 2012. Section 3.7.1 discusses sources of all secondary data used in this study.

3.6.3.2 Measurement of Subjective Corporate Performance

Measurement of Subjective Corporate Performance was done by adapting questionnaire used by Tan *et al.* (2007) for measuring corporate performance subjectively. They developed ten (10) questionnaire items from past studies comprising those of Singh *et al.* (2001) and Venkatraman and Ramanujam (1986) for measuring corporate performance.

The ten questionnaire items for measuring Subjective Corporate Performance are given in the Part B of the questionnaire provided in Appendix B. Item numbers 46 to 55 provided on the last page of the questionnaire were designed to measure Subjective Corporate Performance. They actually represent ten aspects of corporate performance measured through Multiple Rating List Scale. A 7-point Multiple Rating List Scale was used in this research which ranged from 1 (Low Performance) to 7 (High Performance). Multiple Rating List Scale was suitable for this purpose as it can appropriately secure responses on a series of up to ten aspects of a construct (Cooper & Schindler, 2008) much like the ten performance aspects used in this research. The

respondents were required to encircle the most appropriate number on scale of 1 to 7 for each aspect of their corporate performance based on assessment of last three years.

3.6.4 Control Variables and their Measurement

In addition to examining the relationships between independent, dependent and moderating variables in the study, the analyses also controlled certain variables found by previous researches to be playing important role in the proposed relationships. Past studies controlled number of variables suitable to their purpose.

Past studies considered certain variables to be important in studying product diversification – performance relationship as they could also have an impact on corporate performance. Therefore, this study controlled those important variables namely *size* (Burgers, Padgett, Bourdeau, & Sun, 2009; Daud *et al.*, 2009; Liu & Hsu, 2011; Marinelli, 2011), *leverage* (David *et al.*, 2010; Liu & Hsu, 2011; Marinelli, 2011), *age* (Chakrabarti *et al.*, 2007; George, 2007; Liu & Hsu, 2011), and *experience* (Chan, 2010; Sohl, 2011).

Company size is significant factor to be controlled as it is related to degree of market power a company enjoys and serves as a determinant of economies of scale benefits (Chari *et al.*, 2008; Galván *et al.*, 2007). Similarly, in diversification studies, it is important to control for leverage as it indicates company's financial structure, it's willingness to accept higher risk and it might have profound impact on corporate performance (Hall, 1995; Hoechle *et al.*, 2012). In the same way, a company's age is

also a determinant of its success and failure and controlling for age controls for any experiential effects (Lange *et al.*, 2009; Liu & Hsu, 2011).

Finally, managers' experience could also be important factor in determining corporate performance and controlling for experience also controls for experiential effects (Chan, 2010; Sohl, 2011). It is better to control these factors in a study as according to Liu and Hsu (2011), controlling for firm size controls for economies of scale factor, controlling firm age controls for the experiential effect and controlling for firm leverage provides control for firm's financial structure.

The calculations of these control variables were also performed in accordance with past studies. In consistent with Marinelli (2011) and Pan, Tsai, and Kuo (2010), *Size* was calculated by taking ***Natural Log of Total Assets*** of the company. L*everage* was computed by taking ***ratio of Total Debt to Total Assets*** of the company in consistent with David *et al.* (2010) and Dastidar (2009). In consistent with George (2007), A*ge* was calculated in terms of ***Number of Years*** since the company incorporated. *Experience* was calculated by ***Number of Years of Manager's Experience*** in consistent with Yusoff and Amrstrong (2012).

For all the companies, an average of three years was computed for relevant control variables just like for all other variables. The required information for calculating Size and Leverage was obtained through company annual reports. Information about Age (company's year of incorporation) was obtained either through Datastream or company annual reports or KLSE Annual Companies Handbook. Information about Experience was obtained through questionnaire (item number 2).

3.7 Data Collection and Sources

This research relied on primary as well as secondary data. The collection of data and its sources are discussed in the following sections.

3.7.1 Secondary Data

Secondary data was required for measuring Product Diversification Strategies and Financial Corporate Performance. Initially, the data for various secondary nature variables were accessed from Thomson Reuter's Datastream. Although the product segment data was available from the Datastream but the data for financial ratios of many companies was missing. It is because Datastream relies on a uniform formula to calculate various ratios for companies all over the world. In calculating ROA, for example, it uses average of two years assets. Now, if for any company, the annual report for any one year is missing for any reason such as change of accounting year end, or listing status, then ROA would not be available in the Datastream for that year. Reliance on Datastream data for financial ratios would have ended up in total companies less than 100 for the analyses.

Therefore, the calculation of financial ratios was made manually (using Microsoft Excel) by taking manual observation of various accounts from companies' annual reports. The formulae used for calculating these ratios are already discussed in Section 3.6.3.1 along with their justifications. Product segment data, however, was taken from Datastream as well as annual reports while making cross comparisons. Certain guideline was also taken from Datastream about the sectorial classification of

companies which was used in classifying companies in basic sectors for calculating entropy scores. Information about the industry groups, sectors and subsectors along with their codes was taken from Thomson Reuters Worldscope Database – Data Definitions Guide (2012) which proved quite useful in this regard.

Annual reports were downloaded from website of Bursa Malaysia (www.bursamalaysia.com). The information about the market price per share required to calculate P/B Value and Tobin's q was obtained from Yahoo! Finance. Yahoo! Finance provides valid, reliable and accurate data and scholars have been relying on this data source for their studies (Giblin, 2013; Harper, 2011). Share price data was also cross checked with SHAREINVESTOR.com and Bloomberg. Company age data was taken from Datastream and KLSE Annual Companies Handbook. Company websites were also visited to get information about certain key respondents, change of address, product detail and contact numbers etc.

3.7.2 Administration of Questionnaires for Primary Data

Primary data (for measuring Corporate Parenting Roles and Subjective Corporate Performance) was obtained through questionnaires mailed to CEOs, Executive Directors, or other corporate level managers such as General Managers of companies, working in Corporate Centres or Head Quarters.

Initially, a list of respondent managers for the companies was developed using the information available on the company websites along with annual reports. The annual reports include profile of all the directors of the company. Certain companies' annual

reports also include information about the top management team. Capable respondents for the questionnaire were identified by reading the directors' profiles as well as through information about the management team. In certain cases, phone calls were made to the companies to identify the most appropriate respondent for the questionnaire. Before sending questionnaires, it was ensured that all the respondents were top level managers working at company headquarters rather than at company subsidiaries and they were involved in the corporate strategy making and possessed adequate knowledge about corporate management/parenting styles in the companies.

Initially, the questionnaires were mailed by post to all the 563 respondents (The total number of diversified companies – reporting multiple product segments in their reports were 563. Section 4.2 in Chapter 4 provides detail about population frame and respondent companies). As gaining cooperation for survey from top level managers like CEOs, Directors, COOs, CFOs and other similar managers is extremely hard, therefore data was obtained from only one respondent in every company. To encourage response rate, a formal letter explaining the purpose and objectives of the study along with promise to maintain confidentiality was attached with the questionnaires (Formal letter is available in Appendix A). Additionally, a reply paid envelope was also enclosed with the questionnaire to facilitate good response rate.

Follow up calls were made about 2 to 3 weeks after sending the initial questionnaires. The response rate was extremely slow overall as responding to survey questionnaires has not been widely accepted practice among Malaysian managers (Jusoh & Parnell, 2008; Mohamad & Wheeler, 1996). Due to extremely slow response rate, questionnaires were sent again and again by post or through emails as required by

respondents by taking the required information through phone calls. Finally, 136 companies ended up replying to the questionnaires.

3.8 Pilot Study and Questionnaire Pretesting

The questionnaire (provided in Appendix B) was designed to measure Corporate Parenting Roles, to obtain Subjective Assessment of Corporate Performance as well as to secure certain demographic information from the respondents. As discussed before, the items for measurement of each of the Corporate Parenting Roles were developed on the basis of dimensions provided by Johnson *et al.* (2005) for the three Corporate Parenting Roles. Items for the measurement of Subjective Corporate Performance were adapted from the work of Tan *et al.* (2007). Before collecting final data, a pilot study was conducted for evaluating the questionnaire.

For ensuring content validity of the instrument, questionnaire was sent to an expert panel comprising of academicians as well as industrialists. Content validity ensures that an instrument includes a sufficient and representative combination of items to measure a particular concept (Khalid, Hilman, & Kumar, 2012; Sekaran, 2003). The views and opinions of experts were incorporated through making certain changes in the questionnaire. Closely related to content validity, face validity represents the degree to which a questionnaire seemingly reveals the content of a particular concept (Bryman & Bell, 2003; Khalid *et al.*, 2012).

For ensuring face validity, questionnaire was discussed with certain respondents attending Annual Companies Secretaries Conference (January, 2013, Kuala Lumpur),

with help from MICG (Malaysian Institute of Corporate Governance) as well as it was discussed with respondents on phone later on. The respondents were explained about the purposes and objectives of the study, criteria about selecting respondent companies/managers, likely analyses to be conducted and confidentiality of the survey. The respondents expressed satisfaction over the design of questionnaire, usefulness of the study, and its contribution ensuring the face validity of the questionnaire.

As a pilot test, questionnaires were mailed to certain companies and 30 companies turned up providing response for it. As sample size of 30 is too small to conduct complex analysis, therefore, calculation of Cronbach's alpha was possible which resulted in Cronbach's alpha ranging from as low as 0.759 to as high as 0.949.

3.9 Chapter Summary

This chapter started by presenting research framework and listing research hypotheses. Then, it discussed population, unit of analysis and time period of the study. Detailed information was presented on the measurement of Product Diversification Strategies (independent variable), Corporate Parenting Roles (moderating variable), Corporate Performance (dependent variable), and the control variables. The formulae/techniques and instrumentation for measuring different variables were discussed along with sources of primary and secondary data and instrument validation.

CHAPTER FOUR

FINDINGS & CONCLUSIONS

4.1 Introduction

This chapter presents conclusions, findings, and results of all analyses along with discussing sample, population and instrument testing. The chapter starts by discussing sample size and respondent companies along with methods and techniques of data analyses. Then, it proceeds towards discussing validity and reliability of the questionnaire together with exploratory factor analysis. Section 4.8.1 presents results of hypotheses testing regarding effect of Product Diversification Strategy on Corporate Performance.

Section 4.8.3 and 4.8.4 present results of testing moderator hypotheses for the moderating effect of corporate parenting roles on the relationship between diversification strategies and corporate performance. Followed by this, Section 4.8.6 presents results of conducting t-tests for comparing different groups of companies on various measures of Corporate Performance. Lastly, a summary table for all hypotheses tests results is presented along with conclusions.

4.2 Sample Size and Respondent Companies

As mentioned before, in this study, companies listed on the Main Market of Bursa Malaysia were included. Primary data was collected before secondary data. The collection of primary data took a period of around one year (2013) as the respondents

were top level managers like CEOs, Executive Directors, Corporate Planners, General Managers or others concerned with the task of corporate planning and strategy making at company level. During 2013, around 800 companies remained listed on the Main Market of Bursa Malaysia. Of those 800 companies, there were around 590 diversified companies which reported multiple product segments in their annual reports. Among these, 27 companies were those which didn't report any sales figures for one or more of their product segments for the required years, and hence were screened out. This left with a population frame of 563 companies.

Following previous sholars in this line of research (Azlina, 2013; Goll & Sambharya, 1995; Hill *et al.*, 1992; Wan & Ong, 2005), the questionnaires were sent to all of these companies and 136 companies replied questionnaires providing a response rate of 24.15%. However, 12 companies were excluded from the analyses due to various reasons. The list of excluded companies along with the reasons of their exclusion is available in Appendix F. One company was deleted as an outlier and finally, conclusions are based on 123 companies. The list of 123 companies (including managers' names and designations) entering the final analyses is provided in Appendix G.

4.3 Analysis of Non-Response Bias

While addressing the question about non-response bias, this study makes reference to the studies done by Nor Aziah (2004), Etter and Perneger (1997), and Azlina (2013). Etter and Perneger (1997) discuss two methods for examining non-response bias. The first method compares characteristics of respondents and non-respondents. Second method requires a comparative analysis based on the date of questionnaires returned.

Meanwhile, Nor Aziah (2004) and Azlina (2013) relied on surrogate method. They compared the mean responses of the last 10% usable questionnaires received with the remainder usable questionnaires. The late respondents represented non-respondents.

Similar to Azlina (2013) and Nor Aziah (2004), this study analysed non-response bias by comparing the mean responses of last 12 returned questionnaires with the remaining questionnaires. The last 12 returned questionnaires represented 10% of the 123 usable questionnaires. The independent samples t-tests conducted for this purpose revealed no significant differences between early respondents and late respondents regarding Synergy Manager Role ($t = -0.609$, $p = 0.544$), Parental Developer Role ($t = -0.349$, $p = 0.727$), Portfolio Manager Role ($t = -0.784$, $p = 0.434$), and SCP ($t = -0.261$, $p = 0.797$). Hence, the study shows no problem of non-response bias in the analyses.

4.4 Data Analyses Procedures and Techniques

The data was analysed using descriptive and inferential statistics. Descriptive statistics for mean, standard deviation, maximum and minimum values were calculated for different variables along with certain pie charts and frequency distribution tables to augment the analyses. After data cleaning and screening, factor analysis was conducted to ensure validity of the instrument. Cronbach's alpha was calculated to test instrument reliability. The main analysis for moderation tests was conducted using Moderated Regression Analysis (MRA). In similar past researches, where moderating variable was included in research frameworks, a number of studies used Moderated Regression as main tool for the analysis (Goll & Sambharya, 1995;

Hill *et al.*, 1992; Hitt & Ireland, 1986; Martínez-Campillo & Fernández-Gago, 2008; Nandakumar *et al.*, 2010).

Moderation tests were further coupled with scatter plots/graphs and correlation analysis. T-tests were conducted for comparing performance of difference groups of companies. The results of all the tests are duly presented in form of suitable tables and graphs as discussed by subsequent sections. The whole analyses were conducted using SPSS.

4.5 Meeting Assumptions for Multiple Regression Analysis

Multiple regression analysis combines together various independent variables to study their impact on a dependent variable (Azlina, 2013; Gujarati, 2006). There are usually various econometric problems associated with multiple regression. These problems need to be examined for ensuring that the interpretations of all regression models are valid. There are seven major assumptions of multiple regression which are addressed in this research and are discussed in this section. These are; outliers, sample size adequacy, normality, linearity, homoscedasticity, autocorrelation, and multicollinearity. The examination of these regression assumptions reveals that all assumptions were met.

Moreover, before conducting any sort of analysis, the data was checked for any missing values. Missing values were replaced using median of nearby 2 points. The information about the missing values replacement is given in Appendix H.

4.5.1 Outliers

There were 124 companies in the beginning. The data was checked for any outliers using Mahalanobis Distance. Mahalanobis Distance estimates each observation's position in comparison to centre of all observations on a set of variables and is considered to be an effective method of removing outliers (Hair, Black, Babin, & Anderson, 2009). There were 63 variables and by looking at chi-square table, the value of chi-square for df = 63, p = 0.001 was 103.46. Hence, any company having Mahalanobis value greater than this limit was removed from the analyses. Only one company, KKB Engineering Bhd, crossed this limit (Mahalanobis value = 107.92) and hence, it was deleted from the analyses. This resulted in no outliers left in the analyses. Finally, 123 companies remained in the analyses.

4.5.2 Sample Size Adequacy

In this study, the unit of analysis is PLC. As mentioned above, 123 companies were included in the analyses after data cleaning and screening. In determining appropriate sample size, suggestions forwarded by Sekaran (2003) and Coakes, Steed, and Price (2008) are followed in consistent with Azlina (2013). Sekaran (2003) suggested that in a regression analysis, sample size must be ten times the number of variables, while Coakes *et al.* (2008) argued that minimum sample size must be equal to five times the number of variables. In this research, the maximum number of variables included in a model is seven (7) as evident through Table 4.9 to Table 4.23. Hence, a sample of at least 70 (10 x 7) companies was required and the minimum sample size could be 35

(5 x 7). As per these guidelines, the sample size of 123 was considered sufficient for analyses.

4.5.3 Normality

Next, the data was checked for normality. Skewness and Kurtosis were used to assess normality of variables (Curran, West, & Finch, 1996; Kim, 2013). Skewness measures a distribution's symmetry whereas kurtosis measures a distribution's flatness or peakedness (Hair *et al.*, 2009).

According to Bassioni, Hassan, and Price (2008), Curran *et al.* (1996), and Kim (2013), a distribution reasonably attains the standards of normality and could not be called substantially non-normal if the skewness and kurtosis stay below the limits of 3 and 21 respectively. The normality test of all variables including dependent variables revealed nearly all variables meeting these Skewness and Kurtosis limits of normality. Hence, the assumption of normality of data was met for proceeding to the further analyses.

4.5.4 Linearity

Linearity refers to the assumption that the changes in a dependent variable are constant across a range of values for independent variables (Hair, Black, Babin, & Anderson, 2010). A commonly followed method to examine the linearity of a data is through residual plots, whereby standardized predicted value (*ZPRED) is plotted against the standardized residual value (*ZRESID) (Azlina, 2013). Appendix I shows

the scatters for each of the regression models run in the analysis. Scatters demonstrate no relationship (curvilinear relationship) between the standardized predicted values and the standardized residual values. This provides evidence of meeting linearity assumption (Azlina, 2013; Hair *et al.*, 2009).

4.5.5 Multicollinearity

Multicollinearity or collinearity exists when one independent variable interacts highly with two or more other independent variables in the multiple regressions and thus distorts regression results (Cooper & Schindler, 2008). Variance Inflation Factor and Tolerance Values are most effective indicators of multicollinearity, where VIF must not exceed 10 and tolerance values must not be less than 0.1 (Hair *et al.*, 2009). In this study, for all the regressions, maximum VIF value has been 1.526 (which is less than 10) and minimum tolerance value has been 0.655 (which is more than 0.1). This ensured that there was no multicollinearity among predictors.

4.5.6 Autocorrelation

Next, Durbin Watson test was conducted to examine autocorrelation so as to make sure that all the observations were random and there was no significant correlation among successive residuals. A Durbin Watson value between 1.5 – 2.5 is considered to be satisfactory (Norusis, 1999). In this study, for all the regression models, this value stayed between the limits with the minimum value of 1.563 and maximum value of 2.296.

4.5.7 Homoscedasticity

Afterwards, the data was examined for any heteroscedasticity. If the variances of the error terms (e) are not constant over a range of independent variables, the data is said to be heteroscedastic (Hair *et al.*, 2009). Heteroscedasticity was also analysed for all the regression models. Residual plots were developed by plotting standardized residual values (*ZRESID) against standardized predicted values (*ZPRED). No heteroscedasticity was found in any regression model as the plots did not demonstrate any triangle-shaped, diamond-shaped, or non-linear-shaped pattern (Azlina, 2013; Hair *et al.*, 2010). To demonstrate homoscedasticity, the residual plots for all the regressions models are shown in Appendix I.

4.6 Validity and Reliability of Questionnaire

This section discusses in detail the techniques used for examining and ensuring validity and reliability of the questionnaire. It has been discussed already in the Section 3.8 (Pilot Study and Questionnaire Pretesting) about how the instrument's face validity and content validity were ensured. Therefore, this section explains how the construct validity of the instrument was addressed. Validity and reliability of four variables (Three Corporate Parenting Roles – Synergy Manager, Parental Developer and Portfolio Manager and Subjective Corporate Performance) is discussed here through EFA and Cronbach's alpha, as these variables were measured through questionnaire.

4.6.1 Exploratory Factor Analysis (EFA)

Exploratory factor analysis was conducted to ensure instrument's construct validity. Basically, Exploratory Factor Analysis is used to reveal the nature of constructs influencing a specific set of responses (DeCoster, 1998). Construct Validity is the degree to which an instrument confirms a network of related hypotheses generated from theory based on the concepts (Khalid *et al.*, 2012; Zikmund, 2000). Construct validity is assessed through convergent validity and discriminant validity. Convergent validity is ensured when the variables measuring a particular construct correlate highly with one another (Straub, Boudreau, & Gefen, 2004).

Whereas, an instrument is said to be having discriminant validity if by using similar measures for researching different constructs results into relatively low inter correlations (Cooper & Schindler, 2006; Khalid *et al.*, 2012). In alignment with the concept of construct validity, the purpose of EFA is also to discover the nature of constructs that are affecting a specific set of responses (DeCoster, 1998). Hence, both of these validities; convergent and discriminant validity can be assessed through EFA (Ahmad, Omar, & Ramayah, 2012; Gefen & Straub, 2005).

4.6.1.1 EFA of Subjective Corporate Performance (SCP)

Subjective Corporate Performance was the only dependent variable that was measured through the questionnaire. EFA of SCP was conducted so as to make sure that this exercise results in extracting a single factor or component. Hence, EFA was conducted by entering all the 10 items used to measure SCP in the variable list. The

factors were extracted using principal components analysis method and those with eigenvalues more than 1.0. Varimax was used as method for rotation and absolute values less than 0.3 were suppressed.

The initial solution resulted into 2 components explaining around 70% of cumulative variance with KMO value of 0.881 and (0.000) significance for Bartlett's test of Sphericity indicating adequacy of sample for EFA. Afterwards, by looking at Anti-image correlation matrix, items with MSA (Measures of Sampling Adequacy) values lower than KMO value were identified. Item 'Perf1' had MSA of 0.802 which was lower than KMO value of 0.881 and hence, it was deleted in the procedure. In the next step, EFA was run without 'Perf1' in the variables list, and the solution provided one component (with eigenvalue more than 1.0) with 9 out of 10 items making that component or variable SCP. The KMO value also increased to 0.899.

The results of the final solution are shown in Table 4.1 and Table 4.2.

Table 4.1
KMO and Bartlett's Test for EFA of SCP

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.899
Bartlett's Test of Sphericity	Approx. Chi-Square	664.637
	Df	36
	Sig.	.000

Table 4.2 shows that one component had Eigenvalue of more than 1 (5.423) and it explained around 60% of cumulative variance.

Table 4.2
Total Variance Explained (EFA of SCP)

Component	Initial Eigenvalues		
	Total	% of Variance	Cumulative %
1	5.423	60.250	60.250
2	.869	9.661	69.911
3	.673	7.473	77.384
4	.506	5.626	83.010
5	.413	4.590	87.600
6	.380	4.222	91.822
7	.274	3.047	94.869
8	.264	2.935	97.804
9	.198	2.196	100.000

Figure 4.1 shows scree plot for this analysis. The scree plot also represents that only one component explained most of the variance, whereas from the second component, a straight line could be seen going down x-axis. As one component was extracted therefore, the rotated component matrix was not generated by SPSS.

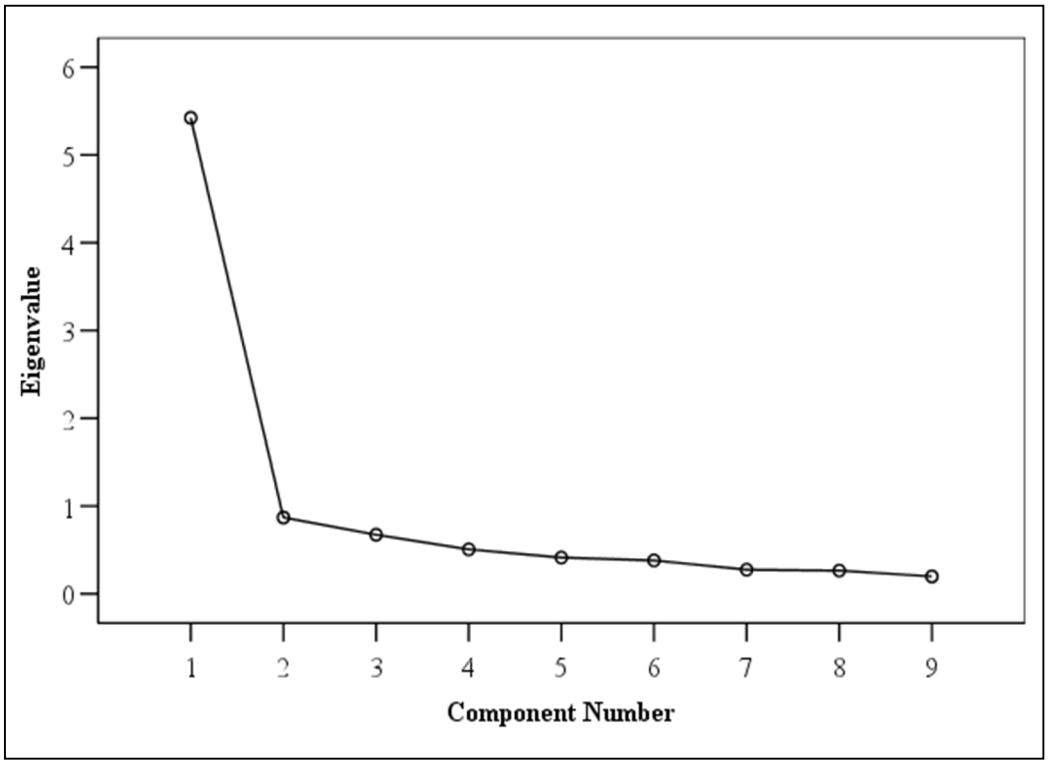

Figure 4.1
Scree Plot for EFA of SCP

4.6.1.2 EFA of Corporate Parenting Roles

Corporate Parenting Roles were also measured through questionnaire. In initial EFA, all the items were entered into the list of variables. There were 14 items for every role, and therefore, total 42 items were entered into the analysis. The factors were extracted using principal components analysis method and those with eigenvalues more than 1.0. Varimax was used as method for rotation and absolute values less than 0.3 were suppressed. The initial solution revealed 11 components explaining around 75.80% of cumulative variance. Although KMO value was 0.805 with significant value (0.000) for Bartlett's test also, but there were certain items with extremely low loadings and with MSA values (as low as 0.373) significantly lower than KMO value. Scree plot also demonstrated around 3 to 4 factors explaining major variance. The initial scree plot obtained is shown below in the following Figure 4.2.

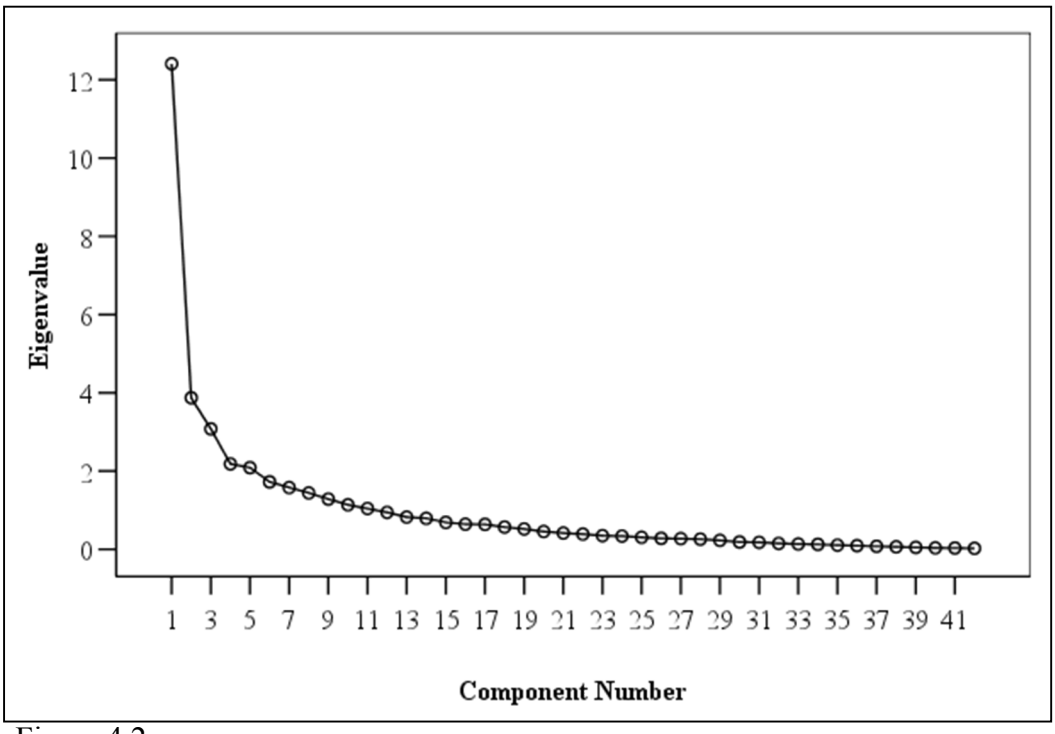

Figure 4.2
Scree Plot for Initial EFA for Moderators

Therefore, EFA was repeated again and again by removing items with MSA values lower than KMO values, while at the same time, observing the rotated components matrix for items with cross loadings and significantly lower loadings. This procedure ended up with deleting about 50% of items for each of synergy manager and parental developer, while deleting more than 50% items for portfolio manager while retaining only 5 items out of 14.

Hence, this method of extracting factors didn't seem accurate as according to Field (2013), Kaiser's criterion of extracting factors based on eigenvalues more than 1.0 is only accurate for the studies which have less than 30 variables/items or the sample size is more than 250. But in the case of this data, the variables/items were more than 30 (42) and sample size was also less than 250 (123). Hence, on the basis of theoretical justifications of existence of only three corporate parenting roles, three components were extracted using fixed number of factors (Gefen & Straub, 2005; Hair, Anderson, Tatham, & Black, 1998; Tufiş, 2012). Factors were extracted using principal components method and varimax was used as method for rotation whereas absolute values less than 0.3 were suppressed.

The solution extracted three factors with KMO value of 0.805 along with significant value (0.000) for Bartlett's test. However, the three factors explained around 46% of total cumulative variance which was significantly lower. Again, there were certain items which didn't load significantly on any component and whose MSA values were less than KMO values. Therefore, the analysis was conducted again and again by deleting those items which didn't load anywhere or which had MSAs significantly lower than KMO values. After a few iterations a final solution was obtained whose

output is shown below. The final output shows that KMO value was 0.825 and Bartlett's test was also significant (p-value 0.000) (Table 4.3).

Table 4.3
KMO and Bartlett's test for EFA of Moderators

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.825
Bartlett's Test of Sphericity	Approx. Chi-Square	2879.719
	df	351
	Sig.	.000

Table 4.4 below is table of total variance explained by various components for EFA of Moderators.

Table 4.4
Total Variance Explained for EFA of Moderators

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	9.638	35.697	35.697	6.945	25.722	25.722
2	3.396	12.579	48.276	5.776	21.391	47.114
3	2.603	9.641	57.917	2.917	10.804	57.917
4	1.514	5.607	63.524			
5	1.456	5.393	68.918			
6	1.102	4.082	73.000			
7	.921	3.411	76.411			
8	.864	3.199	79.610			
9	.766	2.835	82.445			
10	.674	2.496	84.941			
11	.645	2.387	87.328			
12	.496	1.837	89.165			
13	.449	1.664	90.829			
14	.396	1.467	92.295			
15	.332	1.231	93.527			
16	.312	1.155	94.682			
17	.281	1.043	95.724			
18	.247	.914	96.639			
19	.200	.742	97.381			
20	.175	.649	98.030			
21	.138	.510	98.540			
22	.125	.462	99.001			
23	.086	.317	99.319			
24	.059	.219	99.538			
25	.055	.203	99.741			
26	.038	.140	99.881			
27	.032	.119	100.000			

Table 4.4 shows that the three factors explained around 58% of cumulative variance which is close to 60% and more than the acceptable criteria of 50% (Giovanis, 2013; Neill, 2011; Tabachnick & Fidell, 2007). Scree plot (Figure 4.3) also demonstrates that according to elbow rule (Bian, 2011; Tufiş, 2012), three factors could be extracted from this solution.

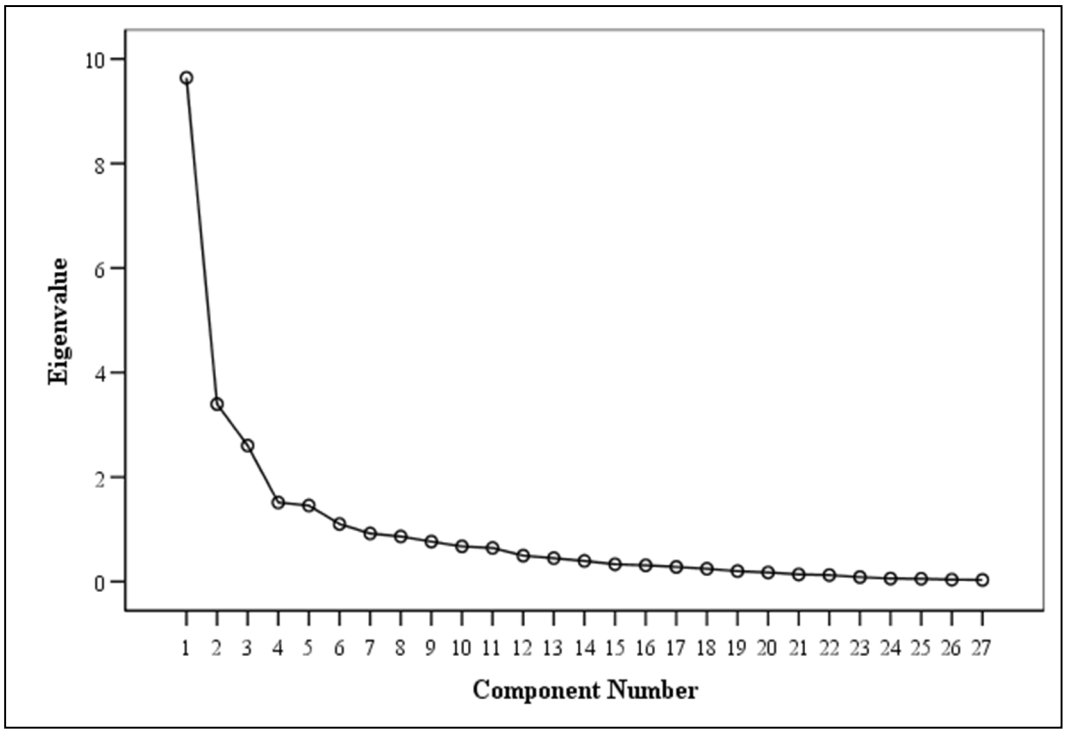

Figure 4.3
Scree Plot for EFA of Moderators

Finally, Rotated Component Matrix (Table 4.5) demonstrates three components with all the items loading on their parent components quite significantly. There are no items which do not load on any component at all and there are no items which load on two or more components at the same time.

Table 4.5
Rotated Component Matrix for EFA of Moderators

	Component		
	1	**2**	**3**
SM6	.865		
SM5	.849		
SM8	.842		
SM9	.830		
SM4	.806		
SM7	.793		
SM3	.752		
SM2	.740		
SM1	.671		
SM10	.641		
SM12	.521		
PD5		.849	
PD4		.834	
PD3		.766	
PD10		.748	
PD9		.706	
PD11		.682	
PD12		.627	
PD7		.594	
PD6		.568	
PM8			.692
PM3			.660
PM7			.644
PM6			.629
PM5			.618
PM2			.563
PM13			.516

In the next sections, this output is used to assess convergent and discriminant validity.

4.6.2 Convergent Validity

The rotated component matrix for the three moderators including the statement of the items that loaded onto the components is reproduced below in the following Table 4.6. Component 1 in the table represents Synergy Manager. Component 2 represents Parental Developer and Component 3 represents Portfolio Manager.

Table 4.6

Rotated Component Matrix for EFA of Moderators Including Statement of Items

No.	Statements of Items	Component		
		1	2	3
1	Corporate managers in this corporation, create synergy through sharing of various resources among different businesses serving different industries or industry segments.(SM6)	.865		
2	Corporate managers in this corporation, properly identify bases for transfer of various competences among different businesses serving different industries or industry segments. (SM5)	.849		
3	Corporate managers in this corporation, create synergy through transfer of various skills among different businesses serving different industries or industry segments. (SM8)	.842		
4	Corporate managers in this corporation, create synergy through transfer of various competences among different businesses serving different industries or industry segments. (SM9)	.830		
5	Corporate managers in this corporation, properly identify bases for transfer of various skills among different businesses serving different industries or industry segments. (SM4)	.806		
6	Corporate managers in this corporation, create synergy through sharing of various activities among different businesses serving different industries or industry segments. (SM7)	.793		
7	Corporate managers in this corporation, properly identify bases for sharing of various activities among different businesses serving different industries or industry segments. (SM3)	.752		
8	Corporate managers in this corporation, properly identify bases for sharing of various resources among different businesses serving different industries or industry segments. (SM2)	.740		
9	The basic purpose of our corporate level is the achievement of synergistic benefits across different businesses serving different industries or industry segments. (SM1)	.671		
10	Corporate managers in this corporation, pursue all those synergy programmes where the benefits of synergy are greater than its costs. (SM10)	.641		
11	The corporate staff in this corporation acts as 'Integrators' for different businesses serving different industries or industry segments. (SM12)	.521		
12	Corporate managers in this corporation, possess clear and relevant capabilities to enhance potential of different businesses in this corporation. (PD5)		.849	
13	Corporate managers in this corporation, possess clear and relevant resources to enhance potential of different businesses in this corporation. (PD4)		.834	
14	Corporate managers in this corporation, understand well the critical success factors faced by different businesses. (PD3)		.766	
15	Corporate managers in this corporation, use their personal skills to help different businesses and create value in them. (PD10)		.748	
16	Corporate managers in this corporation, use their personal knowledge to help different businesses and create value in them. (PD9)		.706	
17	Corporate managers in this corporation, have established effective structural linkages between corporate level and business level. (PD11)		.682	
18	Corporate managers in this corporation, have established effective control linkages between corporate level and business level. (PD12)		.627	
19	The group of businesses in this corporation is most suitable to corporate managers' expertise. (PD7)		.594	
20	In this corporation, different businesses provide opportunities to corporate managers for creation of value which can be done with the help of corporate level competences. (PD6)		.568	
21	There is limited value creation at business level through the use of corporate level competences in this corporation. (PM8)			.692

Table 4.6 (Continued)

No.	Statements of Items	Component		
		1	2	3
22	Corporate managers in this corporation, actively pursue acquisition of undervalued assets in the market for the purpose of improving them and getting financial benefits from their sale later on. (PM3)			.660
23	There is limited value creation at business level through the use of corporate level resources in this corporation. (PM7)			.644
24	The involvement of corporate managers in the business strategies of individual businesses of our corporation is low. (PM6)			.629
25	Our Corporate level always quickly sells good performing businesses at a premium. (PM5)			.618
26	Corporate managers in this corporation, keep on identifying undervalued assets in the market for the purpose of getting financial benefits from their purchase and sale later on. (PM2)			.563
27	The main role of our corporate level is just like acting as an agent on behalf of financial markets for different businesses. (PM13)			.516

As it can be seen from the item description in the above table, the items loading onto the components make core of those components, hence retaining face/content validity of the questionnaire. Out of 14, the 11 items loading onto Component 1 make the most of Synergy Manager Role. Out of 14, the 9 items loading onto Component 2 explain the core of Parental Developer Role. It is discussed in Chapter 2 that Parental Developer is about understanding the businesses, possessing relevant resources and competences to help the businesses and using those resources, skills and knowledge to help the businesses whenever businesses provide opportunities to corporate managers for value addition. Hence, the 9 items include the core of Parental Developer Role.

Finally, the 7 items loading onto Component 3 explain core of Portfolio Manager Role. As discussed in Chapter 2, Portfolio Managers have limited involvement in business strategies of their businesses and are not concerned with direct value addition in the businesses. They keep on buying and selling businesses and other assets for gaining financial economies. These characteristics are all covered by 7 items loading on this variable.

The items are also loading high onto their components. Hair *et al.* (2009) proposed a criterion of minimum factor loading of 0.50 on its hypothesized construct for ensuring the construct validity. Additionally, as per Comrey and Lee (1992) guidelines, any loadings greater than 0.70 are considered excellent, loadings greater than 0.63 are considered very good, loadings greater than 0.55 are considered good, loadings greater than 0.45 are considered fair, and those loadings greater than 0.32 only are considered poor.

Convergent validity is the extent to which scores on a particular instrument are correlating with scores on the other instruments supposed to measure same construct (Cooper & Schindler, 2006). It can be seen from the factor loadings for component 1 (termed as Synergy Manager) that all the loadings are higher than criterion of 0.50. Lowest loading is 0.521, while highest loading is 0.865. This verifies convergent validity of Component 1 (Synergy Manager). For Component 2 (termed as Parental Developer), the factor loadings range from 0.568 to 0.849 which also confirm convergent validity for Component 2 (Parental Developer). Lastly, for Component 3 (termed as Portfolio Manager), the factor loadings are ranging from 0.516 to 0.692 which also ensures the convergent validity of Component 3 (Portfolio Manager).

4.6.3 Discriminant Validity

Discriminant validity is the extent to which scores on a particular instrument are not correlating with scores from other instruments supposed to measure different constructs (Cooper & Schindler, 2006). Hence, given this definition, the absence of any cross loadings among components in the rotated components matrix could verify

discriminant validity of the instrument. By looking again at the Table 4.5 for Rotated Components Matrix, it can be observed that all the items are only loading onto their respective components and there are no cross loadings between components. This verifies discriminant validity of the instrument.

4.6.4 Reliability

Reliability is the extent to which a measurement instrument is stable or provides consistent results, its items are homogeneous, and reveal the same basic construct (Whitelaw, 2001; Zikmund, 2000). Cronbach's alpha is most frequently used indicator for assessing reliability (Cronbach, 1951) which must bare a minimum score of 0.70 (Nunnaly, 1978). Cronbach's alpha for all four variables measured through questionnaire is shown below in the following Table 4.7.

Table 4.7
Cronbach's Alpha for All Variables

No.	Variable	Cronbach's Alpha
1	Portfolio Manager	0.747
2	Synergy Manager	0.939
3	Parental Developer	0.902
4	Subjective Corporate Performance	0.915

It can be seen that Cronbach's alpha for all variables is more than a minimum limit of 0.70, hence verifying reliability of these scales.

4.7 Descriptive Statistics of the Variables

Descriptive statistics display basic characteristics of data and provide useful information. Table of descriptive statistics explaining mean, standard deviation,

range, variance and other characteristics is provided in Appendix J. Moreover, frequency distribution for the level of Experience is also provided in Appendix K. It shows that highest percentage (32.5%) of managers was having experience from 1-5 years followed by 22.8 % of managers having experience from 11-15 years. Only one manager had experience between 31-35 years.

Appendix K also displays frequency table for Expertise. By looking at the table, it shows that many of the respondents (30) belonged to 'other' area of expertise including risk management, corporate planning and corporate strategy formulation (24.4%) followed by accounting (17.1%) and finance (15.4%). Pie chart of expertise is also provided in Appendix L.

4.8 Hypotheses Testing

The tests of all hypotheses involving effect of independent variable(s) on dependent variable(s) were conducted using simple linear regression or multiple linear regression. For each regression model, important statistics such as adjusted R^2, model significance, beta values, t-statistics and significance of beta coefficients is shown. As regression models and discussions include abbreviations, therefore a List of Abbreviations is provided on page xix.

4.8.1 Testing Effect of Product Diversification Strategy (DT) on Corporate Performance (H1a1 to H1a4, and H1b)

As a first test, the effect of total diversification DT (extent of product diversification strategy) on corporate performance was examined using simple linear regression.

Table 4.8 below shows the results of five different simple linear regression models run to examine effect of total diversification (DT) on five dimensions of corporate performance one by one. It can be seen from the Table 4.8, that effect of DT on any of the five performance dimensions was not significant. The significance for any of the regression model was not less than 0.05 (for 95% confidence interval) and was also not less than 0.10 (for 90% confidence level). Similarly adjusted R^2 was also considerably low for all the models.

Table 4.8
Effect of Total Diversification on Corporate Performance

Independent Variable = DT (Total Diversification)

No.	DV	F stats.	B	Std. Error	Beta	t stats.	Sig.	R^2	Adj. R^2	Hyp.
1	ROA	0.041	-0.008	0.041	-0.018	-0.202	0.840	0.000	-0.008	H1a1
2	ROE	0.259	0.027	0.053	0.046	0.509	0.612	0.002	-0.006	H1a2
3	Tobin'sq	0.403	0.068	0.108	0.058	0.634	0.527	0.003	-0.005	H1a3
4	P/B	0.643	0.146	0.182	0.073	0.802	0.424	0.005	-0.003	H1a4
5	SCP	0.105	0.077	0.239	0.029	0.324	0.747	0.001	-0.007	H1b

The reasons and support for the insignificant effects of total diversification on various aspects of corporate performance are provided in Chapter 5 and also through the moderator hypotheses discussed later. Later on, DT score was divided into DR score and DU score for testing subsequent hypotheses for Related Diversification Strategy and Unrelated Diversification Strategy. However, the results and explanation about the effect of extent of Related Diversification Strategy on Corporate Performance dimensions, and about the effect of extent of Unrelated Diversification strategy on Corporate Performance dimensions are provided while discussing results of Moderated Regression Analysis (MRA). It is because, for MRA, a hierarchical regression analysis was used with 3 models. In those models, DR score or DU score

was entered that provided results of required hypotheses. It is elaborated further in the next section.

4.8.2 Testing Moderator Hypotheses

As discussed before, the tests of moderators were done using Moderated Regression Analysis (MRA). Initially, for the analysis, primary nature variables were computed by taking a mean of all the items loading onto the particular components during EFA. Moderated Regression Analysis was conducted using interaction terms for moderators and independent variables, as proposed by Hair *et al.* (2009) and Sharma, Durand, and Gur-Arie (1981). Interaction terms are usually developed by multiplying the independent variable with the moderating variable. However, while doing that, a common problem faced by the researchers is that of multicollinearity.

Specifically, multicollinearity develops between those interaction terms and the corresponding independent and moderator variables. In this study, three interaction terms were created for moderators' tests as follows:

1. DRSM = By multiplying DR with SM (Synergy Manager)
2. DRPD = By multiplying DR with PD (Parental Developer)
3. DUPM = By multiplying DU with PM (Portfolio Manager)

As expected earlier, development of these interaction terms produced multicollinearity between interaction terms and their corresponding independent and moderating variables. Correlations' tables showing high correlation between

interaction terms and their independent and moderator variables are provided in Appendix M.

Firstly, it can be seen from those Appendices that correlation between DRxSM and DR was high (0.983**), correlation between DRxPD and DR was also high (0.991**) and correlations between DUxPM and DU and between DUPM and PM (Portfolio Manager) were also high at 0.942** and 0.270** (significant though not high) respectively. Initial regression models run with these terms also showed high multicollinearity with VIF crossing the limit of 10.

Hence, in order to solve this problem, the concerned variables were centred around mean (Aiken & West, 1991; Lehmann *et al.*, 2001; Shieh, 2011). A centred variable is created by subtracting the variable mean from every observation of that variable. In this way, DR was transformed into DRCentred, DU into DUCentred, SM into SMCentred, PD into PDCentred and PM into PMCentred. The new interaction terms created were as follows:

1. DRSMCentred = By multiplying DRCentred with SMCentred
2. DRPDCentred = By multiplying DRCentred with PDCentred
3. DUPMCentred = By multiplying DUCentred with PMCentred

After doing this, correlations were again checked between these variables and it was found that problem of multicollinearity was reduced to a great extent. Further, as stated before, in all the regression models, VIF didn't exceed 1.526 (whereas the limit is 10) and minimum tolerance value has been 0.655 (whereas it should be at least

more than 0.1). Appendix N shows correlation tables between these variables. Hence, centring removed the problem of multicollinearity to proceed for the further analysis.

As mentioned before, moderator tests were conducted using hierarchical regression analysis. Three models were constructed. In the first model, only the main variable (either DRCentred or DUCentred) was entered. This enabled examining effects of diversification strategies over different performance dimensions, which was also one of the objectives of the study. In the second model, the moderator (centred moderator appearing as another predictor variable) was also entered along with all control variables (Age, Size, Leverage Experience). Finally, in the third model, all the predictors were entered along with the centred interaction term. Moderator effect was studied through increase in the third model's significance compared to first two models, significant change in F-statistics (for R^2 change), and/or through the significance level of interaction term. If the significance levels were achieved, the moderator effect was proved (Hair *et al.*, 2009).

Apart from that, a moderator could be a pure moderator or a quasi moderator. A '**pure moderator**' changes the form of relationship between the dependent and independent variables. A pure moderator interacts with predictors and has negligible correlation with the dependent variable. (Sharma *et al.*, 1981; Zahra, 1996). A '**quasi moderator**' although also modifies the form of the relationship between the dependent and Independent variables as it significantly interacts with independent variables, but it also possesses a significant relation with dependent variable (Sharma *et al.*, 1981; Zahra, 1996).

This study initially examined the significance of moderator through hierarchical regression analysis as discussed before. Later, it examined whether the moderator was a pure or a quasi moderator. This was done by looking at the bivariate correlations between moderator variables and dependent variables (Sarina, 2010; Sharma *et al.*, 1981). The framework for identifying the moderator as pure or quasi moderator is presented in Figure 4.4.

Furthermore, in order to examine the nature of moderator in terms of its positive or negative effects, graphs were developed using scatter plots which revealed whether a moderator positively or negatively affected the relationship between variables.

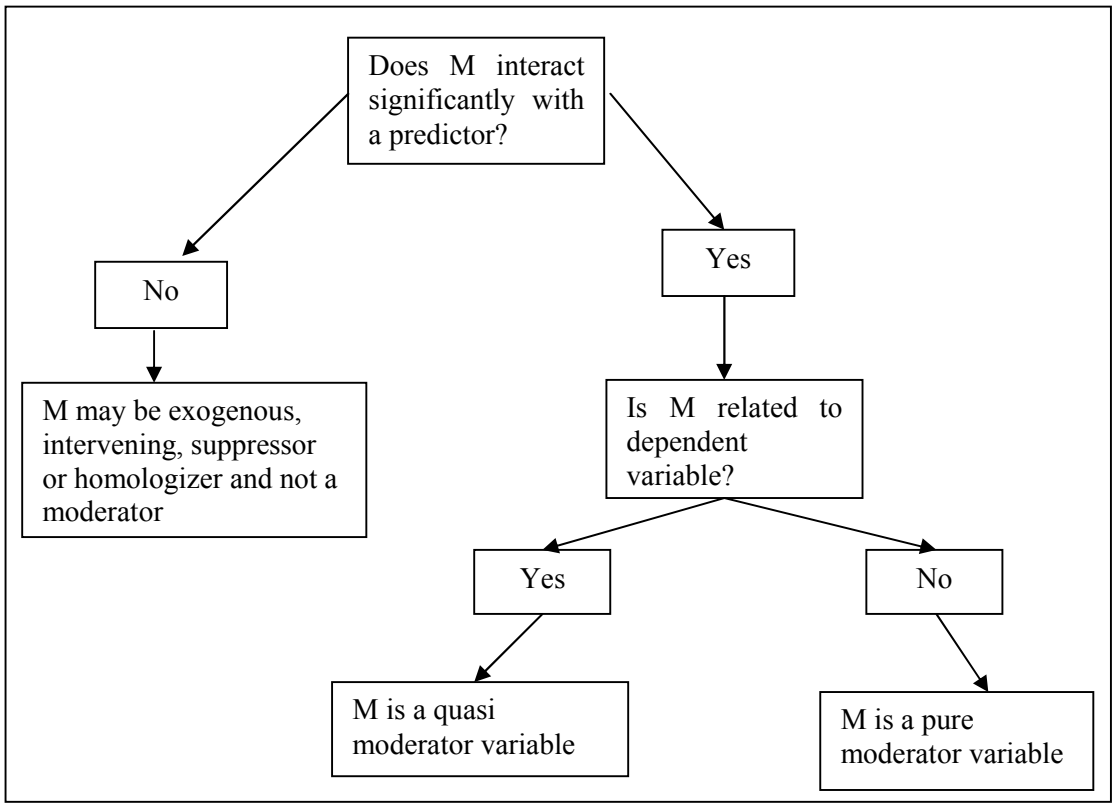

Figure 4.4
Framework for Identifying Pure & Quasi Moderators
Adapted from Sharma *et al.* (1981), pp. 297

4.8.3 Testing Moderator Effects of Corporate Parenting Roles on the Relationship between Diversification Strategies and Financial Corporate Performance

This section presents test results of hierarchical regression analysis for the moderating effects of three moderator variables; Synergy Manager, Parental Developer and Portfolio Manager. For each Moderator and type of Diversification Strategy, results are presented one by one for the four dimensions of Financial Corporate Performance.

4.8.3.1 Testing Moderator Effect of Synergy Manager on the Relationship between Related Diversification Strategy and Financial Corporate Performance (H2ai1 to H2ai4)

This subsection presents results about whether Synergy Manager acts as moderator between Related Diversification Strategy and Financial Corporate Performance. As the four financial ratios could not be aggregated into one index, therefore analysis is presented one by one for all four financial ratios.

4.8.3.1.1 Testing Moderator Effect of Synergy Manager on the Relationship between Related Diversification Strategy and ROA (H2ai1)

Table 4.9 shows the results of multiple regressions conducted to test hypothesis H2ai1. It can be seen from the table that although model 3 (including all predictors along with interaction term for moderation) overall was significant, but the interaction term (DRSMCentred) was not significant (Sig. = 0.852). Hence, for the third model, the F-Change was also not significant (Sig. = 0.852). The coefficient for DRCentred variable was also not significant for any model. Hence, it is concluded here that related diversification has no significant effect on ROA. Moreover, Synergy Manager does not act as moderator between related diversification and ROA.

Table 4.9
Results of Multiple Regression Models for Testing Moderator Effect of Synergy Manager on the Relationship between Related Diversification Strategy and ROA

Dependent Variable: ROA

Model	Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Model Statistics
		B	Std. Error	Beta			
1	(Constant)	.019	.014		1.306	.195	F = 0.965 Sig. = 0.328
	DRCentred	.042	.043	.095	.982	.328	R^2 = 0.009 Adj. R^2 = 0.000 Sig. FΔ = 0.328
2	(Constant)	-.374	.170		-2.201	.030	
	DRCentred	.035	.039	.079	.900	.370	
	SMCentred	-7.27E-005	.015	.000	-.005	.996	F = 8.512 Sig. = 0.000
	Age	-.001	.001	-.082	-.919	.360	R^2 = 0.338
	Size	.029	.009	.322	3.281	.001	Adj. R^2 = 0.298
	Leverage	-.373	.056	-.590	-6.704	.000	Sig. FΔ = 0.000
	Experience	.000	.002	-.025	-.293	.770	
3	(Constant)	-.371	.172		-2.155	.034	
	DRCentred	.034	.039	.078	.877	.382	
	SMCentred	6.62E-005	.015	.000	.004	.997	F = 7.230
	Age	-.001	.001	-.081	-.906	.367	Sig. = 0.000
	Size	.028	.009	.320	3.221	.002	R^2 = 0.338
	Leverage	-.373	.056	-.590	-6.672	.000	Adj. R^2 = 0.292
	Experience	.000	.002	-.025	-.293	.770	Sig. FΔ = 0.852
	DRSMCentred	.010	.053	.016	.187	.852	

Model statistics show that model 2 and model 3 were significant and explained around 30% of variation in ROA (adj. R^2 for model 2 = 0.298, adj. R^2 for model 3 = 0.292). Coefficients for Size and Leverage were also significant at 99% confidence levels or more, showing that Size and Leverage have significant impact on ROA. Size has a positive impact on ROA whereas Leverage has negative impact on ROA as depicted through their coefficients.

4.8.3.1.2 Testing Moderator Effect of Synergy Manager on the Relationship between Related Diversification Strategy and ROE (H2ai2)

Table 4.10 presents the results of multiple regression models conducted to test moderating effect of Synergy Manager on the relationship between Related

Diversification and ROE. It can be seen from the table that although model 3 (including all predictors along with interaction term for moderation) overall was significant (at 90% confidence level), but the interaction term (DRSMCentred) was not significant (Sig. = 0.164). Hence, for the third model, the F-Change was also not significant.

Table 4.10
Results of Multiple Regression Models for Testing Moderator Effect of Synergy Manager on the Relationship between Related Diversification Strategy and ROE

Dependent Variable: ROE

Model	Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Model Statistics
		B	Std. Error	Beta			
1	(Constant)	.049	.019		2.581	.011	F = 0.060 Sig. = 0.808 R^2 = 0.001 Adj. R^2 = -0.009 Sig. FΔ = 0.808
	DRCentred	.014	.057	.024	.244	.808	
2	(Constant)	-.471	.261		-1.802	.075	F = 1.745 Sig. = 0.118 R^2 = 0.095 Adj. R^2 = 0.040 Sig. FΔ = 0.074
	DRCentred	-.018	.060	-.030	-.294	.769	
	SMCentred	.015	.023	.063	.645	.520	
	Age	-.001	.001	-.049	-.468	.641	
	Size	.031	.013	.262	2.288	.024	
	Leverage	-.216	.085	-.261	-2.531	.013	
	Experience	.001	.002	.033	.341	.734	
3	(Constant)	-.512	.262		-1.957	.053	F = 1.792 Sig. = 0.097 R^2 = 0.112 Adj. R^2 = 0.050 Sig. FΔ = 0.164
	DRCentred	-.011	.060	-.019	-.182	.856	
	SMCentred	.013	.023	.057	.578	.564	
	Age	-.001	.001	-.055	-.531	.596	
	Size	.033	.013	.281	2.448	.016	
	Leverage	-.215	.085	-.260	-2.535	.013	
	Experience	.001	.002	.035	.355	.723	
	DRSMCentred	-.114	.081	-.135	-1.404	.164	

The coefficient for DRCentred variable was also not significant for any model. Hence, it is concluded here that Related Diversification Strategy has no significant effect on ROE. Moreover, Synergy Manager does not act as moderator between Related Diversification Strategy and ROE. In models 2 and 3, the coefficients for Size and

Leverage were significant at 95% confidence levels, showing that Size and Leverage had significant impact on ROE. However, as in the case of ROA, Size had a positive impact on ROE, whereas Leverage had negative impact on ROE as shown through their coefficients.

4.8.3.1.3 Testing Moderator Effect of Synergy Manager on the Relationship between Related Diversification Strategy and Tobin's q (H2ai3)

Table 4.11 shows the results of multiple regression models tested to study the moderating effect of Synergy Manager on the relationship between Related Diversification Strategy and Tobin's q. This test reveals that Synergy Manager acts as moderator between Related Diversification and Tobin's q. From model 3 (significant at 0.008), it is shown that DRSMCentred is significant at 0.055 (more than 90% confidence level).

DRCentred and SMCentred are not significant in the third model, whereas DRSMCentred is significant which shows that it is only the interaction between Related Diversification Strategy and Synergy Manager role that influences companies' Tobin's q ratio. Hence, the F-Change is also significant at 0.055.

Model statistics show that the model significance increased by moving from model 1 to model 3. Model 1 was significant at 0.031, model 2 at 0.019, and model 3 at 0.008. Adj. R^2 for model 3 was 0.111 which meant that around 11% variation in Tobin's q was explained by the model 3.

Table 4.11
Results of Multiple Regression Models for Testing Moderator Effect of Synergy Manager on the Relationship between Related Diversification Strategy and Tobin's q

Dependent Variable: Tobin's q

Model	Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Model Statistics
		B	Std. Error	Beta			
1	(Constant)	.948	.040		23.820	.000	F = 4.786 Sig. = 0.031 R^2 = 0.044 Adj. R^2 = 0.034 Sig. FΔ = 0.031
	DRCentred	.259	.118	.209	2.188	.031	
2	(Constant)	-.178	.545		-.326	.745	F = 2.676 Sig. = 0.019 R^2 = 0.138 Adj. R^2 = 0.087 Sig. FΔ = 0.060
	DRCentred	.154	.125	.124	1.235	.220	
	SMCentred	-.064	.048	-.128	-1.336	.185	
	Age	.002	.002	.065	.647	.519	
	Size	.046	.028	.184	1.644	.103	
	Leverage	.348	.178	.197	1.958	.053	
	Experience	.000	.005	.005	.057	.955	
3	(Constant)	-.295	.541		-.546	.586	F = 2.898 Sig. = 0.008 R^2 = 0.170 Adj. R^2 = 0.111 Sig. FΔ = 0.055
	DRCentred	.173	.123	.140	1.405	.163	
	SMCentred	-.069	.047	-.137	-1.448	.151	
	Age	.001	.002	.057	.570	.570	
	Size	.052	.028	.209	1.883	.063	
	Leverage	.350	.176	.198	1.996	.049	
	Experience	.000	.005	.007	.075	.941	
	DRSMCentred	-.326	.168	-.181	-1.944	.055	

Furthermore, correlation was also examined between SM and Tobin's q which was not significant (Pearson correlation = -0.017, sig (2-tailed) = 0.849). This concluded that SM was a pure moderator between DR and Tobin's q.

In order to interpret the nature of moderation, graphs using scatter plots were made following past scholars (Sarina, 2010; Warner, 2013). To do this, firstly, all the data was sorted by Synergy Manager means in ascending order. A new variable was created with the title SMlevel and values of 1, 2 or 3 were assigned to it based on the mean of Synergy Manager (now sorted ascending wise). As Corporate Parenting Roles were measured using 7-point Likert-type scale, therefore the means of all these

roles for each company could also range from 1 – 7. Hence, the scale was divided into three equal categories with the following values for the SMlevel.

1. SM mean from 1 – 2.99 = Low SMlevel (assigned value as '1')
2. SM mean from 3 – 4.99 = Moderate SMlevel (assigned value as '2')
3. SM mean from 5 – 6.99 = High SMlevel (assigned value as '3')

Finally, graphs using scatter plots were made by putting DR on x-axis, Tobin's q on y-axis and setting markers by SMlevel. The graphs developed in this matter are shown in the following Figure 4.5.

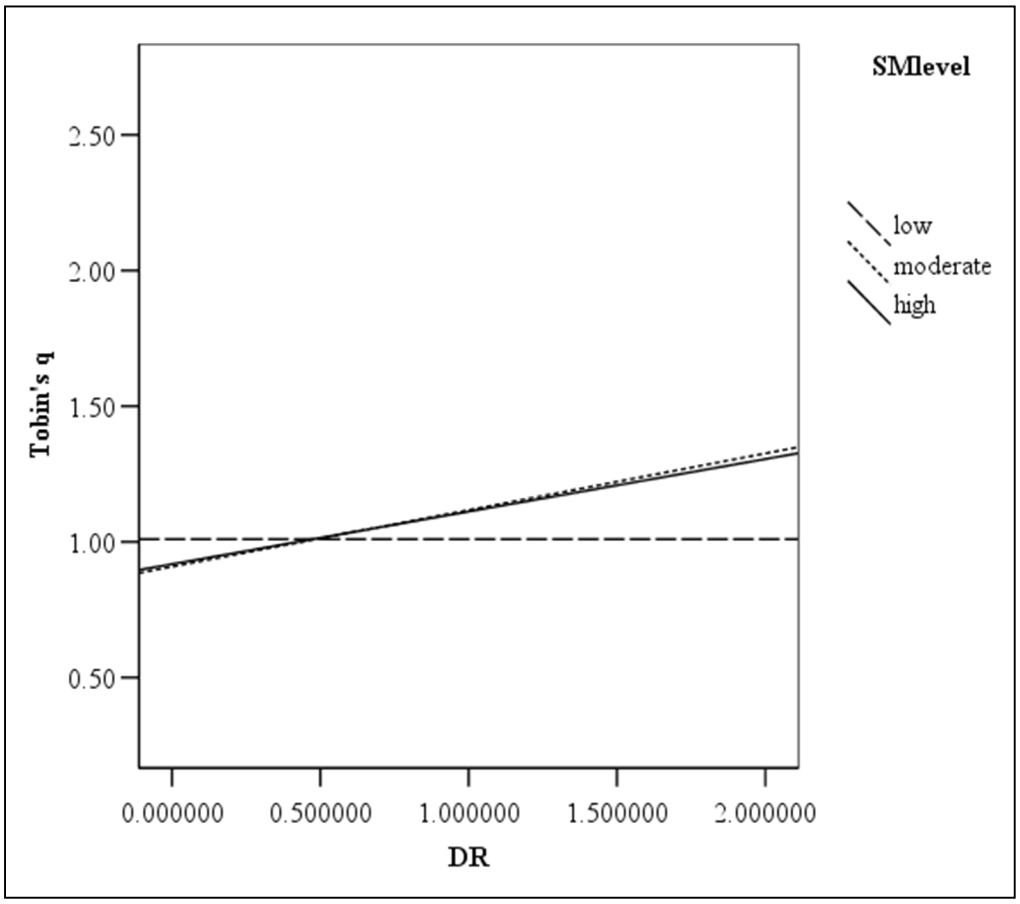

Figure 4.5
Graphs for DR and Tobin's q with SMlevel

The graphs show positive effect of DR on Tobin's q at moderate and high SMlevels, whereas, at low SMlevel, it is bit negative. At moderate SMlevel, correlation between DR and Tobin's q was found to be 0.118 (R^2 linear = 0.014), whereas at high SMlevel, this correlation was 0.164 (R^2 linear = 0.027). This concludes that Synergy Manager Role has a positive moderating effect. As the extent of Related Diversification Strategy increases, it leads to increase in Tobin's q, provided that the level of Synergy Manager Role is also increased.

Another outcome for this test tells that model 1 which only included DRCentred as a predictor was also found to be significant at 0.031 (B = 0.259). This revealed that in the absence of all other factors, related diversification significantly affected Tobin's q. Apart from this, Leverage positively affected Tobin's q in model 2 (Sig. = 0.053) and model 3 (Sig. = 0.049), whereas Size positively affected Tobin's q in model 3 only (Sig. = 0.063). A detailed discussion about these results follows in Chapter 5.

4.8.3.1.4 Testing Moderator Effect of Synergy Manager on the Relationship between Related Diversification Strategy and P/B Value (H2ai4)

Table 4.12 shows the results of multiple regression analysis conducted to study the moderating effect of Synergy Manager on the relationship between Related Diversification Strategy and P/B Value. The test results revealed that Synergy Manager performed as moderator between Related Diversification Strategy and P/B Value. From model 3 (significant at 0.001), it is evident that DRSMCentred is significant at 0.095 (around 90% confidence level). Hence, the F-Change in R^2 for the third model is also significant at 0.095. Models' Statistics show that models'

significance increased by moving from model 1 to model 3. Model 1 was significant at 0.003, model 2 at 0.002, and model 3 at 0.001. Adj. R^2 for model 3 was 0.156 which meant that around 15% variation in P/B value was explained by model 3.

To decide whether SM was pure or quasi moderator, bivariate correlation was examined between SM and P/B Value. The correlation between SM and P/B Value was not significant (Pearson correlation = -0.029, sig (2-tailed) = 0.747), concluding that SM played as a pure moderator between DR and P/B Value.

Table 4.12
Results of Multiple Regression Models for Testing Moderator Effect of Synergy Manager on the Relationship between Related Diversification Strategy and P/B Value

Dependent Variable: P/B Value

Model	Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Model Statistics
		B	Std. Error	Beta			
1	(Constant)	.921	.066		13.939	.000	F = 9.575 Sig. = 0.003 R^2 = 0.084 Adj. R^2 = 0.075 Sig. FΔ = 0.003
	DRCentred	.608	.196	.289	3.094	.003	
2	(Constant)	-1.904	.897		-2.123	.036	F = 3.898 Sig. = 0.002 R^2 = 0.190 Adj. R^2 = 0.141 Sig. FΔ = 0.029
	DRCentred	.400	.205	.190	1.948	.054	
	SMCentred	-.130	.079	-.154	-1.653	.102	
	Age	.001	.004	.028	.288	.774	
	Size	.135	.046	.320	2.949	.004	
	Leverage	.020	.293	.007	.068	.946	
	Experience	.004	.008	.046	.494	.622	
3	(Constant)	-2.073	.894		-2.318	.022	F = 3.808 Sig. = 0.001 R^2 = 0.212 Adj. R^2 = 0.156 Sig. FΔ = 0.095
	DRCentred	.428	.204	.203	2.096	.039	
	SMCentred	-.137	.078	-.161	-1.749	.083	
	Age	.001	.004	.021	.216	.829	
	Size	.144	.046	.341	3.153	.002	
	Leverage	.023	.290	.008	.078	.938	
	Experience	.004	.008	.047	.513	.609	
	DRSMCentred	-.467	.277	-.153	-1.686	.095	

Moreover, in order to interpret the nature of moderation, graphs were made using scatter plots on the similar grounds as discussed for the previous hypothesis. DR was placed on x-axis, P/B Value was placed on y-axis and markers were set by SMlevel. The graphs developed in this manner are shown in Figure 4.6.

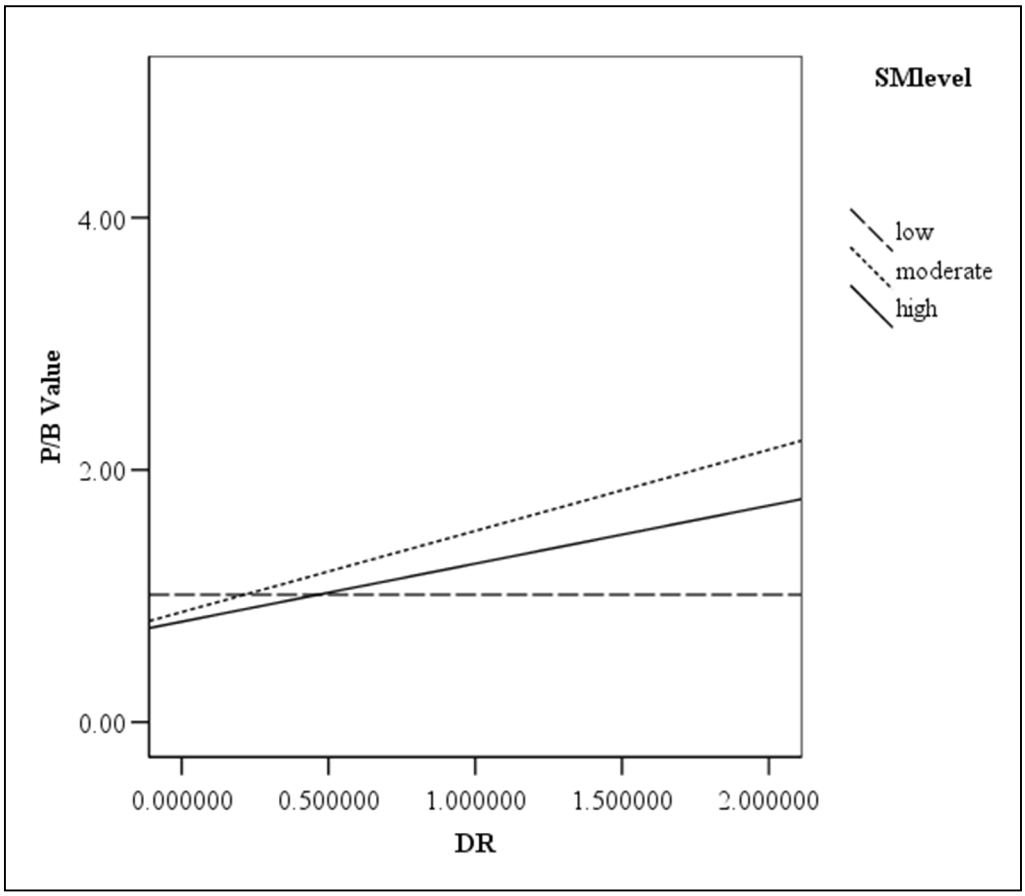

Figure 4.6
Graphs for DR and P/B Value with SMlevel

The graphs show that at moderate and high SMlevels, P/B Value is increasing with increasing level of DR, whereas, at low SMlevel, P/B Value is slowly decreasing when DR increases. At moderate SMlevel, correlation between DR and P/B Value was found to be 0.207 (R^2 linear = 0.043), whereas at high SMlevel, this correlation increased to 0.24 (R^2 linear = 0.057). This analysis confirms positive moderating effect of Synergy Manager Role on the relationship between DR and P/B Value and

concludes that P/B Value increases with the increasing levels of Related Diversification Strategy and Synergy Manager Role. Whereas, if the level of Synergy Manager Role is kept lower with increasing level of Related Diversification, the P/B Value gradually decreases.

Apart from that, DRCentred had a significant positive effect on P/B Value in all three models and Size also had significant positive effect on P/B Value in model 2 and model 3.

4.8.3.2 Testing Moderator Effect of Parental Developer on the Relationship between Related Diversification Strategy and Financial Corporate Performance (H2aii1 to H2aii4)

This subsection discusses the results of multiple regression analysis conducted for testing moderating effects of Parental Developer Role on the relationship between Related Diversification Strategy and four financial ratios one by one.

4.8.3.2.1 Testing Moderator Effect of Parental Developer on the Relationship between Related Diversification Strategy and ROA (H2aii1)

The test of moderator analysis for Parental Developer Role was initially conducted for the relationship between Related Diversification Strategy and ROA. Table 4.13 presents the results of multiple regressions models for this purpose. The table shows that in the third model, although DRCentred and PDCentred were not significant, but the interaction term DRPDCentred was significant at 0.076 revealing that Parental Developer acted as a moderator between Related Diversification Strategy and ROA. Model statistics also show that model 3 (which included the interaction term) was

significant at 0.000. Adj. R^2 for model 3 was 0.327 representing around 33% of variation in ROA attributable to predictors.

Table 4.13
Results of Multiple Regression Models for Testing Moderator Effect of Parental Developer on the Relationship between Related Diversification Strategy and ROA

Dependent Variable: ROA

Model	Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Model Statistics
		B	Std. Error	Beta			
1	(Constant)	.019	.014		1.306	.195	F = 0.965 Sig. = 0.328 R^2 = 0.009 Adj. R^2 = 0.000 Sig. FΔ = 0.328
	DRCentred	.042	.043	.095	.982	.328	
2	(Constant)	-.432	.171		-2.521	.013	F = 9.012 Sig. = 0.000 R^2 = 0.351 Adj. R^2 = 0.312 Sig. FΔ = 0.000
	DRCentred	.034	.039	.078	.893	.374	
	PDCentred	-.027	.019	-.118	-1.409	.162	
	Age	-.001	.001	-.084	-.958	.341	
	Size	.031	.009	.351	3.564	.001	
	Leverage	-.370	.054	-.587	-6.808	.000	
	Experience	.000	.002	-.008	-.096	.924	
3	(Constant)	-.392	.171		-2.296	.024	F = 8.357 Sig. = 0.000 R^2 = 0.371 Adj. R^2 = 0.327 Sig. FΔ = 0.076
	DRCentred	.025	.039	.057	.649	.518	
	PDCentred	-.027	.019	-.120	-1.450	.150	
	Age	-.001	.001	-.092	-1.064	.290	
	Size	.029	.009	.328	3.328	.001	
	Leverage	-.368	.054	-.583	-6.834	.000	
	Experience	4.14E-005	.002	.002	.027	.979	
	DRPDCentred	.126	.070	.149	1.796	.076	

Additionally, in the three regression models, DRCentred remained insignificant against ROA, while Size and Leverage remained significant at around 99% confidence levels or more in both models. Hence, the insignificant effect of related diversification on ROA was confirmed again. Correlation was also examined between PD and ROA in order to reveal whether PD was pure or quasi moderator. The correlation was not significant (Pearson correlation = -0.062, sig (2-tailed) = 0.493) concluding that PD acted as a pure moderator between DR and ROA.

In order to study the nature of moderator effect, graphs using scatter plots were developed again. A new variable PDlevel was created and the categorization scheme was also revised. By looking at the descriptive statistics in Appendix J, it is evident that the minimum value for Parental Developer mean was 3.11. Hence, no company could fall in the category of low PDlevel with range 1 – 2.99. Therefore, analysis with only two categories of PDlevel was possible with following new categorization scheme.

1. PD mean from 1 – 3.99 = Low PDlevel (assigned value as '1')

2. PD mean from 4 – 6.99 = High PDlevel (assigned value as '2')

The graphs made in this manner are shown in Figure 4.7.

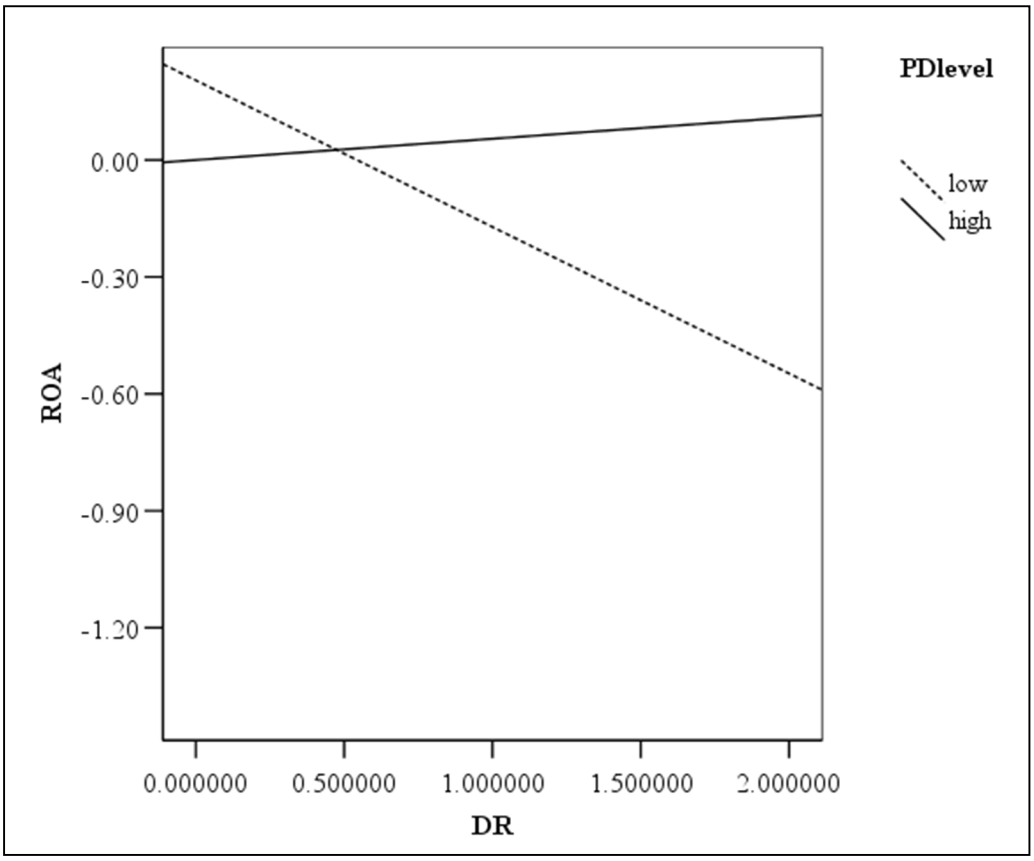

Figure 4.7
Graphs for DR and ROA with PDlevel

The graphs reveal that with low PDlevel, the relationship between DR and ROA is actually negative (R = -0.981, R^2 = 0.962) and at high PDlevel, the relationship between DR and ROA is still positive (R = 0.11, R^2 = 0.012). This confirms the positive effect of Parental Developer Role on the relationship between Related Diversification Strategy and ROA. Hence, it can be concluded here that ROA increases with increasing level of Related Diversification Strategy coupled with increasing level of Parental Developer Role played by the corporate managers.

4.8.3.2.2 Testing Moderator Effect of Parental Developer on the Relationship between Related Diversification Strategy and ROE (H2aii2)

Table 4.14 presents results of multiple regressions models conducted to test moderator effect of Parental Developer on the relationship between Related Diversification Strategy and ROE. Statistics for the third model show that the interaction term DRPDCentred was significant at 0.003 (99% confidence level) revealing that Parental Developer acts as a moderator between Related Diversification and ROE. Model statistics also reveal that model 3 showed increased significance at 0.000 compared to model 2 (Sig. at 0.002), whereas model 1 was not significant (0.808). Adj. R^2 for model 3 was 0.204 representing around 20% of variation in ROE attributable to predictors.

Regarding other relationships, DRCentred remained insignificant in all three models against ROE, hence, once again confirming absence of any significant effect of related diversification on ROE. However, Size and Leverage remained significant in models 2 and 3 with their respective positive and negative effects. Moreover, correlation between PD and ROE was also significant (Pearson correlation = 0.242,

sig. at 0.01 level). This concluded that PD played as quasi moderator for the relationship between DR and ROE.

Table 4.14
Results of Multiple Regression Models for Testing Moderator Effect of Parental Developer on the Relationship between Related Diversification Strategy and ROE

Dependent Variable: ROE

Model	Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Model Statistics
		B	Std. Error	Beta			
1	(Constant)	.049	.019		2.581	.011	$F = 0.060$ Sig. = 0.808 $R^2 = 0.001$ Adj. $R^2 = -0.009$ Sig. $F\Delta = 0.808$
	DRCentred	.014	.057	.024	.244	.808	
2	(Constant)	-.295	.252		-1.169	.245	$F = 3.777$ Sig. = 0.002 $R^2 = 0.185$ Adj. $R^2 = 0.136$ Sig. $F\Delta = 0.001$
	DRCentred	-.016	.057	-.027	-.274	.785	
	PDCentred	.094	.028	.318	3.390	.001	
	Age	-.001	.001	-.047	-.476	.635	
	Size	.022	.013	.192	1.737	.085	
	Leverage	-.216	.080	-.260	-2.694	.008	
	Experience	-9.77E-005	.002	-.004	-.042	.966	
3	(Constant)	-.392	.244		-1.606	.111	$F = 4.870$ Sig. = 0.000 $R^2 = 0.256$ Adj. $R^2 = 0.204$ Sig. $F\Delta = 0.003$
	DRCentred	.008	.055	.013	.140	.889	
	PDCentred	.095	.027	.322	3.574	.001	
	Age	.000	.001	-.031	-.329	.743	
	Size	.028	.012	.237	2.210	.029	
	Leverage	-.222	.077	-.268	-2.886	.005	
	Experience	-.001	.002	-.023	-.255	.799	
	DRPDCentred	-.308	.100	-.278	-3.083	.003	

In order to study the nature of moderation going on, graphs using scatter plots were developed again. Figure 4.8 shows that there is weak positive effect of DR on ROE at high level of PD, while at low level the effect is clearly negative ($R = -0.941$, $R^2 = 0.886$). This concludes that increasing extent of Related Diversification would lead to slight increase in ROE, if combined with increasing level of Parental Developer Role. Whereas, with increasing Related Diversification, ROE would certainly fall if level of Parental Developer Role is decreased.

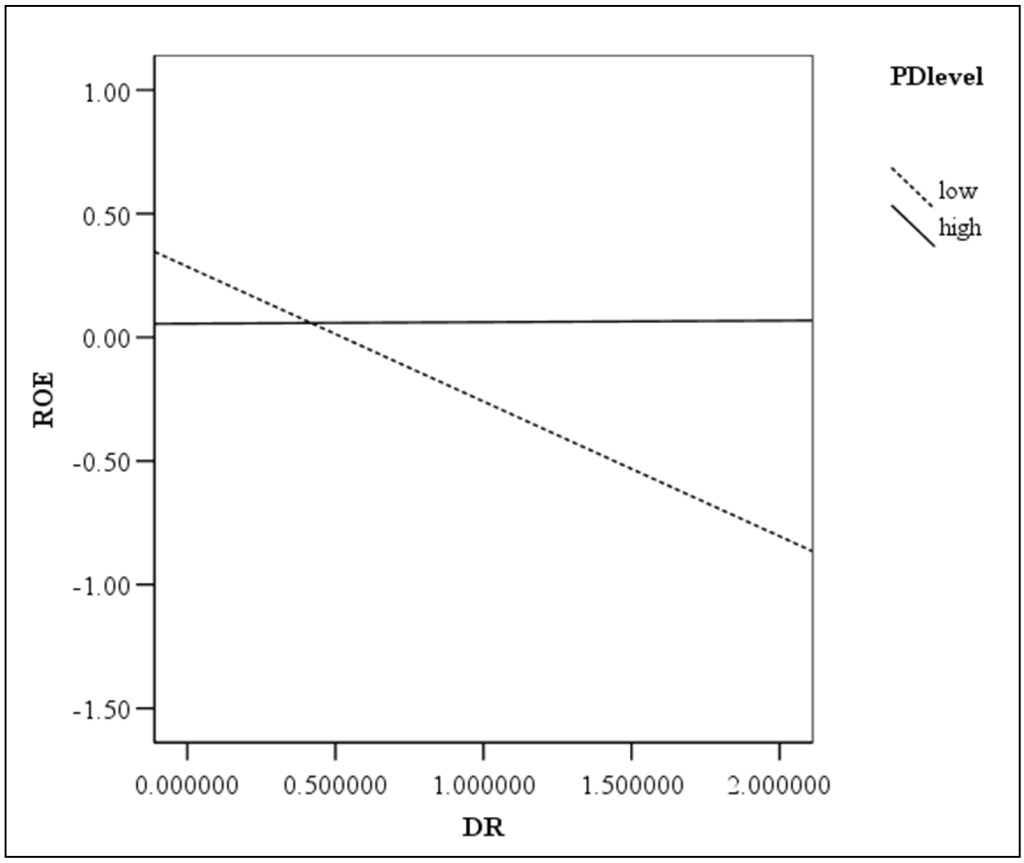

Figure 4.8
Graphs for DR and ROE with PDlevel

4.8.3.2.3 Testing Moderator Effect of Parental Developer on the Relationship between Related Diversification Strategy and Tobin's q (H2aii3)

Results of multiple regression models conducted to test moderating effect of Parental Developer on the relationship between Related Diversification Strategy and Tobin's q are provided in Table 4.15. Here again, the table shows that in the third model, although DRCentred and PDCentred were not significant, but the interaction term DRPDCentred was significant at 0.025 providing support for the strong moderator effect of Parental Developer on the relationship between Related Diversification Strategy and Tobin's q.

The F-Change for the third model was also significant at 0.025. The models' statistics also show that model 3 was significant at 0.010, whereas model 2 was significant at

0.036, and model 1 was significant at 0.031. Hence, the model significance increased in model 3. Adj. R^2 for model 3 was 0.108 representing around 11% of variation in Tobin's q attributable to predictors.

Next, correlation analysis showed that the correlation between PD and Tobin's q was insignificant (Pearson correlation = 0.103, sig (2-tailed) = 0.255) concluding that PD acted as a pure moderator between DR and Tobin's q.

Table 4.15
Results of Multiple Regression Models for Testing Moderator Effect of Parental Developer on the Relationship between Related Diversification Strategy and Tobin's q

Dependent Variable: Tobin's q

Model	Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Model Statistics
		B	Std. Error	Beta			
1	(Constant)	.948	.040		23.820	.000	F = 4.786 Sig. = 0.031 R^2 = 0.044 Adj. R^2 = 0.034 Sig. FΔ = 0.031
	DRCentred	.259	.118	.209	2.188	.031	
2	(Constant)	-.023	.558		-.041	.968	F = 2.354 Sig. = 0.036 R^2 = 0.124 Adj. R^2 = 0.071 Sig. FΔ = 0.114
	DRCentred	.154	.126	.125	1.227	.223	
	PDCentred	.018	.062	.028	.292	.771	
	Age	.002	.002	.076	.742	.460	
	Size	.039	.029	.158	1.377	.172	
	Leverage	.310	.177	.175	1.748	.084	
	Experience	-.001	.005	-.014	-.141	.888	
3	(Constant)	-.185	.552		-.335	.738	F = 2.843 Sig. = 0.010 R^2 = 0.167 Adj. R^2 = 0.108 Sig. FΔ = 0.025
	DRCentred	.193	.124	.156	1.552	.124	
	PDCentred	.020	.060	.031	.330	.742	
	Age	.002	.002	.088	.879	.382	
	Size	.048	.028	.193	1.701	.092	
	Leverage	.300	.174	.169	1.724	.088	
	Experience	-.002	.005	-.029	-.300	.765	
	DRPDCentred	-.515	.226	-.217	-2.277	.025	

Concerning the effect of Related Diversification Strategy on Tobin's q, DRCentred was found to be having significant effect on Tobin's q in the first model (Sig. at

0.031). This again confirms positive related diversification's effect on Tobin's q. Apart from that, Leverage was having significant positive effect on Tobin's q in model 2 and model 3, whereas Size had significant positive effect in model 3 only.

The graphs drawn using scatter plots are presented in Figure 4.9 for studying the nature of moderation going on for this hypothesis. The figure shows that the graph for high level of PD is higher than the one for low level of PD but they seem to converge in the end. Hence, it can be concluded here that effect of Related Diversification on Tobin's q is more positive for high level of Parental Developer unless the level of diversification becomes too high. Overall, the graphs provide support for positive nature of moderating effect of Parental Developer on Related Diversification Strategy and Tobin's q relationship.

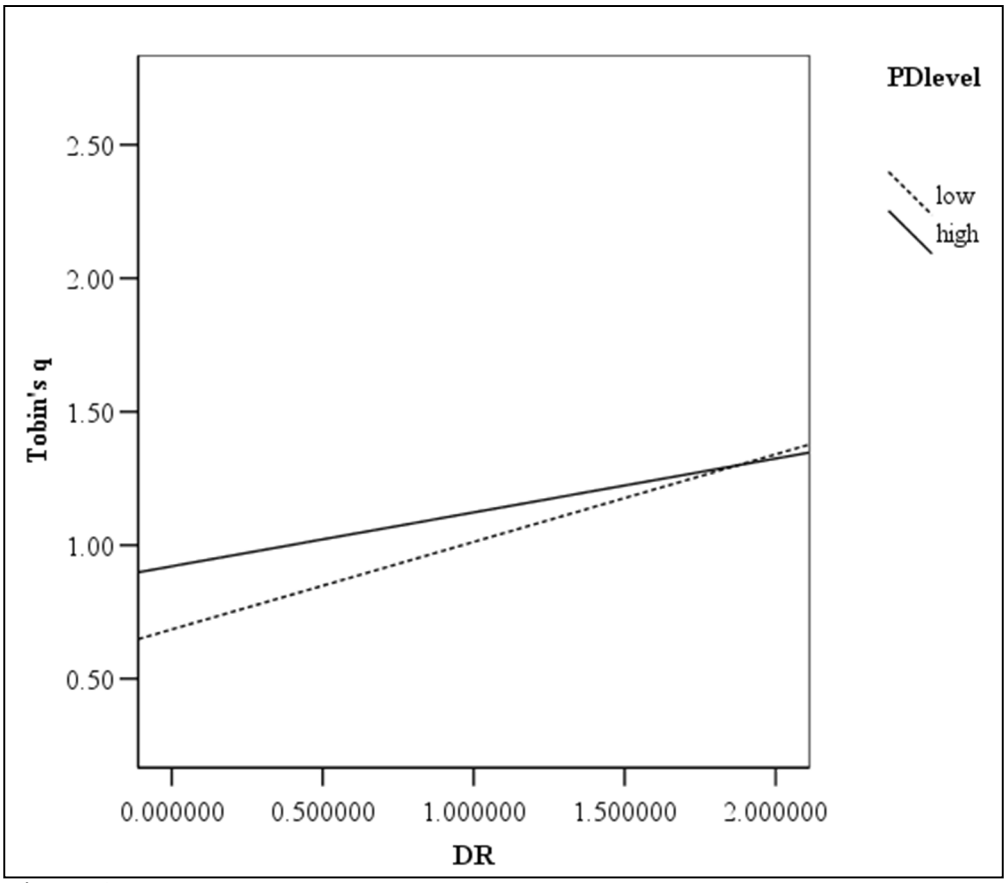

Figure 4.9
Graphs for DR and Tobin's q with PDlevel

4.8.3.2.4 Testing Moderator Effect of Parental Developer on the Relationship between Related Diversification Strategy and P/B Value (H2aii4)

In this set of hypotheses, a final analysis was made to study the moderator effect of Parental Developer on the relationship between Related Diversification Strategy and P/B Value. Results are shown in Table 4.16. The table reveals that Parental Developer acts as moderator between Related Diversification and P/B Value as the interaction term DRPDCentred is significant (Sig. = 0.022).

Table 4.16
Results of Multiple Regression Models for Testing Moderator Effect of Parental Developer on the Relationship between Related Diversification Strategy and P/B Value

Dependent Variable: P/B Value

Model	Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Model Statistics
		B	Std. Error	Beta			
1	(Constant)	.921	.066		13.939	.000	F = 9.575 Sig. = 0.003 R^2 = 0.084 Adj. R^2 = 0.075 Sig. FΔ = 0.003
	DRCentred	.608	.196	.289	3.094	.003	
2	(Constant)	-1.737	.923		-1.881	.063	F = 3.371 Sig. = 0.005 R^2 = 0.168 Adj. R^2 = 0.118 Sig. FΔ = 0.080
	DRCentred	.399	.208	.190	1.919	.058	
	PDCentred	-.032	.102	-.030	-.316	.753	
	Age	.002	.004	.039	.394	.695	
	Size	.129	.047	.305	2.730	.007	
	Leverage	-.052	.293	-.017	-.178	.859	
	Experience	.003	.008	.032	.339	.735	
3	(Constant)	-2.010	.911		-2.207	.030	F = 3.789 Sig. = 0.001 R^2 = 0.211 Adj. R^2 = 0.156 Sig. FΔ = 0.022
	DRCentred	.464	.206	.221	2.260	.026	
	PDCentred	-.029	.100	-.027	-.290	.772	
	Age	.002	.004	.051	.527	.599	
	Size	.143	.047	.339	3.078	.003	
	Leverage	-.070	.287	-.023	-.243	.808	
	Experience	.002	.008	.017	.186	.853	
	DRPDCentred	-.868	.373	-.216	-2.325	.022	

The model statistics tell that the model significance increased in the hierarchical regressions conducted on this hypothesis. Model 1 was significant at 0.003, model 2 at 0.005, and model 3 at 0.001. Model 3 explained around 15% of variation in P/B Value attributable to all predictors (Adj. $R^2 = 0.156$).

DRCentred is also significant in all three models but PDCentred is not. Once again, this verifies significant positive effect of related diversification on P/B Value. Further, in models 2 and 3, Size also remained significant at 0.007 and 0.003 respectively with positive coefficients indicating a significant positive effect of Size on P/B Value.

To decide whether PD was pure or quasi moderator in this case, correlation was examined between PD and P/B Value. The correlation was not significant (Pearson correlation = 0.082, sig (2-tailed) = 0.368), concluding that PD played as a pure moderator between DR and P/B Value.

For the nature of moderation, Figure 4.10 shows that a positive effect of DR on P/B Value was seen at both low and high PDlevels but the effect was more positive for high PDlevel ($R = 0.23$, $R^2 = 0.052$). This concludes that higher level of Parental Developer Role contributes more positively to P/B Value if the extent of Related Diversification Strategy is increasing.

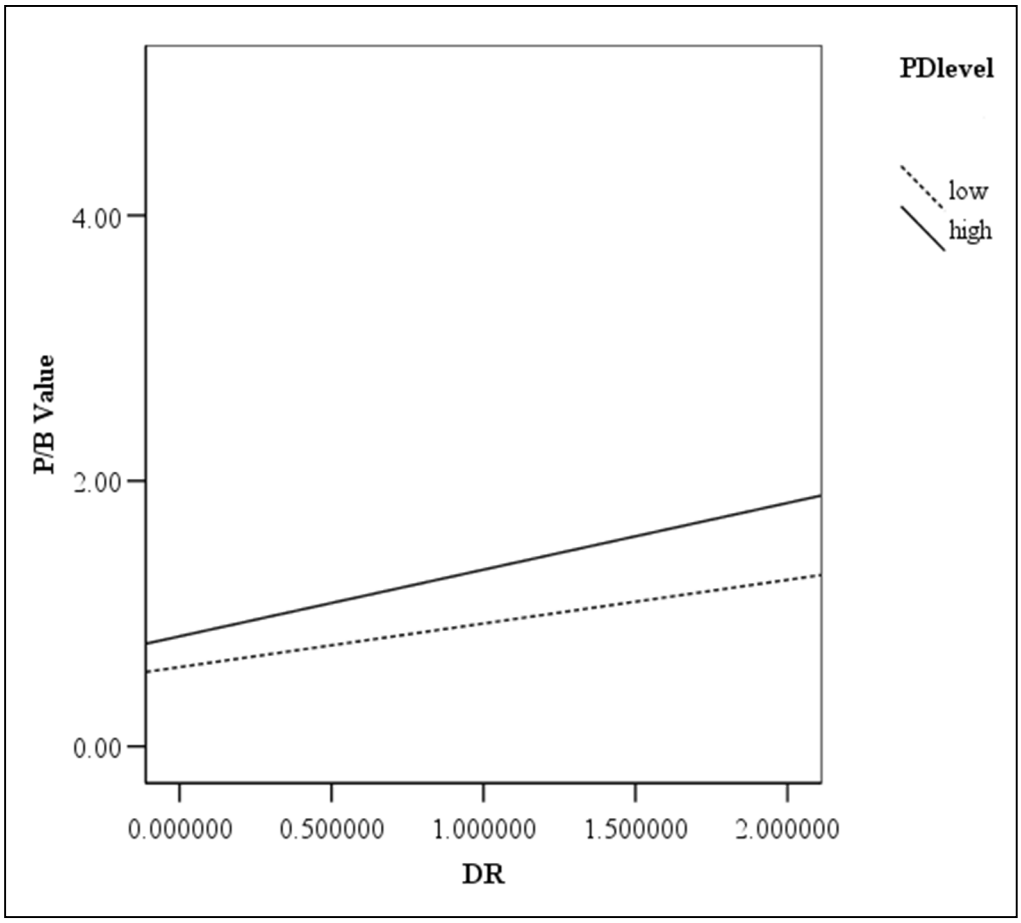

Figure 4.10
Graphs for DR and P/B Value with PDlevel

4.8.3.3 Testing Moderator Effect of Portfolio Manager on the Relationship between Unrelated Diversification Strategy and Financial Corporate Performance (H2aiii1 to H2aiii4)

Portfolio Manager was proposed to be a moderator between Unrelated Diversification Strategy and Financial Corporate Performance. As four financial ratios could not be aggregated to develop an index, therefore, this set of hypotheses tests the moderating effect of Portfolio Manager on the relationship between Unrelated Diversification Strategy and four financial ratios one by one.

4.8.3.3.1 Testing Moderator Effect of Portfolio Manager on the Relationship between Unrelated Diversification Strategy and ROA (H2aiii1)

The test for Portfolio Manager as a moderator was first conducted against ROA. Results of hierarchical regressions conducted to test the hypothesis are provided in Table 4.17. Model statistics in the table reveal that Model 1 was significant at 0.032, model 2 at 0.000, and model 3 at 0.000 supporting the significance of third model for moderation.

The table also shows that the interaction term DUPMCentred was significant at 0.001 revealing that Portfolio Manager acts as moderating variable between Unrelated Diversification Strategy and ROA. Adjusted R^2 for model 3 was 0.395 indicating that around 40% of variation in ROA was explained by predictors in model 3.

Further, correlation was examined between PM and ROA. The correlation between PM and ROA was not significant (Pearson correlation = 0.088, sig (2-tailed) = 0.334) concluding that PM acts as a pure moderator between DU and ROA. The term DUCentred also remained significant in all three models (with negative B coefficient) indicating a significant negative effect of Unrelated Diversification Strategy on ROA.

In addition to it, Size and Leverage also remained significant in models 2 and 3 at 0.000 significance levels with Size having positive effects on ROA and Leverage having negative effects on ROA.

Table 4.17

Results of Multiple Regression Models for Testing Moderator Effect of Portfolio Manager on the Relationship between Unrelated Diversification Strategy and ROA

Dependent Variable: ROA

Model	Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Model Statistics
		B	Std. Error	Beta			
1	(Constant)	.018	.014		1.262	.210	F = 4.732 Sig. = 0.032 R^2 = 0.043 Adj. R^2 = 0.034 Sig. FΔ = 0.032
	DUCentred	-.090	.041	-.208	-2.175	.032	
2	(Constant)	-.425	.156		-2.728	.008	F = 9.769 Sig. = 0.000 R^2 = 0.370 Adj. R^2 = 0.332 Sig. FΔ = 0.000
	DUCentred	-.079	.036	-.183	-2.226	.028	
	PMCentred	.013	.012	.084	1.032	.304	
	Age	.000	.001	-.051	-.578	.565	
	Size	.030	.008	.343	3.769	.000	
	Leverage	-.360	.054	-.570	-6.706	.000	
	Experience	.000	.002	-.023	-.284	.777	
3	(Constant)	-.424	.148		-2.860	.005	F = 10.866 Sig. = 0.000 R^2 = 0.434 Adj. R^2 = 0.395 Sig. FΔ = 0.001
	DUCentred	-.064	.034	-.147	-1.856	.066	
	PMCentred	.021	.012	.137	1.736	.086	
	Age	.000	.001	-.055	-.652	.516	
	Size	.029	.008	.332	3.830	.000	
	Leverage	-.321	.052	-.509	-6.148	.000	
	Experience	.000	.001	-.021	-.275	.784	
	DUPMCentred	.133	.039	.269	3.372	.001	

To study the nature of moderation going on, a new variable PMlevel (Portfolio Manager level) was created. Data was sorted ascending wise for mean of Portfolio Manager and three values 1, 2, or 3 were assigned to PMlevel with same categorization scheme as done for SMlevel. For PMlevel, it is restated as below.

1. PM mean from 1 – 2.99 = Low PMlevel (assigned value as ‘1’)

2. PM mean from 3 – 4.99 = Moderate PMlevel (assigned value as ‘2’)

3. PM mean from 5 – 6.99 = High PMlevel (assigned value as ‘3’)

The graphs developed as a result of scatter plots are shown in Figure 4.11. It can be seen from Table 4.17 that the effect of Unrelated Diversification Strategy on ROA was significantly negative as depicted by the three models. However, Figure 4.11 shows that at moderate and high levels of Portfolio Manager, the negative effect of unrelated diversification on ROA converts into somewhat positive effect. However, for low PMlevels, the effect stays as negative.

This concludes that although Unrelated Diversification Strategy contributes negatively to companies' ROA, but if it is coupled with moderate or high levels of Portfolio Manager, then the overall effect on ROA becomes positive or at least it counters all the negative effect.

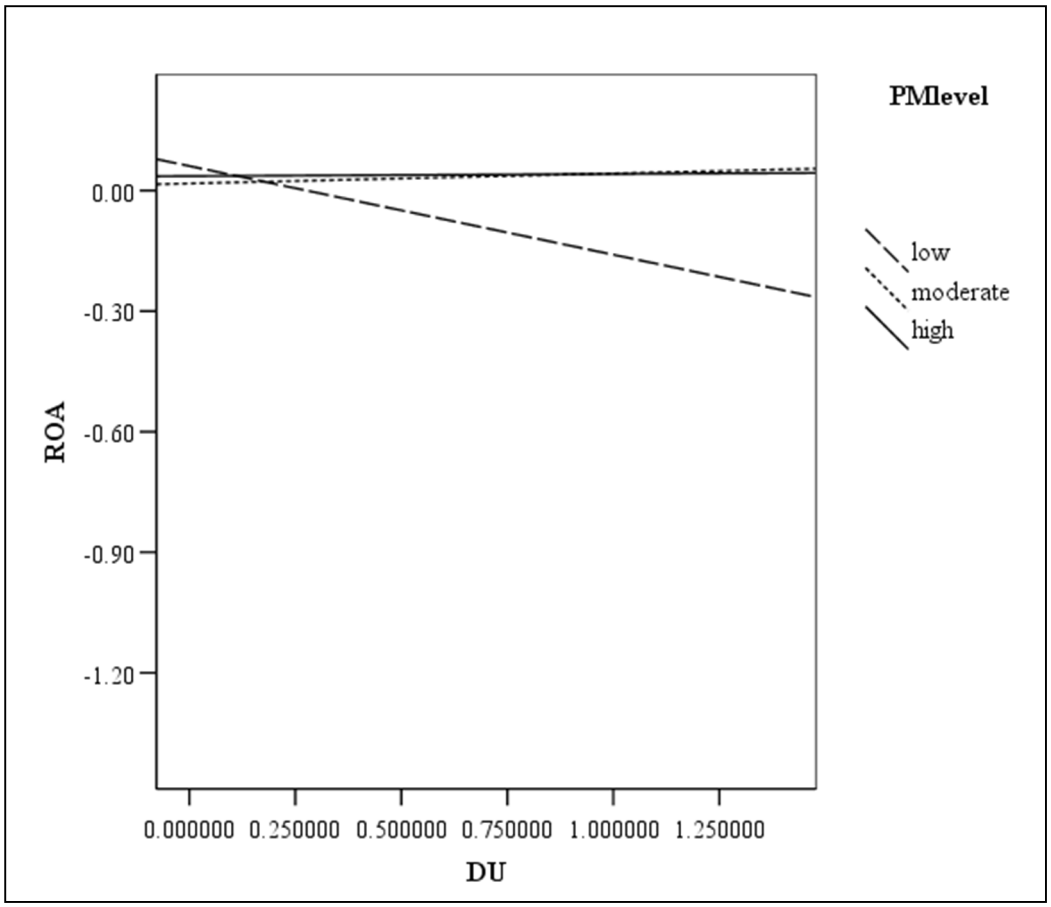

Figure 4.11
Graphs for DU and ROA with PMlevel

4.8.3.3.2 Testing Moderator Effect of Portfolio Manager on the Relationship between Unrelated Diversification Strategy and ROE (H2aiii2)

Table 4.18 shows results of hierarchical regressions to test moderating effect of Portfolio Manager on the relationship between Unrelated Diversification Strategy and ROE. The model statistics contained in the table reveal that model 1 was not significant, but model 2 was significant at 0.037. Further, model 3 was also significant at 0.017 supporting increased significance of third model for moderation.

Table 4.18
Results of Multiple Regression Models for Testing Moderator Effect of Portfolio Manager on the Relationship between Unrelated Diversification Strategy and ROE

Dependent Variable: ROE

Model	Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Model Statistics
		B	Std. Error	Beta			
1	(Constant)	.050	.019		2.603	.011	F = 0.060 Sig. = 0.807 R^2 = 0.001 Adj. R^2 = -0.009 Sig. FΔ = 0.807
	DUCentred	.014	.056	.024	.245	.807	
2	(Constant)	-.403	.241		-1.668	.098	F = 2.347 Sig. = 0.037 R^2 = 0.123 Adj. R^2 = 0.071 Sig. FΔ = 0.021
	DUCentred	.033	.055	.058	.601	.549	
	PMCentred	-.036	.019	-.179	-1.873	.064	
	Age	-.001	.001	-.048	-.463	.645	
	Size	.027	.013	.233	2.172	.032	
	Leverage	-.218	.083	-.263	-2.620	.010	
	Experience	.001	.002	.038	.397	.692	
3	(Constant)	-.404	.238		-1.694	.093	F = 2.602 Sig. = 0.017 R^2 = 0.155 Adj. R^2 = 0.096 Sig. FΔ = 0.056
	DUCentred	.019	.055	.033	.339	.735	
	PMCentred	-.043	.019	-.216	-2.247	.027	
	Age	.000	.001	-.046	-.443	.658	
	Size	.028	.012	.241	2.273	.025	
	Leverage	-.253	.084	-.305	-3.012	.003	
	Experience	.001	.002	.037	.389	.698	
	DUPMCentred	-.122	.063	-.189	-1.937	.056	

Table 4.18 shows that the interaction term DUPMCentred was significant at 0.056 revealing that Portfolio Manager acts as moderating variable between Unrelated

Diversification Strategy and ROE. DUCentred remained insignificant for all three models, however, Size and Leverage remained significant in 2nd and 3rd models with Size having significant positive and Leverage having significant negative effects on ROE. Further, correlation analysis showed that correlation between PM and ROE was actually significant (Pearson correlation = -0.180, sig. at 0.05 level) concluding that PM acts as a quasi moderator between DU and ROE.

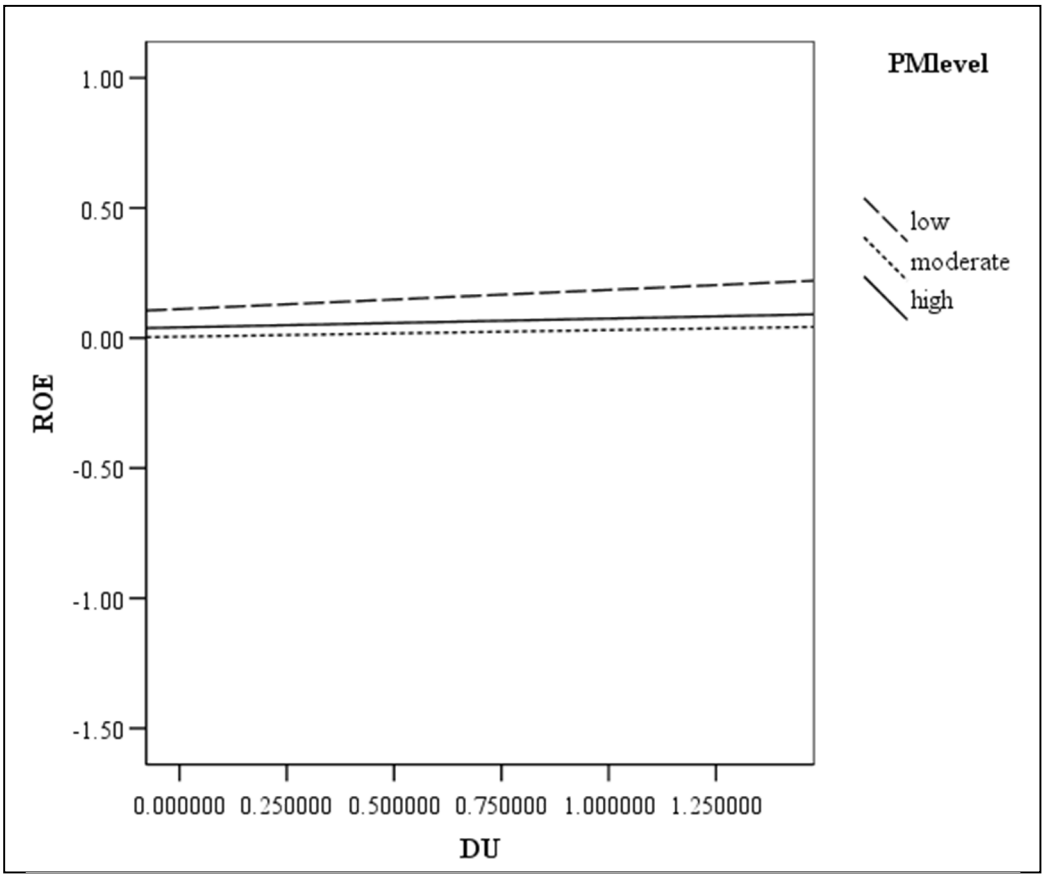

Figure 4.12
Graphs for DU and ROE with PMlevel

Figure 4.12 is presented for interpreting the nature of moderation effects. It shows that the effect of DU on ROE looks slightly positive for low and high levels of Portfolio Manager. However at low PMlevel, correlation between DU and ROE is 0.134 (R^2 = 0.018), whereas at high PMlevel, correlation between DU and ROE is 0.155 (R^2 = 0.024). Hence, this again confirms positive nature of moderation for Portfolio

Manager and concludes that at high level of Portfolio Manager Role, the effect of Unrelated Diversification Strategy on ROE is more positive.

4.8.3.3.3 Testing Moderator Effect of Portfolio Manager on the Relationship between Unrelated Diversification Strategy and Tobin's q (H2aiii3)

Table 4.19 showing the results of hierarchical multiple regressions conducted to test moderating effect of Portfolio Manager on the relationship between Unrelated Diversification Strategy and Tobin's q is presented on the next page. By referring to model statistics in the table, it is evident that model 1 was not significant, model 2 was significant at 0.011 and model 3 was also significant, although at 0.020.

It can be seen from the table that although model 3 (including all predictors along with interaction term for moderation) overall was significant, but the interaction term itself (DUPMCentred) was not significant (Sig. = 0.710). Hence, the F-Change was also not significant (Sig. = 0.710). This concludes that Portfolio Manager does not act as moderator between Unrelated Diversification Strategy and Tobin's q.

The coefficient for DUCentred variable was also not significant for any model. So it is also concluded that Unrelated Diversification has no significant effect on Tobin's q. Overall, model 3 being significant, explained around 10% variation in Tobin's q (Adj. R^2 = 0.091). Among control variables, Leverage was significant at 90% confidence levels in models 2 and 3 having significant positive impact on Tobin's q.

Table 4.19
Results of Multiple Regression Models for Testing Moderator Effect of Portfolio Manager on the Relationship between Unrelated Diversification Strategy and Tobin's q

Dependent Variable: Tobin's q

Model	Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Model Statistics
		B	Std. Error	Beta			
1	(Constant)	.949	.040		23.496	.000	F = 1.637 Sig. = 0.204 R^2 = 0.015 Adj. R^2 = 0.006 Sig. FΔ = 0.204
	DUCentred	-.151	.118	-.124	-1.279	.204	
2	(Constant)	-.088	.508		-.174	.863	F = 2.945 Sig. = 0.011 R^2 = 0.150 Adj. R^2 = 0.099 Sig. FΔ = 0.011
	DUCentred	-.164	.116	-.135	-1.410	.162	
	PMCentred	-.064	.040	-.151	-1.600	.113	
	Age	.002	.002	.107	1.038	.302	
	Size	.041	.026	.164	1.553	.124	
	Leverage	.332	.175	.187	1.899	.060	
	Experience	.000	.005	-.008	-.081	.936	
3	(Constant)	-.088	.510		-.172	.864	F = 2.522 Sig. = 0.020 R^2 = 0.151 Adj. R^2 = 0.091 Sig. FΔ = 0.710
	DUCentred	-.158	.118	-.130	-1.340	.183	
	PMCentred	-.061	.041	-.143	-1.486	.140	
	Age	.002	.002	.106	1.028	.306	
	Size	.040	.026	.162	1.531	.129	
	Leverage	.347	.180	.196	1.927	.057	
	Experience	.000	.005	-.007	-.078	.938	
	DUPMCentred	.051	.135	.037	.373	.710	

4.8.3.3.4 Testing Moderator Effect of Portfolio Manager on the Relationship between Unrelated Diversification Strategy and P/B Value (H2aiii4)

Table 4.20 shows the results of the hierarchical multiple regression models conducted to test hypothesis H2aiii4. By looking at the model statistics, it can be seen that although model 3 (including all predictors along with interaction term for moderation) overall was significant (Sig. = 0.002), but the interaction term (DUPMCentred) was not significant (Sig. = 0.242). Hence, the F-Change was also not significant. However, the coefficient for DUCentred variable remained significant for all models (with negative B coefficient). Hence, it is concluded here that although unrelated

diversification has a significant negative effect on P/B Value but Portfolio Manager does not act as moderating variable between unrelated diversification strategy and P/B Value. Model 3 explained around 15% of variation in P/B Value (Adj. R^2 = 0.144). Size also remained significant at 0.003 in models 2 and 3 with its significant positive impact on P/B Value.

Table 4.20
Results of Multiple Regression Models for Testing Moderator Effect of Portfolio Manager on the Relationship between Unrelated Diversification Strategy and P/B Value

Dependent Variable: P/B Value

Model	Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Model Statistics
		B	Std. Error	Beta			
1	(Constant)	.923	.068		13.637	.000	F = 4.341 Sig. = 0.040 R^2 = 0.040 Adj. R^2 = 0.031 Sig. FΔ = 0.040
	DUCentred	-.411	.197	-.199	-2.083	.040	
2	(Constant)	-1.922	.842		-2.283	.025	F = 3.887 Sig. = 0.002 R^2 = 0.189 Adj. R^2 = 0.140 Sig. FΔ = 0.004
	DUCentred	-.406	.192	-.197	-2.109	.037	
	PMCentred	-.089	.066	-.123	-1.334	.185	
	Age	.003	.004	.076	.755	.452	
	Size	.135	.044	.318	3.087	.003	
	Leverage	.007	.290	.002	.025	.980	
	Experience	.003	.008	.033	.354	.724	
3	(Constant)	-1.921	.840		-2.286	.024	F = 3.543 Sig. = 0.002 R^2 = 0.200 Adj. R^2 = 0.144 Sig. FΔ = 0.242
	DUCentred	-.375	.194	-.182	-1.932	.056	
	PMCentred	-.073	.068	-.101	-1.075	.285	
	Age	.003	.004	.074	.740	.461	
	Size	.133	.044	.314	3.047	.003	
	Leverage	.083	.296	.028	.280	.780	
	Experience	.003	.008	.033	.363	.717	
	DUPMCentred	.262	.223	.112	1.178	.242	

4.8.4 Testing Moderator Effects of Corporate Parenting Roles on the Relationship between Diversification Strategies and Subjective Corporate Performance (H2bi, H2bii, H2biii)

It is discussed before in the previous chapters that this study divided Corporate Performance variable into two dimensions – Objective (Financial) Corporate Performance and Subjective Corporate Performance. Findings of the tests regarding moderating role of Corporate Parenting Roles have been presented before for financial ratios (ROA, ROE, Tobin's q and P/B Value) which reflect objective component of Corporate Performance. This section will present test results for the moderating effect of Corporate Parenting Roles against Subjective Assessment of Corporate Performance (named in this study as Subjective Corporate Performance).

4.8.4.1 Testing Moderator Effect of Synergy Manager on the Relationship between Related Diversification Strategy and Subjective Corporate Performance (SCP) (H2bi)

The Table 4.21 showing the results of hierarchical regression models conducted to test moderating effect of SM on the relationship between DR and SCP is shown on the next page. The models' statistics show that model 1 was not significant (Sig. = 0.661) whereas model 2 and model 3 were significant at 0.000. Also, by looking at the 3rd model statistics, it is evident that the interaction term DRSMCentred was not significant in the third model (Sig. 0.285). DRCentred was also not significant in any of the models. This concludes that Synergy Manager does not act as moderating variable between Related Diversification Strategy and SCP. Also, Related Diversification Strategy has no significant effect on SCP. Model 3 explained around 37% variation in SCP attributed to all predictors.

Table 4.21
Results of Multiple Regression Models for Testing Moderator Effect of Synergy Manager on the Relationship between Related Diversification Strategy and SCP

Dependent Variable: SCP

Model	Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Model Statistics
		B	Std. Error	Beta			
1	(Constant)	4.702	.092		51.108	.000	F = 0.193 Sig. = 0.661 R^2 = 0.002 Adj. R^2 = -0.008 Sig. FΔ = 0.661
	DRCentred	.120	.274	.043	.439	.661	
2	(Constant)	-.093	1.025		-.091	.928	F = 11.329 Sig. = 0.000 R^2 = 0.405 Adj. R^2 = 0.369 Sig. FΔ = 0.000
	DRCentred	-.340	.235	-.121	-1.449	.150	
	SMCentred	.512	.090	.452	5.668	.000	
	Age	-.007	.004	-.137	-1.623	.108	
	Size	.253	.052	.449	4.825	.000	
	Leverage	-.766	.335	-.191	-2.288	.024	
	Experience	.019	.010	.156	1.966	.052	
3	(Constant)	-.217	1.031		-.211	.834	F = 9.892 Sig. = 0.000 R^2 = 0.412 Adj. R^2 = 0.370 Sig. FΔ = 0.285
	DRCentred	-.320	.235	-.114	-1.359	.177	
	SMCentred	.507	.090	.448	5.613	.000	
	Age	-.007	.004	-.141	-1.670	.098	
	Size	.260	.053	.461	4.921	.000	
	Leverage	-.764	.335	-.191	-2.283	.025	
	Experience	.019	.010	.157	1.977	.051	
	DRSMCentred	-.344	.319	-.084	-1.076	.285	

Another important finding of this analysis is that all control variables (Age, Size, Leverage, and Experience) were significant in model 3 as evident through their significance levels. Age and Leverage, however, had negative effect on SCP (B is negative for both) unlike Size and Experience which had positive effect on SCP (B is positive for both). Additionally, although DRSMCentred and DRCentred were insignificant, but SMCentred was significant at 0.000 (with positive B coefficient) indicating that it was a key predictor of SCP. Calculation of correlation between SM and SCP also revealed that they had positive relationship (0.486, sig. at 0.01 level). This reveals that indifferent of DR, when SM increases it leads to increase in SCP.

4.8.4.2 Testing Moderator Effect of Parental Developer on the Relationship between Related Diversification Strategy and Subjective Corporate Performance (SCP) (H2bii)

Results of hierarchical regression models conducted to test moderating effect of PD on the relationship between DR and SCP are presented in Table 4.22. The model statistics show that model 1 was not significant (Sig. = 0.661) whereas model 2 and model 3 were significant at 0.000. Moreover, by looking at the table, it is evident that the interaction term DRPDCentred was not significant in the third model (Sig. 0.645).

Table 4.22
Results of Multiple Regression Models for Testing Moderator Effect of Parental Developer on the Relationship between Related Diversification Strategy and SCP

Dependent Variable: SCP

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Model Statistics
		B	Std. Error	Beta			
1	(Constant)	4.702	.092		51.108	.000	F = 0.193 Sig. = 0.661 R^2 = 0.002 Adj. R^2 = -0.008 Sig. FΔ = 0.661
	DRCentred	.120	.274	.043	.439	.661	
2	(Constant)	.329	1.054		.312	.755	F = 10.663 Sig. = 0.000 R^2 = 0.390 Adj. R^2 = 0.354 Sig. FΔ = 0.000
	DRCentred	-.325	.238	-.116	-1.370	.174	
	PDCentred	.626	.116	.436	5.384	.000	
	Age	-.008	.004	-.161	-1.896	.061	
	Size	.229	.054	.406	4.251	.000	
	Leverage	-.527	.335	-.131	-1.572	.119	
	Experience	.018	.010	.148	1.833	.070	
3	(Constant)	.265	1.068		.249	.804	F = 9.099 Sig. = 0.000 R^2 = 0.391 Adj. R^2 = 0.348 Sig. FΔ = 0.645
	DRCentred	-.310	.241	-.111	-1.288	.201	
	PDCentred	.627	.117	.437	5.368	.000	
	Age	-.008	.004	-.159	-1.861	.066	
	Size	.232	.055	.412	4.258	.000	
	Leverage	-.531	.336	-.132	-1.577	.118	
	Experience	.017	.010	.145	1.789	.077	
	DRPDCentred	-.202	.437	-.038	-.463	.645	

DRCentred was also not significant in any of the models. This concludes that Parental Developer does not act as moderating variable between Related Diversification Strategy and SCP. Also, Related Diversification Strategy has no significant effect on SCP in consistent to the findings of the previous hypothesis. However, model 3 explained around 35% variation in SCP attributed to all predictors.

Apart from that, in models 2 and 3, Age, Size, and Experience were also significant as evident through their significance levels. In parallel to the findings of the previous hypothesis, Size and Experience had positive effect on SCP, whereas Age had negative effect on SCP. Additionally, although DRPDCentred and DRCentred were insignificant, but PDCentred was significant at 0.000 (with positive B coefficient) in models 2 and 3. Calculation of correlation between PD and SCP also revealed that they had positive relationship (0.530, sig. at 0.01 level). This concludes that indifferent of DR, when PD increases it leads to increase in SCP.

4.8.4.3 Testing Moderator Effect of Portfolio Manager on the Relationship between Unrelated Diversification Strategy and Subjective Corporate Performance (SCP) (H2biii)

The results of hierarchical regression models conducted to test moderating effect of PM on the relationship between DU and SCP are presented in Table 4.23. The models' statistics show that there was a continuous increase in the models' significance as it moved from model 1 to model 3. Model 3 is therefore significant at 0.000. Table 4.23 shows that in the third model, the interaction term DUPMCentred was also significant at 0.033 although DUCentred and PMCentred were not significant. F-Change for the third model is therefore also significant at 0.033 indicating significant change in R^2.

This reveals strong moderating effect of PM on the relationship between DU and SCP. DUCentred however, was not significant in any of the models revealing that alone Unrelated Diversification had no significant effect on SCP. The control variables (Age, Size, Leverage, and Experience) were also significant in the third model as evident through their significance levels. In parallel to the findings of previous hypothesis, Age and Leverage had negative, while Size and Experience had positive effects on SCP. Furthermore, correlation was examined between PM and SCP, which was not significant (Pearson correlation = 0.007, sig (2-tailed) = 0.937). This concludes that PM is a pure moderator between DU and SCP.

Table 4.23
Results of Multiple Regression Models for Testing Moderator Effect of Portfolio Manager on the Relationship between Unrelated Diversification Strategy and SCP

Dependent Variable: SCP

Model	Variables	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Model Statistics
		B	Std. Error	Beta			
1	(Constant)	4.703	.092		51.062	.000	F = 0.042 Sig. = 0.839 R^2 = 0.000 Adj. R^2 = -0.009 Sig. FΔ = 0.839
	DUCentred	-.055	.268	-.020	-.204	.839	
2	(Constant)	-.677	1.111		-.610	.543	F = 4.341 Sig. = 0.001 R^2 = 0.207 Adj. R^2 = 0.159 Sig. FΔ = 0.000
	DUCentred	.094	.254	.034	.369	.713	
	PMCentred	.065	.088	.068	.744	.459	
	Age	-.009	.005	-.167	-1.684	.095	
	Size	.275	.058	.487	4.775	.000	
	Leverage	-.501	.382	-.125	-1.311	.193	
	Experience	.024	.011	.204	2.244	.027	
3	(Constant)	-.682	1.091		-.625	.534	F = 4.530 Sig. = 0.000 R^2 = 0.243 Adj. R^2 = 0.189 Sig. FΔ = 0.033
	DUCentred	.019	.252	.007	.077	.939	
	PMCentred	.027	.088	.028	.310	.757	
	Age	-.009	.005	-.164	-1.686	.095	
	Size	.279	.057	.495	4.941	.000	
	Leverage	-.681	.385	-.170	-1.772	.079	
	Experience	.024	.011	.203	2.270	.025	
	DUPMCentred	-.627	.289	-.200	-2.167	.033	

In order to study the nature of moderation, graphs were drawn using scatter plots. Figure 4.13 shows different graphs for relationship between DU and SCP at different levels of PM. Interestingly, the figure shows that the nature of DU's effect on SCP changes by moving from low to high PMlevel. At low PMlevel, the effect is actually positive, whereas at high PMlevel, the effect is actually negative. Therefore, this analysis is revealing a negative nature of PM's moderation effect.

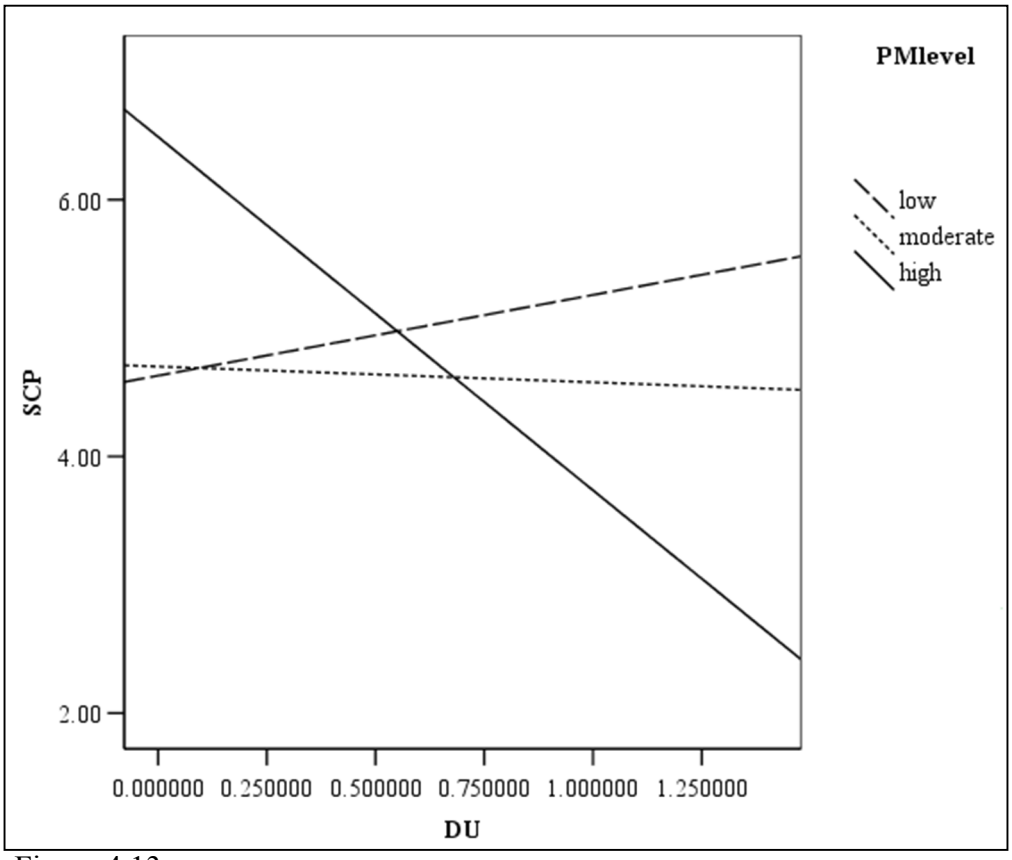

Figure 4.13
Graphs for DU and SCP with low/moderate/high PMlevel

As another check of nature of moderation, the graphs were redrawn using only two levels of PM (high and low) with same categorization levels as done for PDlevel. Figure 4.14 shows nature of relationship between DU and SCP at high and low levels of PM. It reveals that DU had almost similar sort of effect on SCP at low and high PMlevels and the correlation between DU and SCP for both levels was almost zero.

These graphs are indicating that SCP will remain quite unmoved if the extent of Unrelated Diversification and level of Portfolio Manager Role are increased at the same time. The discussion and justifications on all the MRA results is presented in Chapter 5.

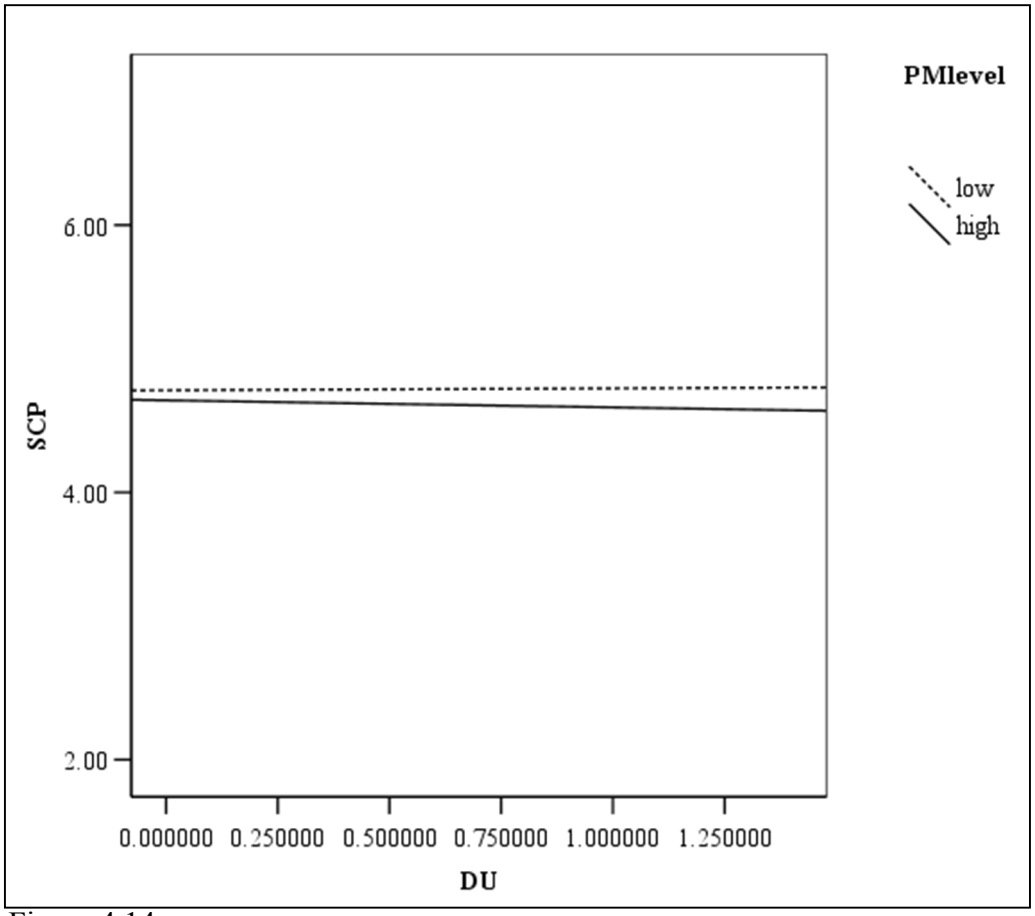

Figure 4.14
Graphs for DU and SCP with low/high PMlevel

4.8.5 Conclusion for Tests of Moderator Hypotheses

The previous sections presented the results of hierarchical regression analysis to examine the moderating effect of Corporate Parenting Roles on the relationship between Diversification Strategies and Corporate Performance. Additionally correlation analysis and graphs were presented to have a deep understanding of the findings.

About effect of Related Diversification Strategy on Performance, it is concluded that Related Diversification Strategy has a significant positive effect on market measures of performance (Tobin's q, P/B Value). Whereas, Unrelated Diversification Strategy has a significant negative effect on ROA (accounting measure of performance) and P/B Value (market measure of performance). These conclusions are widely accepted by the literature on the topic as it is discussed in detail in Chapter 5.

Regarding Synergy Manager Role, it is concluded that it acts as a positive moderating variable (pure moderator) between Related Diversification Strategy and market measures of performance (Tobin's q, P/B Value). Parental Developer Role acts as a positive moderating variable between Related Diversification Strategy and all financial ratios of performance (ROA, ROE, Tobin's q, and P/B Value). However, only for ROE it acts as a quasi moderator. Portfolio Manager Role acts as positive moderating variable between Unrelated Diversification Strategy and accounting measures of performance (ROA, ROE).

Additionally, Portfolio Manager Role acts as moderating variable between Unrelated Diversification Strategy and Subjective Corporate Performance. For ROE, Portfolio Manager also acts as a quasi moderator. Moreover, all three moderators have a positive influence on diversification strategies – performance relationships (except PM's moderating effect on DU – SCP relationship). This concludes that the effect of diversification strategies on performance becomes more positive or converts from negative to positive if the level of corporate parenting roles is increased.

The results obtained for moderator analysis are also supported by the previous research and literature on the topic. It is discussed in detail with adequate references from the past studies in Chapter 5. In order to have a collective look on the results of hypotheses tests, Table 4.28 presented after the next section, provides a summary of results.

4.8.6 Test of Significant Performance Differences among various Company Groups using t-tests

This section presents the results of t-tests conducted to compare different groups of companies on different indicators of performance. Initially, it presents t-test results of comparing Related Diversifiers against Unrelated Diversifiers on various performance dimensions. Later on, t-test results are presented for comparing Parental Developers against Synergy Managers within the category of Related Diversifiers.

4.8.6.1 Comparison of Related Diversifiers against Unrelated Diversifiers on Corporate Performance (H3ai to H3aiv, and H3b)

For this analysis, initially the companies were divided into two groups i.e. Dominant Related Diversifiers and Dominant Unrelated Diversifiers on the basis of three year average entropy scores. However, for ease of interpretations, Dominant Related Diversifiers are only termed as Related Diversifiers and Dominant Unrelated Diversifiers are termed as Unrelated Diversifiers. Independent samples t-tests was conducted for comparing the performance of these groups on each of the five dimensions of Corporate Performance.

Further, two tailed t-tests were required as evident through the hypotheses statements (H3ai to H3aiv, and H3b). The results of those t-tests are shown in the Table 4.25. Before looking at Table 4.25, let us have a look on Table 4.24, which shows the group statistics and presents the means and standard deviation of performance dimensions for each of the two groups.

Table 4.24
Group Statistics of Related Diversifiers and Unrelated Diversifiers for Corporate Performance Dimensions

Performance	Group	N	Mean	Std. Deviation	Std. Error Mean
ROA	DR	56	.0380	.06160	.00823
	DU	67	-.0021	.21591	.02638
ROE	DR	56	.0564	.16678	.02229
	DU	67	.0564	.24662	.03013
Tobin's q	DR	56	1.0559	.42450	.05673
	DU	67	.9046	.42861	.05236
P/B Value	DR	56	1.1354	.78826	.10534
	DU	67	.8194	.64885	.07927
SCP	DR	56	4.7282	.99875	.13346
	DU	67	4.7595	.92773	.11334

Table 4.24 shows that the group mean for DR (Related Diversifiers) is greater than the group mean for DU (Unrelated Diversifiers) on the following corporate performance dimensions as ROA, Tobin's q and P/B Value. Group mean for DU is slightly higher than that for DR on SCP, but surprisingly, the means for both the groups are exactly same on ROE. Now let us have a look on the Table 4.25, which reveals significant differences among the two groups on certain performance dimensions.

Table 4.25
Results of t-tests for Comparing Related Diversifiers against Unrelated Diversifiers on Corporate Performance

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	**Sig.**	**t**	**df**	**Sig. (2-tailed)**	**Mean Difference**	**Std. Error Difference**	**95% Confidence Interval of the Difference**	
									Lower	**Upper**
ROA	1	2.861	.093	1.345	121	.181	.04013	.02983	-.01894	.09919
	2			1.452	78.586	.150	.04013	.02763	-.01488	.09513
ROE	1	.490	.485	.000	121	1.000	.00001	.03876	-.07672	.07674
	2			.000	116.229	1.000	.00001	.03748	-.07421	.07424
Tobin's q	1	.087	.768	1.958	121	.053	.15127	.07727	-.00170	.30424
	2			1.959	117.543	.052	.15127	.07720	-.00162	.30415
P/BValue	1	1.787	.184	2.439	121	.016	.31595	.12957	.05944	.57246
	2			2.397	106.477	.018	.31595	.13183	.05460	.57731
SCP	1	.505	.479	-.180	121	.857	-.03136	.17394	-.37571	.31299
	2			-.179	113.669	.858	-.03136	.17510	-.37823	.31551

1 (Equal variances assumed)
2 (Equal variances not assumed)

Table 4.25 shows that Related Diversifiers (DR) and Unrelated Diversifiers (DU) were significantly different from each other on both market measures of performance i.e. Tobin's q (Sig. = 0.053) and P/B Value (Sig. = 0.016). By looking at Table 4.24 and Table 4.25, collectively, it is evident that Table 4.24 is indicating greater means of Tobin's q as well as P/B Value for DRs against DUs, and Table 4.25 is revealing significant performance differences between DRs and DUs on Tobin's q and P/B Value, therefore it could be suggested that Related Diversifiers performed better than Unrelated Diversifiers on market performance measures. In other way, had the hypotheses been 1-tailed (proposing superiority of DRs against DUs on performance measures), it would have been established that DRs performed better than DUs not

only on P/B Value (Sig. = 0.008, 0.016/2) and Tobin's q (Sig. = 0.0265, 0.053/2), but also on ROA (Sig. = 0.075, 0.150/2). These results are discussed in greater detail in the next chapter.

4.8.6.2 Comparison of Parental Developers against Synergy Managers on Corporate Performance (H3ci to H3civ, and H3d)

It has been argued before in Section 3.3 of this thesis that there is substantial theoretical support for the proposition that among diversified organisations which are predominately related diversifiers, parental developer is more suitable than synergy manager role for increasing corporate performance (Campbell, 2007; Goold & Campbell, 1998; Goold *et al.*, 1994a).

In order to test these hypotheses, two groups were made from Related Diversifiers (56 companies). One group comprised of those companies whose PD mean score was greater than SM mean score and they were termed as Dominant Parental Developers. The other group comprised of companies whose SM mean score was greater than PD mean score and they were termed as Dominant Synergy Managers. Three companies had similar score for both and so they were deleted from the analysis.

For ease of interpretation these companies are discussed as Parental Developers and Synergy Managers respectively. The process resulted in 19 Synergy Manager and 34 Parental Developer companies. T-tests were conducted to compare performance across two groups for various dimensions of Corporate Performance. Before looking at t-tests results, let us have a look on Table 4.26, showing the group statistics of means and standard deviations of various performance dimensions for both groups.

Table 4.26
Group Statistics of Synergy Managers and Parental Developers for Corporate Performance Dimensions

Performance	Group	N	Mean	Std. Deviation	Std. Error Mean
ROA	SM	19	.0226	.06838	.01569
	PD	34	.0506	.05499	.00943
ROE	SM	19	.0058	.24165	.05544
	PD	34	.0874	.10598	.01818
Tobin's q	SM	19	1.0932	.40535	.09299
	PD	34	1.0141	.41453	.07109
P/B Value	SM	19	1.2321	.77400	.17757
	PD	34	1.0729	.79060	.13559
SCP	SM	19	4.7018	1.17417	.26937
	PD	34	4.8235	.90644	.15545

The table reveals that Parental Developers have greater means for ROA, ROE and SCP compared to the corresponding means for Synergy Managers. On the other hand, Synergy Managers have greater means for market based measures i.e. Tobin's q and P/B Value compared to those of Parental Developers. T-tests results are shown in Table 4.27.

By default, SPSS provides t-test results for two-tailed tests. But, for this set of hypotheses, one-tailed t-tests were required as evident through the hypotheses statements (H3ci to H3civ, H3d). As the p-value of one-tailed t-test is half the value of two-tailed t-test, therefore, t-tests reveal that Parental Developers performed better than Synergy Managers on ROA (Sig. = 0.055 (0.110/2) as well as ROE (Sig. = 0.088(0.176/2). Whereas, significant performance differences were not found on Tobin's q, P/B Value and SCP. These results are also supported by the theoretical arguments as discussed in Chapter 5.

Table 4.27
Results of t-tests for Comparing Synergy Managers against Parental Developers on Corporate Performance

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
ROA	1	.403	.528	-1.625	51	.110	-.02796	.01720	-.06249	.00658
	2			-1.527	31.142	.137	-.02796	.01830	-.06528	.00937
ROE	1	5.502	.023	-1.705	51	.094	-.08156	.04782	-.17757	.01445
	2			-1.398	21.939	.176	-.08156	.05834	-.20257	.03945
Tobin's q	1	.012	.913	.671	51	.505	.07904	.11781	-.15748	.31556
	2			.675	38.090	.504	.07904	.11705	-.15791	.31599
P/BValue	1	.006	.940	.708	51	.482	.15916	.22479	-.29211	.61044
	2			.712	38.053	.481	.15916	.22341	-.29309	.61142
SCP	1	3.272	.076	-.421	51	.675	-.12178	.28903	-.70203	.45848
	2			-.392	30.161	.698	-.12178	.31101	-.75680	.51325

1 (Equal variances assumed)
2 (Equal variances not assumed)

4.8.6.3 Conclusion

This section of hypotheses testing was based on t-tests for comparing performance differences of Related Diversifiers against Unrelated Diversifiers as well as comparing performance differences of Parental Developers against Synergy Managers. Summarizing the conclusions, it can be said that relatedly diversified companies performed better as compared to unrelatedly diversified companies on Tobin's q and P/B Value.

An additional analysis of number of Portfolio Managers, Synergy Managers, and Parental Developers in each of Related Diversifiers and Unrelated Diversifiers revealed that, in Related Diversifiers, corporate parents in 34 PLCs were working as Parental Developers, whereas in 19 PLCs they were working as Synergy Managers. On the other hand, in Unrelated Diversifiers, corporate parents in 34 PLCs were working as Parental Developers, in 32 PLCs as Synergy Managers, and in one (1) PLC only, they were working as Portfolio Manager.

This analysis indicates a practical misfit regarding type of diversification strategy and corporate parenting role in unrelatedly diversified Malaysian PLCs. Had the number of Portfolio Managers in Unrelated Diversifiers greater than Synergy Managers and Parental Developers, Unrelated Diversifiers might have performed well or competed well against Related Diversifiers. The analysis in sections 4.8.3.3.1 and 4.8.3.3.4 showed that Unrelated Diversifiers had negative effect on ROA and P/B Value respectively. Also, t-tests' results in section 4.8.6.1 indicated that Related Diversifiers well doing better than Unrelated Diversifiers on certain performance measures. All these analyses indicate that corporate parenting roles do have a moderating effect on diversification – performance relationship.

About comparing Parental Developers against Synergy Managers, it is concluded that former ones performed better as compared to later ones on ROA as well as on ROE (accounting measure of performance). The results of both categories of tests go along with the theoretical literature on the topics. Discussion of these results in relation to past literature is done in Chapter 5.

4.8.7 Summary of Hypotheses Tests' Results

In order to get a collective understanding of results produced by this research, a summary of results for all the hypotheses tested in this research is presented in Table 4.28.

Table 4.28
Summary of Hypotheses Tests Results

No.	Hyp. Nos.	Statements of Hypotheses	Results
Hypotheses concerning Effect of Total Diversification on Corporate Performance			
1	H1a1	Extent of Product Diversification Strategy (DT) significantly affects ROA	Not Supported
2	H1a2	Extent of Product Diversification Strategy (DT) significantly affects ROE	Not Supported
3	H1a3	Extent of Product Diversification Strategy (DT) significantly affects Tobin's q	Not Supported
4	H1a4	Extent of Product Diversification Strategy (DT) significantly affects P/B Value	Not Supported
5	H1b	Extent of Product Diversification Strategy (DT) significantly affects SCP	Not Supported
Hypotheses concerning Effect of Related Diversification on Corporate Performance			
6	H1ai1	Extent of Related Diversification Strategy (DR) significantly affects ROA	Not Supported
7	H1ai2	Extent of Related Diversification Strategy (DR) significantly affects ROE	Not Supported
8	H1ai3	Extent of Related Diversification Strategy (DR) significantly affects Tobin's q	Supported
9	H1ai4	Extent of Related Diversification Strategy (DR) significantly affects P/B Value	Supported
10	H1bi	Extent of Related Diversification Strategy (DR) significantly affects SCP	Not Supported
Hypotheses concerning Effect of Unrelated Diversification on Corporate Performance			
11	H1aii1	Extent of Unrelated Diversification Strategy (DU) significantly affects ROA	Supported
12	H1aii2	Extent of Unrelated Diversification Strategy (DU) significantly affects ROE	Not Supported

Table 4.28 (Continued)

No.	Hyp. Nos.	Statements of Hypotheses	Results
13	H1aii3	Extent of Unrelated Diversification Strategy (DU) significantly affects Tobin's q	Not Supported
14	H1aii4	Extent of Unrelated Diversification Strategy (DU) significantly affects P/B Value	Supported
15	H1bii	Extent of Unrelated Diversification Strategy (DU) significantly affects SCP	Not Supported
Hypotheses concerning Moderating Effect of Synergy Manager and Parental Developer on the relationship between Related Diversification and Corporate Performance			
16	H2ai1	Synergy Manager role positively moderates the relationship between Related Diversification Strategy (DR) and ROA	Not Supported
17	H2ai2	Synergy Manager role positively moderates the relationship between Related Diversification Strategy (DR) and ROE	Not Supported
18	H2ai3	Synergy Manager role positively moderates the relationship between Related Diversification Strategy (DR) and Tobin's q	Supported (Pure Moderator)
19	H2ai4	Synergy Manager role positively moderates the relationship between Related Diversification Strategy (DR) and P/B Value	Supported (Pure Moderator)
20	H2bi	Synergy Manager role positively moderates the relationship between Related Diversification Strategy (DR) and Subjective Corporate Performance (SCP)	Not Supported
21	H2aii1	Parental Developer role positively moderates the relationship between Related Diversification Strategy (DR) and ROA	Supported (Pure Moderator)
22	H2aii2	Parental Developer role positively moderates the relationship between Related Diversification Strategy (DR) and ROE	Supported (Quasi Moderator)
23	H2aii3	Parental Developer role positively moderates the relationship between Related Diversification Strategy (DR) and Tobin's q	Supported (Pure Moderator)
24	H2aii4	Parental Developer role positively moderates the relationship between Related Diversification Strategy (DR) and P/B Value	Supported (Pure Moderator)

Table 4.28 (Continued)

No.	Hyp. Nos.	Statements of Hypotheses	Results
25	H2bii	Parental Developer role positively moderates the relationship between Related Diversification Strategy (DR) and Subjective Corporate Performance (SCP)	Not Supported
Hypotheses concerning Moderating Effect of Portfolio Manager on relationship between Unrelated Diversification and Corporate Performance			
26	H2aiii1	Portfolio Manager role positively moderates the relationship between Unrelated Diversification Strategy (DU) and ROA	Supported (Pure Moderator)
27	H2aiii2	Portfolio Manager role positively moderates the relationship between Unrelated Diversification Strategy (DU) and ROE	Supported (Quasi Moderator)
28	H2aiii3	Portfolio Manager role positively moderates the relationship between Unrelated Diversification Strategy (DU) and Tobin's q	Not Supported
29	H2aiii4	Portfolio Manager role positively moderates the relationship between Unrelated Diversification Strategy (DU) and P/B Value	Not Supported
30	H2biii	Portfolio Manager role positively moderates the relationship between Unrelated Diversification Strategy (DU) and Subjective Corporate Performance (SCP)	Partially Supported (Pure Moderator)
Hypotheses concerning significant performance differences between predominantly Related and Unrelated Diversifiers			
31	H3ai	There is a significant difference between predominantly Related Diversifiers and predominantly Unrelated Diversifiers on ROA	Not Supported
32	H3aii	There is a significant difference between predominantly Related Diversifiers and predominantly Unrelated Diversifiers on ROE	Not Supported
33	H3aiii	There is a significant difference between predominantly Related Diversifiers and predominantly Unrelated Diversifiers on Tobin's q	Supported

Table 4.28 (Continued)

No.	Hyp. Nos.	Statements of Hypotheses	Results
34	H3aiv	There is a significant difference between predominantly Related Diversifiers and predominantly Unrelated Diversifiers on P/B Value	Supported
35	H3b	There is a significant difference between predominantly Related Diversifiers and predominantly Unrelated Diversifiers on SCP	Not Supported
Hypotheses concerning superiority of Dominant Parental Developers against Dominant Synergy Managers regarding their Corporate Performance			
36	H3ci	Among Related Diversifiers, Dominant Parental Developers outperform Dominant Synergy Managers on ROA	Supported
37	H3cii	Among Related Diversifiers, Dominant Parental Developers outperform Dominant Synergy Managers on ROE	Supported
38	H3ciii	Among Related Diversifiers, Dominant Parental Developers outperform Dominant Synergy Managers on Tobin's q	Not Supported
39	H3civ	Among Related Diversifiers, Dominant Parental Developers outperform Dominant Synergy Managers on P/B Value	Not Supported
40	H3d	Among Related Diversifiers, Dominant Parental Developers outperform Dominant Synergy Managers on SCP	Not Supported

4.9 Chapter Summary

This chapter started by discussing sampling and respondent companies. It then proceeded towards explaining data cleaning and data screening along with techniques and methods for data analysis. Then, it discussed the methods of ensuring validity and reliability of the questionnaire. After that, findings and results were presented in a comprehensive manner for various hypotheses tests including tests of moderator hypotheses and t-tests for comparing performance of different groups of companies. Finally, it presented a summary table for all hypotheses tests' results in order to get an overall view of the findings.

CHAPTER FIVE

DISCUSSIONS, IMPLICATIONS AND RECOMMENDATIONS

5.1 Introduction

This chapter makes discussions on the findings and results obtained in the previous Chapter. Section 5.3 makes comprehensive discussions on the findings of various hypotheses including justifications from past studies and relevant theories. This is followed by Section 5.6 which presents theoretical and practical implications of the study. Then, the chapter proceeds towards discussing limitations of the study in another section and finally in Section 5.8, recommendations are presented for the future research.

5.2 Overview of Study

This study aimed to examine the effect of diversification strategy and its types; related and unrelated diversification strategies on corporate performance. Specifically, the objective of the study was to make a genuine contribution to the relevant theories and concerned literature by studying the moderating effect of corporate parenting roles (Synergy Manager, Parental Developer and Portfolio Manager) on the relationship between diversification strategies and various dimensions of corporate performance. Corporate performance was divided into five dimensions, with four dimensions – ROA, ROE, Tobin's q and P/B Value – making up objective aspect of performance and the fifth one was SCP (Subjective Corporate Performance). Synergy Manager and Parental Developer were tested and proved to be moderators between Related

Diversification Strategy and certain performance dimensions. Whereas, Portfolio Manager was tested and proved as a moderator between Unrelated Diversification Strategy and certain performance dimensions.

This study was conducted on PLCs listed on the Main Market of Bursa Malaysia and top/corporate level managers concerned with strategic and corporate planning were the respondents. Mail questionnaires were sent to 563 respondents initially as well as the questionnaires were sent through emails several times as a follow up. 136 respondents replied the questionnaires making a response rate of 24.15%. Before sending, the questionnaire was tested for reliability and validity in a pilot study. But it was tested again from all aspects after final data collection.

Final analyses revealed that the questionnaire was reliable and valid. Secondary data was obtained from company annual reports and Datastream. After collection of data, SPSS was used for analysing the data for different hypotheses. This chapter makes discussions on the results obtained in Chapter 4, besides pointing towards theoretical and practical implications of the study, limitations and future research recommendations.

5.3 Discussions on the Findings of Hypotheses Tests

As stated before, this chapter is mainly devoted to discussions on the results of hypotheses tests and on certain other important statistics. It has been mentioned earlier that the analyses was conducted using certain descriptive statistics, correlation analysis, scatter plots and graphs, simple linear regression and mainly relying on

moderated regression analysis (MRA) which is based on hierarchical regression analysis so as to test the moderating effect of three Corporate Parenting Roles on the relationship between Diversification Strategies and dimensions of Performance.

The discussion is made on each hypothesis by relating it to the findings of the previous studies in the field, to underpinning theories of the concerned variables, and through adding justifications and reasons for each of the findings. Theoretical and managerial implications are also identified along the way wherever possible. However, a separate discussion about theoretical and managerial implications is available in Section 5.6 of this chapter.

5.3.1 Discussions on Hypothesis Findings: Test of Effect of Product Diversification Strategy on Corporate Performance (H1a1 to H1a4, and H1b)

A simple linear regression model was run to test any significant effect of extent of Product Diversification Strategy (that is, Total Diversification DT) on five dimensions of Corporate Performance (ROA, ROE, Tobin's q, P/B Value, and SCP) one by one. Results of all the hypotheses tests revealed that there was no significant effect of DT on any of those five dimensions. These results are consistent with Marinelli (2011), Montgomery (1985), Chang and Thomas (1989), Lloyd and Jahera Jr. (1994), and Çolak (2010) who also revealed insignificant diversification effects on corporate performance.

Research by Marinelli (2011) that was spread across 8 years of study was more recent in this regard and it also relied on market as well as accounting measure of performance, and revealed that diversification was not a cause of performance, rather

diversification – performance relationship was attributable to certain other factors. Particularly, as financial ratios are most commonly used criterion variables in product-diversification performance research, therefore, there is substantial support for insignificant impact of diversification on accounting measures (Chang & Thomas, 1989; Montgomery, 1985) as well as market measures of performance (Çolak, 2010; Lloyd & Jahera Jr., 1994).

Çolak (2010) suggested that effect of varying levels of diversification on performance was not a significant systematic phenomenon and that there could be certain other crucial reasons along with diversification, such as poor performance, deficiency of innovation, and external economic conditions, which could explain company performance. Similarly certain other authors also supported the idea that diversification alone could not significantly depict performance unless it was coupled with certain other factors of supreme importance like corporate parenting (Nippa *et al.*, 2011), managerial styles, management systems, organisational structures (Christensen & Montgomery, 1981), and internal organisational arrangements (Hill *et al.*, 1992).

One of the other reasons for insignificant effect of diversification on performance could also be attributed to the fact that in examining product diversification overall, the total entropy score of product diversification (DT) was used. Whereas, this DT score is a combination of DR score and DU score which are the scores for Related Diversification Strategy and Unrelated Diversification Strategy respectively. So, a significant effect of DT on Corporate Performance dimensions could not be found as DT was sum of DR and DU scores. Afterwards, when the total DT score was further

divided into DR and DU scores for each company, then the subsequent hypotheses involving DR and DU scores gained significant support for certain performance dimensions.

This is in agreement with Park (2010) because the effect of product diversification strategy on corporate performance could not be correctly observed unless performance is examined against related diversification and unrelated diversification strategies separately. Hence, on the basis of these arguments and findings from previous studies, the insignificant effect of product diversification strategy on various dimensions of corporate performance could be justified.

There are significant implications of this finding, that the managers in general and Malaysian managers in particular must be cautious about the effects of diversification strategy. Effect of diversification strategy must not be confounded with the relative effect of related and unrelated diversification strategies as the two types might have different effects on performance. This is also proved through the findings of subsequent hypotheses in this study and discussion is made in the later sections. Further, the managers must also bear in mind that related or unrelated diversification strategies might also not affect performance in the desired way, unless they are coupled with suitable corporate parenting roles.

5.3.2 Discussions on Hypothesis Findings: Test of Effect of Related Diversification Strategy on Corporate Performance (H1ai1 to H1ai4, and H1bi)

Various regression models were run to examine the effect of Related Diversification Strategy on the five dimensions of Corporate Performance. To do that, in hierarchical

regression analysis comprising of 3 models, DRCentred variable was included as predictor in all three models. This revealed a significant positive effect of DRCentred variable on market measures of corporate performance (Tobin's q, P/B Value). Hence, this resulted in a conclusion that as the extent of Related Diversification Strategy increases, it leads to increase in Tobin's q as well as P/B Value.

These findings have a substantial support from the previous research literature. A number of past scholars came up with similar conclusions that related diversification strategy led to increase in market based company performance (Elsas *et al.*, 2010, Galván *et al.*, 2007; Miller, 2006; Mishra & Akbar, 2007a; Palich *et al.*, 2000). Study of Elsas *et al.* (2010) was more recent in this regard which relied on Market/Book Value as dependent variable and came with similar conclusion. Study of Mishra and Akbar (2007a) also provides support for this finding as it relied on Tobin's q as well for dependent variable. Moreover, the findings also get support from study by Miller (2006) which also used market based measure – log of Market Value, and from study of Galván *et al.* (2007) that also relied on market based measure of performance (firm value, excess value).

Most importantly, the findings gain support from a rich study conducted by Palich *et al.* (2000) which was spread across three decades of research on the subject and utilised meta-analytic data from fifty five past studies. Their study concluded that related diversification added positively to firm performance as compared to either limited or unrelated diversification.

The findings of these hypotheses also gain support from underpinning theories of diversification discussed in Chapter 2. The findings confirm RBV arguments that related diversification could lead to increased company performance perhaps due to the benefits available in form of synergy creation through sharing of related resources between businesses (Gupta *et al.*, 2007; Morden, 2007). Such types of benefits are usually not available to single business organisations or to conglomerates (Galván *et al.*, 2007; Rumelt, 1974, 1982).

So, related diversification adds positively to company performance as there could be opportunities to create operational synergies and economies of scale benefits (Gupta *et al.*, 2007; Haberberg & Rieple, 2001; Hitt *et al.*, 2011; Hoskisson *et al.*, 2009), while at the same time gaining increased market power and internal governance benefits (Martin & Eisenhardt, 2001; Montgomery, 1994; Yaghoubi *et al.*, 2011).

The findings also gain support from market power view as the view argues that related diversification strategy can provide multiple performance advantages as related diversifiers gain increased market power through backward and forward integration (David, 2011; Hitt *et al.*, 2011). Whereas, such benefits may not be available to single business companies and unrelated diversifiers. The findings also support internal market advantages as it argues that related diversification strategy results in better corporate performance as it is easier to shift common inputs and resources such as material, information and personnel across a portfolio of related businesses as against unrelated ones (Hall, 1995; Martin & Eisenhardt, 2001; Teece, 1982).

Additionally, the findings support the phenomenal interaction between TCE (Transaction Cost Economics) and RBV as TCE argues that benefits of diversification are exploitable in emerging economies like Malaysia (Claessens *et al.*, 1998; Fan *et al.*, 2008), in particular to group affiliated organisations in such economies (Carney *et al.*, 2011; Zhao, 2010) coupled with the RBV arguments supporting related diversification strategy for providing economies of scale, governance and other synergy benefits (Hitt *et al.*, 2011; Yaghoubi *et al*., 2011).

However, significant effect of related diversification strategy on accounting measures of performance could not be established. This is consistent with findings of Marinelli (2011) and also gains partial support from study of Chang and Thomas (1989) and Montgomery (1985) as the latter two studies found insignificant diversification effects on performance.

On the basis of the arguments and justifications provided above, it can be concluded that related diversification strategy positively affects market measures of corporate performance. The findings provide guideline to the managers in selection of their diversification strategy and recommend company expansion into related industries and sectors due to increased advantages provided by related diversification strategy.

5.3.3 Discussions on Hypothesis Findings: Test of Effect of Unrelated Diversification Strategy on Corporate Performance (H1aii1 to H1aii4, and H1bii)

In order to examine the effect of Unrelated Diversification Strategy on the five dimensions of Corporate Performance, various regression models were run. In hierarchical regression analysis (with 3 models), DUCentred variable was included as

predictor. This revealed a significant negative effect of DUCentred variable on ROA and P/B Value, where ROA is accounting and P/B Value is market measure of corporate performance. This resulted in conclusion that unrelated diversification strategy negatively affected accounting as well as market performance and as the extent of unrelated diversification strategy increases, it leads to decrease in ROA as well as P/B Value.

There exists considerable support from the previous research literature for these findings. A number of past scholars came up with similar conclusions that unrelated diversification strategy led to decreased company performance (Hoechle *et al.*, 2012; Palich *et al.*, 2000; Ravichandran *et al.*, 2009). Hoechle *et al.* (2012) conducted a recent study on this topic with nearly 4000 companies and reported that diversification discount (in terms of reduced market value) was significant among unrelated companies and remained significant even after controlling for certain governance factors. The findings of this thesis are also consistent with the findings of Schmid and Walter (2008) and Villalonga (2004) who reported negative effects of conglomerate diversification on firm's market performance.

Also, in parallel to the findings of this research, study of Hill and Hansen (1991) also reported negative effect of unrelated diversification on a similar ratio, market/book value. The results hereby also confirm the findings of Ravichandran *et al.* (2009) who found a significant negative correlation between unrelated diversification and accounting as well as market measures of performance. The findings are also in line with study of Berger and Ofek (1995) who found negative effect of unrelated

diversification on return on assets and excess value, concluding that it negatively affected accounting as well as market performance of companies.

Additionally, the findings also correlate with those of Mishra and Akbar (2007a) who revealed that unrelated diversification was not a powerful strategy among Indian companies to significantly affect corporate performance. Lastly, the findings of this study gain powerful support from the study of Palich *et al.* (2000) which among all was a dominant study concerning the effects of various diversification strategies on performance. It concluded that unlike related diversification strategy, focused strategy (single business) and unrelated diversification strategy had unfavourable effects on corporate performance.

Unrelated diversification strategy has been majorly considered as less useful and inferior to related diversification strategy (Palich *et al.*, 2000; Rumelt, 1974). There is an extensive literature on the negative impacts of unrelated diversification for financial as well as non-financial companies (Berger & Ofek, 1995; Schmid & Walter, 2008; Villalonga, 2004). It is discussed before in context of RBV that related diversifiers gain benefits from synergy advantages not commonly available to unrelated ones (Abdullah, 2009; Grant *et al.*, 2011) and that could be primary reason behind this phenomenon.

Unrelated diversification might not be able to positively affect performance because of the absence of any economies of scope and at the same time, existence of greater administrative burden due to dissimilar businesses (Asrarhaghighi *et al.*, 2013; Tallman & Li, 1996; Yaghoubi *et al.*, 2011). Hence, the findings support the

proposition that due to absence of operating synergies or economies of scope benefits in unrelated diversification strategy, it may cause a reduction in corporate performance (De, 1992; Tallman & Li, 1996).

These findings, while revealing the negative effect of unrelated diversification on corporate performance also point towards the validity of agency theory (Hitt *et al.*, 2011; Hoechle *et al.*, 2012), whose arguments elaborate that at times, managers might not be making diversification decisions in company's interest, rather it could be a motivation to pursue their personal interests only (Amihud & Lev, 1981; Lane *et al.*, 1998). Although unrelated diversifiers could also gain from internal capital market advantages by transferring cash and certain common usable resources across diverse range of businesses, but at times, governance and transaction costs could be greater in them due to problems in knowledge sharing, gaining cooperation among businesses and implementing control mechanisms (Abdullah, 2009; Busija, *et al.*, 1997). Hence, if agency problems are dominant, they might overshadow those internal market advantages resulting in a net loss for unrelated diversification.

The negative effects of unrelated diversification might be because the managers could not be able to effectively control diverse businesses due to their limited expertise and knowledge about them or because unrelated businesses might have different business cultures and conflicting operational styles (Galván *et al.*, 2007). As managers' knowledge and corporate management style could really matter in managing unrelated business portfolio (Johnson *et al.*, 2008), therefore, this study examined the effect of Portfolio Manager between Unrelated Diversification Strategy and Performance and concludes that the negative effect of this strategy on at least objective financial

performance (ROA, P/B Value) is countered when corporate parents act as Portfolio Managers. This is discussed in greater detail in a later section.

On the basis of above discussion, it can be concluded that unrelated diversification strategy is not a useful strategy for companies and particularly, it has a significant negative effect on ROA and P/B Value. Additionally, the strategy carries no significant effects on ROE, Tobin's q and overall subjective corporate performance partly confirming the findings of Lloyd and Jahera Jr. (1994). Just like the findings of previous hypotheses, these findings also advise managers to be careful in selection of their type of diversification strategy and recommend company expansion into related industries and sectors instead of unrelated ones.

Moreover, it is discussed through Section 5.3.6 that if a company chooses to be on unrelated diversification route, it must have corporate leadership playing the role of Portfolio Manager, as this role coupled with unrelated diversification would help companies better manage corporate performance in terms of ROA and P/B Value.

The next sections will discuss the results obtained through testing moderator hypotheses and will provide justifications and arguments in support of those findings. Discussions and justifications are initially provided for the role of Synergy Manager followed by Parental Developer and Portfolio Manager. Practical implications of the findings are also presented along with this information.

5.3.4 Discussions on Hypothesis Findings: Test of Synergy Manager as Moderator between Related Diversification Strategy and Corporate Performance (H2ai1 to H2ai4, and H2bi)

A series of hierarchical regression models were run to test the moderating influence of Synergy Manager on the relationship between Related Diversification Strategy and various aspects of Corporate Performance. Hierarchical regression analysis including 3 models (as discussed in Chapter 4) was run for every aspect of Corporate Performance individually. As there were five dimensions of Corporate Performance, therefore, five hierarchical regression models (each including 3 models) were run.

This included testing hypotheses H2ai1 to H2ai4, and H2bi. Of these five hypotheses, two gained significant support (H2ai3 and H2ai4) which conclude that Synergy Manager positively moderates the relationship between Related Diversification Strategy and Tobin's q as well as P/B Value (market measures of performance). As the framework of this study is unique, therefore exact justification of these findings could not be found anywhere. However, there is a substantial support of these findings from various perspectives and suggestions made by various scholars pertinent to the field.

It has been discussed in the previous sections that companies pursue related diversification strategy with the objective of improving performance through realization of synergies such as economies of scope and mutual sharing of related resources across related businesses (Hitt *et al.*, 2011; Hoskisson *et al.*, 2009). The findings of this research strongly affirm the proposition that related diversification strategy boosts up corporate performance when it is coupled with sincere efforts from the top management for realization of synergies through mutual cooperation among

related businesses (Gottschalg & Meier, 2005; Oijen & Douma, 2000). Synergy creation in related businesses can also be achieved through increased market power and internal governance benefits (Abdullah, 2009; Dess *et al.*, 2011; Haberberg & Rieple, 2001).

The findings are in line with arguments of internal market advantages as they suggest that related diversification strategy results in enhanced corporate performance if it is combined with the top management efforts to create an efficient and effective internal market which could facilitate shifting and sharing of common resources such as inputs, material, logistics, information and personnel across a group of related businesses (Hall, 1995; Martin & Eisenhardt, 2001; Teece, 1982).

Moreover, the findings support the connection between corporate parent value addition and dynamic capabilities perspective (Bowman & Ambrosini, 2003; Sohl, 2011) as Hitt and Ireland (1986), and Sohl (2011) suggest that success of a diversified organisation depends on existence of corporate level competences and capabilities. The success of a related or unrelated organisation is contingent upon a parenting strategy to add value to businesses (Bowman & Ambrosini, 2003; Kruehler *et al.*, 2012). The findings also support the argument that there must be a match between degree of product diversification strategy and corporate parents' capabilities to add value (Johnson *et al.*, 2005, 2008; Oijen & Douma, 2000; Porter, 1987).

The characteristics of Synergy Manager Role as described by Johnson *et al.* (2005) are already presented in Chapter 2 in Table 2.3. A brief conceptualization of those characteristics could be derived as; corporate management style where main objective

of corporate managers is the achievement of synergistic benefits by identifying basis and implementing programmes for sharing and transfer of skills, resources and competences across businesses. Therefore, Synergy Managers aim to keep collaborative SBUs, the corporate staff works as 'Integrators' and corporate managers overcome SBUs resistances in mutual collaboration (Johnson *et al.*, 2005, 2008).

It looks from this conceptualization that purpose of Synergy Managers is achievement of operational synergies through mutual sharing and cooperation. Now, unlike unrelated diversification, where purpose of corporate managers could be achievement of financial synergies (Gottschalg & Meier, 2005; Hoskisson *et al.*, 2009), in related diversification the purpose is to create operational synergies through economies of scope which require certain degree of relatedness and cooperation among the businesses (Gottschalg & Meier, 2005; Oijen & Douma, 2000). This infers that performance of related diversifiers would depend very much upon the level of synergy creation effort put by the corporate managers.

Due to this primary reason, Synergy Manager was proposed to positively moderate relationship between Related Diversification Strategy and Corporate Performance, which is supported by the findings of this study. Hence, the findings gain support from the propositions of Porter (1987) and Johnson *et al.* (2005, 2008) that related diversification strategy could add to corporate performance if it is supported by synergy creation efforts or synergy manager role by the corporate managers.

As discussed earlier, the correlation analyses were also conducted to test for pure/quasi moderator effects (Sarina, 2010; Sharma *et al.*, 1981; Zahra, 1996). These

tests revealed that Synergy Manager played as pure moderator between Related Diversification Strategy and Tobin's q as well as for P/B Value. Additionally, graphs revealed positive nature of this role as a moderator. This evidence is strong support for pure moderating effect of Synergy Manager as it concludes that Synergy Manager has no direct effect on Tobin's' q and P/B Value, but the interaction between Synergy Manager and Related Diversification Strategy has strong effect on both dimensions of performance. The evidences conclude that increasing level of related diversification leads to increased market performance if combined with increasing levels of synergy manager role. This supports the arguments from various scholars discussed above.

Furthermore, the justifications of this set of hypotheses gain more weight as the supported hypotheses contain market measures of performance as dependent variables, and the significant moderator effect of Synergy Manager is proved to be on market measures of performance. Now, at times, market measures of performance could provide a better reflection of corporate performance as compared to accounting ratios (Chakravarthi, 1986; Santos & Brito, 2012).

The validity of the findings increase due to the fact that in particular, Tobin's q has been considered as most widely accepted and frequently used measure of corporate performance (Kahloul & Hallara, 2010; Ravichandran *et al.*, 2009). Certain studies, in fact, relied exclusively on Tobin's q as measure of corporate performance (Chari *et al.*, 2008; Gomes & Livdan, 2004; Guo & Cao, 2011; Lang & Stulz, 1994). Similarly, P/B Value is another powerful market measure of performance which is based on continuous market data released on daily basis (Berk *et al.*, 2009; Hoechle *et al.*, 2012).

In conclusion, the findings support theories like RBV, internal capital market, and particularly dynamic capabilities perspective in that the match of corporate level capabilities (including capabilities to create cross business synergies) and the degree of product diversification is essential to add positively to corporate performance (Johnson *et al.*, 2005, 2008; Oijen & Douma, 2000; Porter, 1987).

Additionally, the findings also support contingency theory (Dobák & Antal, 2010; Matyusz, 2012) and suggest that different management styles are appropriate for different types of diversification strategies. Particularly, the results conclude that Corporate Parenting Role is a contingency factor and for Related Diversification Strategy, Synergy Manager Role is suitable.

Hence, the findings add to the literature on product diversification, corporate parenting, and corporate performance, as well as to underlying theories. They provide guidelines to the managers in selection of appropriate corporate parenting role given the type of diversification strategy. Specifically, the findings suggest that while pursuing related diversification strategy, corporate managers must adopt the role of synergy managers in their companies. More is discussed about this role in comparison to parental developer role in the subsequent sections.

5.3.5 Discussions on Hypothesis Findings: Test of Parental Developer as Moderator between Related Diversification Strategy and Corporate Performance (H2aii1 to H2aii4, and H2bii)

For this set of hypotheses, a similar procedure as before, was adopted to test the moderating effect of Parental Developer on the relationship between Related Diversification Strategy and Corporate Performance dimensions. Five hypotheses:

H2aii1 to H2aii4, and H2bii were tested for five performance dimensions. Of these five hypotheses, four gained significant support (H2aii1, H2aii2, H2aii3, and H2aii4). This concluded that Parental Developer positively moderated the relationship between Related Diversification Strategy and all dimensions of Financial Corporate Performance (i.e. ROA, ROE, Tobin's q, and P/B Value respectively). Again, due to uniqueness of study's framework, similar finding is not available from any past studies. However, there is a whole lot of support from various perspectives and suggestions made by different scholars pertinent to the field.

The findings of these hypotheses have substantial support from different perspectives. Particularly, the findings are in line with and acquire full support from well-known authors of the field; Goold *et al.* (1994b) and Johnson *et al.* (2005, 2008) who suggested that corporate managers playing parental developer role or a similar role are suitable for related diversification strategy. Logically, in related diversification, competences across business units could be highly linked because businesses could have similar value chains, and they also usually face similar resource requirements in terms of inputs, machinery, information and human resources (Harrison & John, 2010; Lahovnik, 2011; Thompson *et al.*, 2012).

On the other hand, as an effective parental developer, corporate managers understand the critical success factors of businesses well, and the businesses also provide them opportunities for value addition (Campbell, 2007; Goold *et al.*, 1994a; Johnson *et al.*, 2005, 2008). They need to continuously possess that knowledge, skills, resources and competences with which they could add value to related businesses (Alexander *et al.*, 1994; Campbell, 2007). Naturally, this seems to be more possible when the portfolio

of businesses is operating in related markets or sectors and the businesses also share common internal characteristics. Therefore, a role like parental developer was suggested to be a moderator for related diversification strategy by past scholars (Goold *et al.*, 1994b; Johnson *et al.*, 2005, 2008) and the findings of this study have proved the proposition.

The findings also support the general proposition that the match between corporate managers' skills, resources, competences and nature or direction of product diversification strategy is extremely important for the purpose of improving corporate performance (Alexander *et al.*, 1994; Campbell, 2007; Kruehler *et al.*, 2012). If their skills and knowledge do not match the type of diversification, then the diversification programme might fail (Goold *et al.*, 1998; Kruehler *et al.*, 2012).

In fact, certain scholars have explicitly argued that success of a diversified organisation depends upon availability and match of corporate level competences and capabilities with the needs of businesses (Hitt & Ireland, 1986; Sohl, 2011). Others argue that there should be a match between extent of product diversification strategy and corporate parents' capabilities to add value (Johnson *et al.*, 2005, 2008; Oijen & Douma, 2000; Porter, 1987).

In this sense, the findings also support the connection between dynamic capabilities perspective and corporate parent value addition. It is because DCP suggests that managers need to develop business related expertise and continuously improve and update them as the requirements of businesses change (Bowman & Ambrosini, 2003; Sohl, 2011). Hence, the findings herewith attempt to extend and improve dynamic

capabilities perspective with reference to corporate strategy and corporate parent value addition.

As it was discussed in Chapter 4, the analysis was also conducted to test whether each moderator acted as a pure or a quasi moderator using correlation analysis and simple linear regression models (Sarina, 2010; Sharma *et al.*, 1981; Zahra, 1996). These tests revealed that Parental Developer acted as pure moderator between Related Diversification Strategy and three dimensions of Financial Corporate Performance i.e. ROA, Tobin's q, and P/B Value. Whereas, it acted as quasi moderator between Related Diversification Strategy and ROE. Hence, overall, there is more support for pure moderator effect of Parental Developer on the relationship.

Additionally, the positive nature of this role was also found using scatter plot graphs, which was a powerful evidence for the positive nature of this moderator. Hence, the findings would conclude that the interaction between Related Diversification Strategy and Parental Developer would lead to increased performance with the condition that the level of Parental Developer also goes on increasing with increasing level of Related Diversification Strategy. This conclusion is in line with the arguments from various researchers discussed above.

Summarising the discussion, it is said that the findings support dynamic capabilities perspective concerning the match of corporate managers' capabilities and roles to the nature of product diversification strategy (Bowman & Ambrosini, 2003; Sohl, 2011; Teece *et al.*, 1997). They also support the proposition of Goold *et al.* (1994b) and Johnson *et al.* (2005, 2008) regarding the suitability of parental developer role for

related diversifiers. At the same time, the findings support contingency theory (Dobák & Antal, 2010; Matyusz, 2012) in suggesting that for different strategies, different management styles are appropriate. Specifically, Corporate Parenting Role is a contingency factor and for Related Diversification Strategy, Parental Developer Role is suitable.

Hence, the findings make a contribution to the literature on product diversification corporate parenting, and corporate performance, as well as to dynamic capabilities theory and contingency theory and deliver guidelines to the managers for selection of suitable corporate parenting role given the type of diversification strategy. Particularly, the findings suggest that while following Related Diversification Strategy, corporate managers must adopt the role of Parental Developers in their companies. More is discussed about this role in comparison to Synergy Manager Role in the subsequent sections.

5.3.6 Discussions on Hypothesis Findings: Test of Portfolio Manager as Moderator between Unrelated Diversification Strategy and Corporate Performance (H2aiii1 to H2aiii4, and H2biii)

This section will discuss the results of testing Portfolio Manager Role as moderator between Unrelated Diversification Strategy and Corporate Performance for which five hierarchical regression models were run for each of five dimensions of Corporate Performance. Out of five, three hypotheses gained statistical support which were H2aiii1, H2aiii2, and H2biii. This concluded that Portfolio Manager acted as moderator between Unrelated Diversification Strategy and ROA, ROE, and Subjective Corporate Performance (SCP). For relationship between Unrelated Diversification and ROA, and ROE, it acted as positive moderator. The additional

analysis was also conducted in line with certain researchers (Sarina, 2010; Sharma *et al.*, 1981; Zahra, 1996) about pure or quasi moderating effect of this moderator. It revealed that Portfolio Manager played as pure moderator between Unrelated Diversification and ROA, and SCP, whereas, it played as a quasi moderator between Unrelated Diversification and ROE.

The findings have substantial support from the suggestions and propositions made by various past scholars in the field. Firstly, the findings seem absolutely logical if we initially look at the characteristics of Unrelated Diversification Strategy and Portfolio Manager Role separately and then relate them into one hypothesis. An unrelated or conglomerate diversification takes an organisation away from its existing strategic capability and results into new businesses and entirely different market segments (Pearce II & Robinson Jr., 2011; Thompson *et al.*, 2012). In unrelated diversification, the portfolio of businesses might keep on changing as the purpose of this strategy is not attainment of functional or operative synergies but financial synergies and financial economies through restructuring (Bamford & West, 2010; Berger & Ofek, 1995).

On the other hand, let us look at the characteristics of Portfolio Manager as described by Johnson *et al.* (2005, 2008) in Section 2.4.4 of this thesis. From there, it looks like Portfolio Managers are quite different from other two roles in terms of their motive, extent of involvement in business strategies of SBUs, and other organisational requirements. Specifically, they prefer remote management and do not indulge into the business strategies of SBUs for value creation, and provide adequate autonomy to SBU managers (Johnson *et al.*, 2005, 2008). They keep on searching actively for

undervalued assets or businesses and continuously involve in buying and selling for gaining financial economies or benefits. Due to this theoretical relationship between the two, Johnson *et al.* (2005, 2008) and Porter (1987) proposed that Portfolio Manager Role was suitable for Unrelated Diversification Strategy. The findings herewith support the proposition of these scholars.

In other words, the findings support the argument that Unrelated Diversification Strategy could be successful with Portfolio Manager Role, as in this strategy there is no serious intention from the top management to create operational synergies rather the management is interested to seek undervalued businesses and assets for getting financial rewards through their trade (Bamford & West, 2010). Hence, this role is suitable for unrelated diversification strategy as it aims to attain financial synergies by combining cash flows of different businesses in the corporation (Gottschalg & Meier, 2005; Hoskisson *et al.*, 2009).

In parallel to the previous results, these findings also support the linkage between corporate parent capabilities and the types of product diversification strategy (Bowman & Ambrosini, 2003; Sohl, 2011). The evidence here supports the arguments of Porter (1987) and Johnson *et al.* (2005, 2008) concerning the suitability of Portfolio Manager Role for Unrelated or Conglomerate Diversification Strategy. The findings also gain support from RBV and TCE collectively, which argue that it is better to create internal efficiencies among unrelated businesses by manoeuvring cash across them, instead of striving to get economies of scope among those unrelated businesses (Ng, 2007; Tallman & Li, 1996).

Finally, the findings are supported by the contingency theory as well. Particularly, the study suggests that for success of Unrelated Diversification Strategy, Portfolio Manager Role is a contingency factor. Although this strategy effects performance negatively, but the effect is countered by actively playing Portfolio Manager Role. Typically, at higher levels of this role, the effect of Unrelated Diversification Strategy on accounting ratios (ROA and ROE) becomes positive. Whereas, there is still certain ambiguity about effect of Portfolio Manager Role on the relationship between Unrelated Diversification Strategy and Subjective Corporate Performance. This warrants caution in interpreting the relationship as well as relying only on subjective measures of corporate performance.

Overall, the findings pay contribution to the literature on product diversification strategy, corporate parenting, and corporate performance, as well as to underpinning theories; DCP, RBV, TCE and Contingency Theory. Specifically, they suggest strategic planners that in order to increase ROA and ROE, they should actively play the role of Portfolio Manager while the extent of Unrelated Diversification Strategy is increasing. The following section summarises the results of hypotheses tests conducted for testing the moderating effect of three Corporate Parenting Roles on the relationship between Diversification Strategies and Corporate Performance.

5.3.7 Conclusion on the Hypotheses Tests Results for Moderators

The overall results obtained through the hypotheses tests for moderators found a significant effect of those moderators for certain corporate performance measures. Synergy Manager was found positive moderator between Related Diversification

Strategy and market measures of performance. Whereas, Parental Developer was found positive moderator between Related Diversification Strategy and Financial Corporate Performance (i.e. accounting as well as market measures of performance). Portfolio Manager was found moderator between Unrelated Diversification Strategy and SCP, and positive moderator between Unrelated Diversification Strategy and accounting measures.

Hence, out of 15 moderation hypotheses for different variables, 9 hypotheses gained significant support for the moderator effects. Out of 9 hypotheses, 7 revealed pure moderator effects, whereas 2 revealed quasi moderator effects. The type of moderator effect revealed through making graphs using scatter plots was largely according to the theoretical assumptions and expectations. The results of moderator hypotheses gain significant support from the perspectives, suggestions and propositions made by past scholars.

As discussed before in Chapter 2, these roles were categorized by Johnson *et al.* (2005, 2008) which are well known authors in the field of strategic management. Roles of Portfolio Manager and Synergy Manager were based on the work of Porter (1987) and Parental Developer was based on the work of Goold *et al.* (1994b). Most importantly, the combination of Corporate Parenting Roles and type of Diversification Strategy as revealed by the analyses of this study is exactly according to the arguments made by Porter (1987), Johnson *et al.* (2005, 2008) and Goold *et al.* (1994b).

Overall, the findings agree with the contingency theory argument that the type of corporate parenting role played by corporate managers must be based upon company's type of diversification strategy (Kruehler *et al.*, 2012; Oijen & Douma, 2000). The findings have got the support from RBV, TCE and DCP as well.

The findings are consistent with RBV in suggesting that Related Diversification Strategy leads to better performance if it is combined with sincere management efforts for creating of synergies, economies of scope and other benefits (Hitt *et al.*, 2011; Hoskisson *et al.*, 2009). Findings also gain support from TCE in concluding that Related Diversifiers gain benefits through common resource sharing and Unrelated Diversifiers get benefits by manoeuvring cash across unrelated businesses (Ng, 2007; Tallman & Li, 1996).

In agreement with DCP, the findings support the view that performance of a diversified company is primarily contingent upon certain corporate level distinctive competences and capabilities (Hitt & Ireland, 1986; Sohl, 2011). In addition to that, it is supported that related as well as unrelated diversification requires a good parenting strategy and its corporate managers must actively acquire rare, valuable, robust and non-substitutable resources and conduct those activities that could match the nature of diversification and provide the businesses a strong and sustainable competitive advantage (Bowman & Ambrosini, 2003; Kruehler *et al.*, 2012).

This research built up and improved on the idea by Nippa *et al.* (2011) to use parenting advantage as a moderating variable in product diversification – performance research. The findings agree to the general arguments made by various scholars that a

complex relationship, such as product diversification – performance relationship, needs to be examined though perspective of moderating effect of contingency variables on it (Datta *et al.*, 1991; Martínez-Campillo & Fernández-Gago, 2008; Ravichandran *et al.*, 2009). The type and nature of moderators for different types of diversification strategies suggested by relevant theorists in the field are confirmed by the findings of this research. This primarily satisfies the purpose of this study.

5.3.8 Discussions on Hypothesis Findings: t-test results for comparing Related Diversifiers against Unrelated Diversifiers on Corporate Performance Dimensions (H3ai to H3aiv, and H3b)

Independent samples t-tests were run to compare Related Diversifiers against Unrelated Diversifiers on various performance dimensions. In this way, five two-tailed hypotheses were tested. The tests resulted in the acceptance of two hypotheses i.e. H3aiii and H3aiv. Statistically significant support for H3aiii and H3aiv resulted in the conclusion that Related Diversifiers were significantly different than Unrelated Diversifiers on Tobin's q (sig. at 0.10 level) and P/B Value (sig. at 0.05 level) respectively. It has been explained in section 4.8.6.1 that with one-tailed hypotheses proposing superiority of Related Diversifiers against Unrelated Diversifiers, it would establish that former ones performed better against later ones not only on market measures but on ROA as well, because Related Diversifiers had higher means for these ratios and their performance on these ratios was better than their counterparts.

There is a huge support from the literature that says that related diversification overall, is more useful and adds more to corporate performance in contrast to unrelated one (Christensen & Montgomery, 1981; Park, 2010; Rumelt, 1974, 1982). Particularly, the findings of this set of hypotheses are consistent with the findings of

studies conducted by Galván *et al.* (2007), Mishra and Akbar (2007a), Varadarajan and Ramanujam (1987), and Berger and Ofek (1995) which revealed that related diversification performed better than unrelated diversification on market measures of performance.

The justifications of these results are manifold. Firstly, as discussed earlier, sometimes market based performance ratios might provide a better idea of corporate performance as compared to accounting measures (Chakravarthi, 1986; Santos & Brito, 2012). As mentioned before about Tobin's q that it has been considered to be most widely accepted and frequently used measure of corporate performance (Kahloul & Hallara, 2010; Ravichandran *et al.*, 2009) and therefore certain past studies have exclusively relied on this ratio for measuring corporate performance (Chari *et al.*, 2008; Gomes & Livdan, 2004; Guo & Cao, 2011; Lang & Stulz, 1994). Therefore, the performance differences among the two groups on Tobin's q highlight the significance of the findings.

Also, the significant performance differences among the two groups on P/B Value also gain increased validity from that proposition that this ratio being a powerful market measure of corporate performance not only represents value added by management, but also provides feedback to company managers on the market appraisal of their decisions (Berk *et al.*, 2009). Hence, being market oriented, as Tobin's q and P/B Value ratios might truly capture company performance, therefore the analysis indicates soundness of the findings.

In relation to the previous research, the findings are in line particularly with those of Mishra and Akbar (2007a) who conducted their study in India, while relying on Tobin's q as dependent variable and concluded that related diversifiers performed better than unrelated diversifiers. They added that in emerging economies the benefits of related versus unrelated diversification were not uniformly available to all diversified companies. The findings also get support from the basic underpinning theories like resource based view (RBV), transaction cost economics (TCE) and market power view. As argued before, related diversification strategy has been considered superior to unrelated diversification strategy by certain scholars (Markides & Williamson, 1994; Palich *et al.*, 2000; Rumelt, 1974) as also suggested by these underpinning theories.

In relation to TCE, as argued by certain scholars, knowledge sharing, control system implementation and gaining cooperation among strategic business units could be more difficult in conglomerates as compared to relatedly diversified businesses and therefore conglomerates may not perform well as compared to related diversifiers (Abdullah, 2009; Busija *et al.*, 1997). Additionally, related diversifiers get more advantages under TCE arguments as the substantial benefits might be available to them through savings in production and transaction costs generated by forward and backward integration (David, 2011; Fukui & Ushijima, 2006; Gupta *et al.*, 2007).

The findings here also support RBV arguments that related diversification might provide tremendous advantages to companies through synergies available in form of economies of scope for producing related products, sharing common brand image, and internal governance benefits in terms of sharing common resources like inputs

and personnel across businesses (Martin & Eisenhardt, 2001; Palich *et al.*, 2000; Yaghoubi *et al.*, 2011) whereas, such type of benefits may not be available to unrelated companies (Ravichandran *et al.*, 2009).

The findings also highlight the proposition that related diversifiers could outperform unrelated diversifiers as the former ones gain increased market power due to multipoint competition and within organisation integration, hence putting increased pressure over their competitors (Hitt *et al.*, 2011; Johnson *et al.*, 2008).

The results however, do not reveal significant differences among the two groups on other measures of performance. These insignificant differences on other performance measures could be attributed to measurement of diversification strategy. If more categories of diversification as followed by Rumelt (1974) are employed, then performance difference among those categories might prove significant (Christensen & Montgomery, 1981; Tan *et al.*, 2007).

The overall findings are supported by above arguments, theories, and literature, and highlight important theoretical and practical implications. The findings serve as a guideline for practicing managers that they must be cautious in their selection of diversification type, as unrelated diversification might not perform better against related diversification, particularly on the market measures of performance. The conclusions made in section 4.8.6.3 have elaborated that among unrelatedly diversified Malaysian PLCs, there has been clear misfit regarding the match of appropriate corporate parenting role with this strategy. Specifically, these companies have been dominantly playing either as Synergy Manager or Parental Developers.

Whereas, it is recommended that if companies choose to diversify in unrelated industries, it must be coupled with Portfolio Manager Role.

5.3.9 Discussions on Hypothesis Findings: t-test results for comparing Dominant Parental Developers against Dominant Synergy Managers on Corporate Performance Dimensions (H3ci to H3civ, and H3d)

In order to compare corporate performance of Dominant Parental Developers against Dominant Synergy Managers on five dimensions, independent samples t-tests were conducted again. In this way, five hypotheses (H3ci to H3civ, and H3d) were tested. The t-tests resulted in the acceptance of two hypotheses i.e. H3ci and H3cii which concluded that Parental Developers outperformed Synergy Managers on ROA as well as on ROE.

These results are supported by the theoretical literature in the field. The features of Parental Developer Role make it unique from the other roles and characterise it as a better corporate parenting role for the relatedly diversified companies as compared to Synergy Manager Role (Johnson *et al.*, 2008, 2011). Much like standalone influence suggested by Goold *et al.* (1994a), this role is more demanding for corporate managers, and requires them to develop sufficient understanding of critical success factors of businesses, and build those corporate level skills and capabilities through which direct value addition into businesses is possible (Goold *et al.*, 1994a; Johnson *et al.*, 2008, 2011).

While on the other hand, Synergy Managers are particularly concerned with creation of synergies through resource and competency sharing which could actually be just one aspect of Parental Developers. Furthermore, synergy creation efforts or synergy

management programmes might fail due to several reasons (Goold & Campbell, 1998) or synergies might get imitated by competitors (Iversen, 2000). On the other hand, Parental Developers might be successful with relatedly diversified businesses if they qualify the criteria for being good Parental Developers (Campbell & Goold, 1988; Kruehler *et al.*, 2012). Hence, it can be argued that in relatedly diversified companies, those characterised by Parental Developers outperform others which are characterised by Synergy Managers (Campbell, 2007; Goold *et al.*, 1994a), hence providing substantial support for the findings of this study's hypotheses.

The findings provide support and extension to Dynamic Capabilities Perspective (DCP). The definition of 'capabilities' (management's ability in successfully aligning, integrating and reconfiguring organisational resources, skills, internal and external competences to cope up with swiftly changing external environments) and 'dynamic' (management's capacity to renovate organisation's competences to address changing business environment which characterises high elements of uncertainty and challenges) (Teece *et al.*, 1997; Wang & Ahmed, 2007; Zaidi & Othman, 2011) in fact point toward or seem to make greater association with Parental Developers as compared to other roles.

Therefore, the findings go along with the propositions and findings of Bowman and Ambrosini (2003), Kruehler *et al.* (2012), and Menz and Mattig (2008) and hereby confirm that those organisations are more successful which are characterised by top managers having dynamic capabilities in form of knowledge, skills and resources. Having that, managers could understand and directly create value in strategic business

units and continuously improve them for successfully aligning them with the environment.

The managerial and practical implications of these findings point towards the need for managers to develop characteristics of Parental Developers through building corporate level dynamic capabilities for adding value to their companies for strong and sustainable competitive advantage.

5.4 Discussions on Effect of Control Variables

As demonstrated earlier, this study controlled for four variables which were considered by past research as significant factors impacting corporate performance other than the main variables. They were Age, Size, Leverage and Experience. In hierarchical regression models, they appeared in 2nd and 3rd models. Among the four variables, Size and Leverage were found to be significant predictors of Corporate Performance dimensions in numerous models. However, Age and Experience were found to be significant predictors of SCP only.

Firstly, Size remained significant predictor of all five dimensions of Corporate Performance with positive effects on all dimensions. This is in agreement with Ishak and Napier (2006), Daud *et al.* (2009), Chari *et al.* (2008), and Hall (1995) who also revealed positive impact of size on accounting as well as market measures of performance. This concludes that as Company Size (measured by log of total assets) increases, it leads to significant increase in Corporate Performance probably due to

provision of increased market power and economies of scale benefits (Chari *et al.*, 2008; Galván *et al.*, 2007).

Leverage also remained significant predictor of all dimensions of Corporate Performance (except P/B Value) with its significant negative effects on ROA, ROE, and SCP. However the impact of Leverage on Tobin's q was positive. This points towards the validity of Daud *et al.* (2009) argument that past research is divided on the effect of leverage on corporate performance. Besides, they also found positive impact of leverage on market performance measure (market adjusted return). Negative impact of Leverage on ROA and ROE is consistent with Fukui and Ushijima (2006), and Delios and Beamish (1999).

Company Age was not a significant predictor of Financial Corporate Performance, but it was found as significant predictor of SCP with negative effects. Chakrabarti *et al.* (2007) and Çolak (2010) also found negative effect of age on firm performance or valuation. However, they measured performance through financial ratios. Results are also consistent with Ishak and Napier (2006) who found that age did not affect market measure of corporate performance. As anticipated before, Experience remained significant predictor of SCP with positive coefficient. This concludes that as Experience increases it leads to higher overall Corporate Performance measured subjectively. These results are in line with those of Sohl (2011) and Chan (2010) which indicated positive effect of managerial experience on organisational performance.

5.5 Conclusions

In the previous sections of this chapter, discussions were made on the findings of various hypotheses. Findings were discussed with respect to previous research findings, perspectives and arguments made by past scholars. Overall, the findings were in line with the previous research findings and gained support from the arguments, propositions and perspectives built by past scholars. Findings about the effects of product diversification (DT), related diversification (DR), and unrelated diversification (DU) on performance were supported by the conclusions of the past research.

The findings of the simple linear regression models for DT and Performance revealed no significant effect of DT on Performance. These findings were consistent with numerous research findings revealed in the past (Chang & Thomas, 1989; Çolak, 2010; Lloyd & Jahera Jr., 1994; Marinelli, 2011; Montgomery, 1985). This indicated that the overall effect of Product Diversification on Corporate Performance was not significant and pointed towards the need for disintegrating total diversification score into related diversification and unrelated diversification scores as well as towards the importance of adding contingency or moderating variables into the relationship.

The analyses also revealed significant positive effect of Related Diversification on market measures of performance. These findings gained support from past researches conducted by numerous scholars such as Elsas *et al.* (2010), Galván *et al.* (2007), Miller (2006), Mishra and Akbar (2007a) and Palich *et al.* (2000).

In the same way, the analyses also revealed that there was significant negative effect of Unrelated Diversification on ROA and P/B Value. These findings were also supported by similar findings in the past (Berger & Ofek, 1995; Hill & Hansen, 1991; Hoechle *et al.*, 2012; Ravichandran *et al.*, 2009; Schmid & Walter, 2008; Villalonga, 2004).

Following that, discussions were made on the moderating effect of Corporate Parenting Roles on the relationship between Diversification Strategies and Performance dimensions. Synergy Manager was found to be pure moderator (positive) between Related Diversification Strategy and market measures of performance (Tobin's q, P/B Value). These findings got support from the arguments and perspectives presented by past scholars (Gottschalg & Meier, 2005; Johnson *et al.*, 2005, 2008; Oijen & Douma, 2000; Porter, 1987). Tests of regression models for Parental Developer revealed significant positive moderating effect of Parental Developer on the relationship between Related Diversification and all dimensions of Financial (Objective) Corporate Performance. These findings were supported by the propositions of prominent scholars in the field such as Goold *et al.* (1994b) and Johnson *et al.* (2005, 2008).

Similarly, tests of regression models for Portfolio Manager revealed significant positive moderating effect of Portfolio Manager on the relationship between Unrelated Diversification and ROA, ROE. These findings also gained support from the suggestions and propositions made by past scholars (Johnson *et al.*, 2005, 2008; Porter, 1987). Importantly, the positive nature of effects for moderating variables was

also discussed in length and was also supported by suggestions and propositions of past scholars.

However, nature of PM effect on the relationship between DU and SCP demands caution due to subjective nature of assessment for Corporate Performance. Overall, the findings justified contingency theory and also supported the connection between corporate parenting, dynamic capabilities and product diversification strategies as already discussed in the previous sections. The findings seemed to make significant contribution towards resource based view, transaction cost economics, market power view, dynamic capabilities perspective, agency theory, and contingency theory.

In other sets of hypotheses, performance of Related Diversifiers was compared against Unrelated Diversifiers; and then within related diversifiers, performance of Parental Developers was compared against Synergy Managers using t-tests. The tests found that Related Diversifiers had significant performance differences against Unrelated Diversifiers on market performance measures and their performance means were greater than Unrelated Diversifiers on those market measures as well as on ROA.

These results got support from substantial group of findings from past research which also stated that related diversifiers performed well against unrelated ones (Berger & Ofek, 1995; Galván *et al.*, 2007; Mishra & Akbar, 2007a; Varadarajan & Ramanujam, 1987). These findings are also supported by the theoretical arguments concerning the fit between type of diversification strategy and corporate parenting role (Johnson *et al.*, 2005, 2008; Porter, 1987) together with the explanations made in section 4.8.6.3.

These tests also revealed that Parental Developers performed better than Synergy Managers on ROA and ROE. These results were also supported by the arguments made by past scholars (Campbell, 2007; Goold *et al.*, 1994a). Control variables (particularly Size and Leverage) were also found to possess significant impacts on Corporate Performance. Nature of their impact as revealed by this study was found to be in line with existing literature in the field.

Therefore, in summarization, the findings for all the hypotheses were supported by the available literature. As noted before, the findings improved the literature on product diversification strategy, corporate parenting, corporate performance, as well as made a contribution to all the concerned underpinning theories.

5.6 Implications of the Study

This study was designed to make significant contributions to the relevant theories in the field as well as to guide practicing managers regarding the choice of product diversification strategy and suitable corporate parenting role. The findings and discussions indicate that this research has fulfilled its objectives. This research carries important theoretical and practical implications which are discussed separately in the following sections.

5.6.1 Theoretical Implications

The findings of this study add to the literature on product diversification strategy, corporate parenting, and corporate performance and strengthen the body of research

on product diversification – performance relationship. They also add to resource based view, transaction cost economics, dynamic capabilities perspective, and market power view in particular. The findings provide better insight into product diversification – performance relationship by having added the moderating effect of corporate parenting roles into the relationship. The findings also aimed to discover the similarities and differences with relevant research in the field.

This research examines and shows the relative effects of diversification strategies; related and unrelated, over corporate performance and reveals that related diversification strategy positively influences corporate performance (as measured by Tobin's q and P/B Value), whereas unrelated diversification strategy negatively influences corporate performance (as measured by ROA and P/B Value). Further, it shows that relatedly diversified companies were significantly different and seem to outperform unrelatedly diversified companies on market performance measures.

This study further suggests that corporate parenting roles moderate the relationship between diversification strategies and performance. Specifically, Roles of Synergy Manager and Parental Developer positively moderate relationship between Related Diversification Strategy and Performance, whereas Portfolio Manager positively moderates relationship between Unrelated Diversification Strategy and Performance. Hence, the results suggest that besides product diversification, corporate parenting is an important contributor to corporate performance.

The results of this research also support the notion that product diversification – performance relationship is influenced by contingency factors or moderators (Datta *et*

al., 1991; Martínez-Campillo & Fernández-Gago, 2008; Ravichandran *et al.*, 2009), hence providing support for the contingency theory. Specifically, this research agrees with and confirms the proposition that product diversification – performance relationship is moderated by corporate parenting (Campbell *et al.*, 1995a; Nippa *et al.*, 2011). Moreover, the findings of this study suggest that Resource Based View (Teece, 1982; Wernerfelt, 1984), Transaction Cost Economics (Williamson, 1971), Market Power View (Bernheim & Whinston, 1990; Martin & Eisenhardt, 2001; Saloner, 1985) and Dynamic Capabilities Perspective (Barney, 1991; Bowman & Ambrosini, 2003; Teece *et al.*, 1997) can be used in explaining the relationship between diversification strategies, corporate parenting roles and corporate performance.

Hence, the findings provided new insights into product diversification – performance relationship by confirming the moderating role of corporate parenting roles into the relationship. This extended the body of research on the topic as well as paid a significant contribution to the relevant theories. There was substantial body of research on the relationship, but the studies were limited regarding interrelationships between product diversification strategies, corporate level competences or managerial styles and corporate performance (Hitt & Ireland, 1986; Liu & Hsu, 2011; Menz & Mattig, 2008).

Importantly, it possessed a gap in form of lack of research on the moderating role of corporate parenting roles into product diversification - performance relationship (Nippa *et al.*, 2011). This research has filled that research gap by bringing together factors of extreme strategic importance, which are product diversification strategies, corporate parenting roles, and corporate performance together into one unique

framework. At the same time, it has significantly contributed to the relevant theories in the field.

5.6.2 Practical Implications

This study examined interrelationships among extremely important managerial and strategic issues, which are product diversification strategies, corporate parenting roles and corporate performance. Therefore, this study carries significant practical or managerial implications for managers in general and Malaysian managers in particular.

Initially, the study points towards effects of product diversification strategy on corporate performance and warns managers that they might not be able to see the effect of total diversification strategy on corporate performance unless they differentiate between and decompose total diversification strategy into related diversification strategy and unrelated diversification strategy. Managers must adopt caution in selecting their diversification routes as related diversification adds positively to corporate performance, particularly market based performance. On the other hand, as also revealed by most of the past studies, unrelated diversification affects corporate performance negatively. Hence, corporate diversification, particularly in the Malaysian context, is recommended in related sectors and industries instead of unrelated ones.

For managers, this study highlights the importance of corporate parenting roles they play in their companies. It is because the most important revelation of this study is the

active part of corporate parenting roles as moderators on the relationship between diversification strategies and corporate performance. In other words, corporate parenting roles act as important contingency variables when it comes to product diversification – performance relationship. The roles work along with diversification strategies to cast a combined effect on corporate performance.

This study suggests managers that they should be adopting either the role of Synergy Manager or Parental Developer in case when they are primarily following related diversification strategy. However, Parental Developer is preferable to Synergy Manager as this research revealed that among relatedly diversified companies, those having corporate parents playing the role of Parental Developers outperformed other companies having corporate parents playing the role of Synergy Managers. The intensity of these roles must go on increasing with the increasing level of related diversification.

Managers are recommended to study the nature of these roles and differentiate between them. The logic of these roles and their characteristics are already presented in Chapter 2. The basic purpose of Synergy Managers is creation of synergy among various related businesses in the group. Synergy Managers actively seek opportunities for creating synergy, design and manage synergy management programmes, and overcome any resistances from businesses in synergy creation. They assure that businesses create synergy through sharing of various resources, competences and skills among them.

On the other hand, Parental Developer role is more demanding. It requires corporate managers to understand well the strategic conditions faced by the businesses and to develop resources, knowledge, skills and competences in order to directly add value to the businesses. As further corporate expansion could result into new markets, technologies and resources, therefore, corporate managers are required to continuously upgrade resource base, personal knowledge, skills and competences to adjust to changing business conditions. In other words, Parental Developer is about playing an active role in businesses' value addition and not just having a corporate centre representing certain cost figures.

On the basis of this research results, managers in general and Malaysian managers in particular are recommended to develop corporate level resources, skills and knowledge to directly add value to their businesses (Parental Developer) in case they are following related diversification strategy. This arrangement has a greater probability of assuring increased corporate performance whether measured through accounting ratios or market based ratios.

As discussed before, managers are recommended to prefer related diversification strategy over unrelated diversification strategy. But, in case they are going to follow unrelated diversification strategy, they must prepare to play the role of Portfolio Managers as this role is suitable for unrelated diversification strategy. Portfolio Manager Role is characterized by decentralization along with having corporate managers who actively seek acquisition of undervalued assets and businesses for generating financial economies. The portfolio of businesses keeps on changing as corporate managers buy and sell the businesses based on their financial performance.

Portfolio Managers normally do not intervene in the business strategies of their businesses and possess limited interest in direct value addition to businesses.

Hence, this study presents certain cautions and recommendations for managers in general and Malaysian managers in particular about the choice of diversification strategies and corporate parenting roles. The study recommends that managers should prefer following Related Diversification Strategy coupled with the Parental Developer role for increasing their companies' performance. Therefore, the study's recommendations are serving as a guideline for the overall Malaysian corporate sector and are also extended to PLCs in similar developing countries. This is discussed further in next section.

5.6.3 Contribution to Malaysian Economic well-being and other Developing Countries

This study has provided recommendations for PLCs operating in wide variety of sectors including various manufacturing as well as service related industries. Hence, the study has made significant contribution at the macro level by outlining recommendations for the Malaysian corporate sector. Through providing guidelines to Malaysian corporate sector regarding the choice of product diversification strategies and most suitable corporate parenting roles for these strategies, this research has attempted to refine the approach to corporate strategy formulation by the Malaysian corporate sector along with redefining the criteria to take capital investment decisions involving corporate level diversification.

In taking all the guidelines of this research, Malaysian corporate sector could improve its contribution to country's GDP and ultimately help in attaining Malaysia's GDP growth targets along with providing help in realizing other national level programmes such as Economic Transformation Programme and Tenth Malaysia Plan.

Likewise, the findings of this research might also be equally applicable to PLCs and corporate sectors in other developing countries facing similar business and macro environments like those in Malaysia. It is because the business group structure, like the one prevalent in Malaysia, is also a popular corporate structure in number of other Asian countries (George, 2007; Mishra & Akbar, 2007a, 2007b). The suggestions regarding selection of related diversification strategy instead of unrelated diversification and about adopting role of synergy manager or preferentially parental developer for related diversification strategy might also prove useful for other developing countries firms. This would directly help enhancing the performance of their respective corporate sectors and would ultimately add to their economic well-being.

5.7 Limitations of the Study

Every research usually possesses certain theoretical, practical and methodological limitations. The limitations of this study are reported as under.

This research examined relationships between those variables which are of general nature and are common or relevant to every PLC (namely product diversification strategy, corporate parenting and corporate performance). But, unlike U.S companies

where diversification is measured at company level, in emerging economies like Malaysia, the diversification is measured at group level (George, 2007; Mishra & Akbar, 2007a). Therefore, the findings of this study are more applicable to those companies which are working in countries characterized by presence of business groups. Also, in general, the findings are more applicable to companies working in Malaysia and other countries with similar business environments and corporate cultures as in Malaysia.

This study has covered most of the sectors such as Industrial Product, Finance, Trading/Services, Consumer, Properties, Plantation, Technology and Construction because most of the companies in the analyses belonged to these sectors. Hence, the findings can easily be generalized over companies working in these sectors. Generalizations over companies falling in other sectors such as REITs, Closed-End Funds, Hotels, and Mining should be made with caution.

Although the methodology and all efforts ended up in an effective response rate of around 24% which is usually considered to be satisfactory response rate from the top level managers, but the results need caution in interpretation and generalization. Further, the response rate of 24% was obtained mainly through mail questionnaires. Better insights into the variables could be gained if similar data is obtained through interviews where researcher has greater margin to probe into the questions and reveal more information from the respondents. However, such an approach confronts practical issues like time, money and respondent cooperation.

Apart from that, only one respondent's reply was considered as a reply for overall organisation. Sometimes, it is better to get the data from more than one person to increase the accuracy of information. However, this method also faces problem of respondent cooperation when the respondents are top level managers.

This study has relied on powerful and most frequently used financial ratios for measuring performance as suggested by huge body of academic research on the topic. Additionally, it secured subjective assessment of corporate performance to enrich the investigation. However, corporate performance could be measured through hundreds of different kind of ratios and indicators, and their use could also vary from company to company. Now, absence of many other performance indicators in the analyses could be considered as study's limitation.

5.8 Recommendations for Future Research

This research has opened the avenues for future research into the variables related to corporate parenting such as corporate parenting roles, capabilities, competences, and the like. Future research can examine interrelationships between corporate parenting capabilities, corporate culture, organisation structure, corporate parenting roles and diversification strategies. Future research in the context of emerging economies like Malaysia can also consider the variable of business group affiliation into their frameworks incorporating such variables. Although data on industry characteristics is usually limited in context of Asian countries but future research could look into studying the variables by adding certain industry and sectorial information in it if made possible by some data source.

Qualitative research into role of corporate parent competences and corporate parenting styles could reveal significant information especially in context of business restructuring, corporate culture and competitive advantage. It could produce case studies of successful and unsuccessful companies faced with turnaround situations like crises and corporate expansion with relevance to corporate parenting capabilities. A combination of quantitative and qualitative methodologies could also provide useful insights into relevant topics.

Also, this research was conducted by relying mainly on the mail questionnaires. However, future research could rely on obtaining similar data using interviews if permitted by time, cost and respondents. Hence, future studies can contribute to the concerned literature by placing new variables along product diversification strategies, corporate parenting roles and corporate performance into their frameworks as suggested before. This would provide more insight into the topic.

5.9 Chapter Summary

This chapter presented discussions and conclusions on the findings and results obtained in Chapter 4 along with discussing theoretical and practical implications of the study, limitations and recommendations for future research. The chapter presented discussions on the hypotheses findings in Section 5.3 along with discussion regarding impact of control variables in Section 5.4. This was followed by theoretical and practical implications of the study in Section 5.6. Finally, the chapter discussed limitations of this research as well as presented recommendations for future studies in Sections 5.7 and 5.8 respectively.

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