FIRM PERFORMANCE EFFECTS OF BOARD DIVERSITY:

A CASE OF MALAYSIAN LISTED FIRMS

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Dissertation Submitted to the
Othman Yeop Abdullah Graduate School of Business,
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Master of Science

DECLARATION

I hereby declare that this thesis entitled "Firm Performance Effects of Board Diversity: A Case of Malaysian Listed Firms" is based on my original research except for quotations and citations that have been duly acknowledged. I also declare that it has not been previously or concurrently submitted for any other degree at Universiti Utara Malaysia or other institutions.

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ABSTRAK

Kepelbagaian dalam keahlian lembaga pengarah dan pihak pengurusan atasan telah menjadi satu isu yang semakin relevan untuk lebih daripada satu dekad sekarang. Dianggap sebagai isu sosial dan isu imej sebelum ini, kepelbagaian semakin dilihat sebagai pemacu nilai dalam strategi organisasi dan tadbir urus korporat. Kajian ini telah dijalankan dalam usaha untuk menganalisis hubungan antara kepelbagaian lembaga pengarah dengan prestasi firma. Data sampel terdiri daripada 82 syarikat-syarikat yang tersenarai di Pasaran Utama Bursa Malaysia dan data dikumpulkan daripada laporan tahunan 2011 syarikat terlibat. Hasil kajian menunjukkan QUAL dan FORDIR berhubung secara positif dengan prestasi firma, iaitu ROA dan TQ. Sebaliknya, MDIR, WOMDIR, BDSIZE dan FIRMSIZE mempunyai hubungan negatif dengan prestasi firma. Bagi AVGAGE, keputusan menunjukkan kesimpulan yang bercanggah. AVGAGE adalah positif berkaitan dengan ROA tetapi negatif yang berkaitan dengan TQ. Hasil kajian ini adalah selari dengan beberapa kajian sebelum ini mengenai hubungan antara kepelbagaian lembaga dengan prestasi firma yang telah menghasilkan dapatan bercampur-campur. Beberapa kajian menunjukkan hubungan yang positif manakala yang lain menunjukkan hubungan yang negatif. Di samping itu, terdapat juga keputusan yang menunjukkan bahawa tidak terdapat hubungan yang signifikan antara kepelbagaian lembaga pengarah dengan prestasi firma.

ABSTRACT

Diversity in the boardroom and in top management team has become an increasingly relevant issue for more than a decade now. Previously considered a social issue and an issue of image, diversity is increasingly considered as a value-driver in organisational strategy and corporate governance. This study was carried out in order to seek the relationship between board diversity and firm performance. The sample data consists of 82 listed companies on the Bursa Malaysia Main Board and data were collected from the companies' respective 2011 annual reports. The findings show QUAL and FORDIR are positively related with both measures of firm performance, namely ROA and TQ. Conversely, MDIR, WOMDIR, BDSIZE and FIRMSIZE have negative association with firm performance. As for AVGAGE, the results show a mixed conclusion. AVGAGE is positively related to ROA but negatively related to TQ. The findings are in line with several previous studies on the relationship between board diversity and firm performance which have produced mixed result. Some findings show a positive relationship while others demonstrate a negative relationship. On the other hand, there are also results which showed that there is no significant relationship between diversity on board and firm performance.

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LIST OF ABBREVIATIONS

WOMDIR	=	Woman Directors
WOMDIRD	=	Woman Directors (Dummy)
MDIR	=	Malay Directors
MDIRD	=	Malay Directors (Dummy)
AVGAGE	=	Directors' Age
QUAL	=	Directors' Qualification
FORDIR	=	Foreign Directors
BDSIZE	=	Board Size
FIRMSIZE	=	Firm Size
ROA	=	Return on Asset
TQ	=	Tobin's Q

CHAPTER ONE

INTRODUCTION

1.1 CORPORATE GOVERNANCE IN MALAYSIA

There have been numerous definitions of corporate governance in previous studies. In Malaysia the High Level Finance Committee Report on Corporate Governance defines corporate governance as "the process and structure used to direct and manage the business and affairs of the company towards enhancing business prosperity and corporate accountability with the ultimate objective of realizing long-term shareholder value whilst taking into account the interest of other stakeholders"[1].

According to the Malaysian Code of Corporate Governance (Revised 2007), there are three broad approaches to the issue of corporate governance. The first approach is the prescriptive approach, where the standard of corporate governance is set by specifying sought-after practices together with a requirement to disclose compliance with them. The next approach is a non-prescriptive approach where companies are required to disclose their corporate governance practices. The rationale behind this approach is that each company's corporate governance needs are different and directors of companies should address these needs. The last approach is the hybrid approach. This involves the use of broad principles which are applied flexibly to the varying circumstances of individual companies.

[1] Report on Corporate Governance (1999), page 10

The Code has also outlined the principal responsibilities of the Board in which the board should practice which assist the board's stewardship responsibilities. These are:

- Reviewing and adopting a strategic plan for the company;
- Overseeing the conduct of the company's business to evaluate whether the business is being properly managed;
- Identifying principal risks and ensuring the implementation of appropriate systems to manage these risks;
- Succession planning, including appointing, training, fixing the compensation of and where appropriate, replacing senior management;
- Developing and implementing an investor relations programme or shareholder communications policy for the company; and
- Reviewing the adequacy and the integrity of the company's internal control systems and management information systems, including systems for compliance with applicable laws, regulations, rules, directives and guidelines.

Even though there are multiple components in corporate governance, this study emphasizes on board of directors because it is one, if not the only, most important mechanisms of corporate governance. As part of its listing requirement, Bursa Malaysia requires public listed company to comply with and disclose in their annual reports certain areas concerning board of directors including the board composition, board size, directors' age, directors' qualification and educational background and directors' nationality.

1.2 BACKGROUND OF STUDY

Diversity in the boardroom and in top management team has become an increasingly relevant issue for more than a decade now. Previously considered a social issue and an issue of image, diversity is increasingly considered as a value-driver in organisational strategy and corporate governance, thus becoming a challenging issue in recent academic research.

The term diversity is commonly defined as ‘‘variety’’ or ‘‘point or respect in which things differ’’ (Mannix and Neale, 2005). Previous research on diversity typically follows two general distinctions: the observable (demographic) and the non-observable (cognitive). Examples of demographic diversity are with respect to age, gender, race, group tenure, organization tenure, education, or functional background (Hambrick & Mason, 1984; Pelled, 1996; Robinson and Dechant, 1997; Timmerman, 2000). On the other hand, examples of cognitive diversity are knowledge, values, perception, affection and personality characteristics (Maznevski, 1994; Pelled, 1996; Boeker, 1997; Watson, Johnson and Merritt, 1998; Timmerman, 2000). This current study focuses on demographic diversity only. Gender, race, age, educational background and nationality of the board members are examined to ascertain how these characteristics affect firm performance.

Board diversity is often seen as a double-edged sword. Previous studies on the relationship between board diversity and firm performance have produced mixed result. Some findings show a positive relationship while others demonstrate a negative relationship. On the other hand, there are also results which showed that there is no significant relationship between diversity of board and firm performance.

It is believed that greater board diversity is associated with more imaginative company strategies and decisions of a better quality. Alternatively, greater board diversity could lead to more conflicts on the board which results in a more time-consuming and inhibit their decision-making capacity (Tibben, 2010). Demographic diversity can also increase network connections, resources, creativity, and innovation (DiTomaso, 2007). Thus, this study hopes to generate a better understanding of the relationship between board diversity and firm performance.

1.3 PROBLEM STATEMENT

The issue of corporate governance has been a growing area of management research especially among large and listed firms. However, little empirical research has been carried out to examine the effects of board diversity on firm performance particularly of companies in Malaysia. Corporate governance has become an important issue due to weak governing and monitoring mechanisms in firms, resulting in the worsening of financial crises in Asia, Europe and America (Omet, 2006). Even though Malaysia managed to survive the 1997-1998 Asian financial crises and the rather recent global financial crisis of 2008, like most other countries, its economy would be particularly affected by global economic and financial events whether positively or negatively since its economy is very much tied to the global economy. One lesson that could be learnt is corporate governance failures have played a very relevant role in these crises. Many corporate governance tools proved to be ineffective due to unexpected pressures and strong conflict of interests. There were a large number of cases of boards of directors of financial companies that was ineffective and certainly not capable of objective, informed judgment.

The company board of directors is charged with the responsibility of maintaining good corporate governance. There are important policy and performance elements to these responsibilities. The board of directors is the guardian of fairness, transparency and accountability in all of the major financial and business dealings of the company, defending the interests of investors and wider stakeholders. To fulfil this responsibility directorial boards are required to remain active, informed and competent in the supervision of the company.

One of the desired qualities of a good board of directors is diversity. A diverse board has several members that all have different backgrounds and ways of thinking. This creates checks and balances for the board that will help with making decisions. Companies that have non-diverse boards may be at a clear competitive disadvantage and may be underperforming in terms of shareowner value.

1.4 RESEARCH OBJECTIVES

The general objective of this research is to examine the relationship between board diversity and firm performance. The specific objectives are as follows:

1. To examine the effects of ethnic diversity on firm performance.

2. To identify the influence of gender diversity on firm performance.

3. To investigate the impact of age diversity on firm performance.

4. To explore the effects of director's qualification on firm performance.

5. To identify the impact of foreign directors on firm performance.

6. To examine the influence of board size on firm performance.

7. To investigate the effects of firm size on firm performance.

8. To indentify the influence of industry type on firm performance.

1.5 RESEARCH QUESTIONS

The present study aims to answer the following questions:

1. What is the effect of ethnic diversity on firm performance?

2. What is the influence of gender diversity on firm performance?

3. What is the impact of age diversity on firm performance?

4. What is the effect of director's qualification on firm performance?

5. What is the impact of foreign directors on firm performance?

6. What is the influence of board size on firm performance?

7. What is the effect of firm size on firm performance?

8. What is the influence of industry type on firm performance?

1.6 JUSTIFICATION OF STUDY

In addition to a considerable number of studies in the finance and corporate governance literature that examine the relationship between board composition and firm performance, such as Eisenberg, Sundgren and Wells (1998), Mak and Kusnadi (2005), and Yermack (1996), there are also a growing number of studies investigating

the relationship between board diversity and financial performance. Such studies have been conducted in the context of a few developed countries, such as the US (Carter, Simkins, Simpson, 2003; Krishnan and Park, 2005), Spain (Campbell and Minguez-Vera, 2008), Canada (Francoeur, Labelle, and Sinclair-Desgagne 2008), Scandinavian countries (Randoy, Thomsen and Oxelheim, 2006) and the Netherlands (Marinova, Plantenga and Remery, 2010, Overweld, 2012).

However, such issues in the context of developing economies are nonetheless rarely addressed. Among the few studies are Ararat, Aksu and Cetin (2010), Darmadi (2011) and Omet (2006) which use the data of Turkey, Indonesia, and Jordan respectively. This study hopes to further add to the literature on board diversity for developing countries since Malaysia is still considered as a developing country. This study also hopes to shed some light and spark interest for researchers, academicians and others relating to the subject matter.

1.7 SCOPE OF STUDY

The scope of the study is the top 100 companies listed in the Main Market of the Bursa Malaysia. After excluding the financial companies and some companies that have missing data, the final number of companies in the sample were reduced to 82 companies. The time period for this current study is the latest one available, which is the year 2011. Since different companies have different financial year ends, not all companies have reached their 2012 financial year end. Thus, the 2012 annual reports for some companies are not available.

1.8 ORGANIZATION OF STUDY

The organization of this study are as follows. Chapter One is an introduction to the whole study. It explains the background of study, research objectives and questions, justification of study and also scope of study. Next, Chapter Two discusses the literature review for all the variables used in this study starting from dependent variables, independent variables and control variables. The following chapter, Chapter Three details out the theoretical framework, hypotheses of the study and the methods and analysis used to generate results. Chapter Four is the analysis of the findings of the study. The findings discussed are the result of the descriptive analysis, multiple regression analysis and Pearson correlation coefficients. The multicollinearity test is also shown in this chapter. The final chapter is Chapter Five. Conclusions and possible explanations for the results of this study are explained in this chapter.

1.9 CHAPTER SUMMARY

This chapter includes, respectively, the following subjects: introduction and background of the study, problem statement, research questions, objectives, justification, scope, organization of study, and finally, summary of the chapter.

CHAPTER TWO

LITERATURE REVIEW

2.1 INTRODUCTION

This chapter discusses the relevant previous studies and findings related to the dependent variables (Return on Asset and Tobin's Q), independent variables (Board Gender Diversity, Board Ethnicity Diversity, Board Age, Board Qualifications and Foreign Directors) and control variables (Board Size, Firm Size and Industry) used in this study. Past studies are reviewed to further understand the relationship between board of director diversity and firm performance. At the end of the chapter, a summary is provided.

2.2 DEPENDENT VARIABLES

For the current study, two variables are used as dependent variables to measure firm performance. These are Return on Asset (ROA) and Tobin's Q (TQ).

2.2.1 Return on Asset (ROA)

The first measurement of firm performance is the accounting-based measure, Return on Asset (ROA). ROA is an indication of the ability of the firm to produce accounting based revenues in excess of actual expenses from a given portfolio of assets measured as amortized historical costs. ROA gives a picture of the accounting income produced for the shareholders if it is calculated as net income divided by the book value of total assets. However, based on previous studies, there are various ways of computing ROA.

ROA was calculated by dividing annual net income with the book value of total assets at the end of the year. This measurement was used in the study conducted by Carter et al. (2010). Their fixed effect regression estimates indicate that the number of ethnic minority directors on any of the major board committee is not associated with ROA while the number of women on all of the major board committees is positively related to ROA.

Another way of computing ROA is applied by Bhagat and Bolton (2008). ROA is defined as operating income divided by end of year total assets. Results point out there is a significant negative correlation between the governance index proxy, GIM index, developed by Gompers, Ishii, and Metrick in 2003 and ROA. Given that lower GIM index numbers show stronger shareholder rights and better governance, the results are consistent with a positive relation between good governance, as measured by GIM, and operating performance. Core and Larcker, (2002) and Barber and Lyon (1997) calculated ROA using the operating income after depreciation expense divided by total asset as a measure of firm performance.

In the study conducted by Bøhren and Strøm (2010), ROA is defined as earnings from operations after taxes divided by the accounting value of assets (Book return on assets) to measure firm performance. The authors report there is no relationship between board independence and firm performance.

In addition, ROA is measured as the ratio of net income before extraordinary items and discontinued operations to its book value of assets in the study carried out by Adams and Ferreira (2009) to analyze woman on board and their impact on firm

performance and governance. Female directors were found to have a significant and positive impact on board inputs and firm outcomes.

Daunfeldt and Rudholm (2012) investigate whether increased gender diversity on boards of directors improves firm performance, using a unique. More gender diversity in the boardroom is found to have a negative impact on returns on total assets after two years. Erhardt, Werbel and Shrader (2003) had used ROA as one of the dependent variable in their study. The authors defined ROA as net income divided by total assets. The results of their study supported the original hypothesis stating that relatively higher levels of board diversity would lead to higher organisational performance. For the purpose of this study, ROA is measured by dividing net income with total assets.

2.2.2 Tobin's Q (TQ)

Besides ROA, another proxy for firm performance in this study is the market-based measure Tobin's Q (TQ). TQ is a widely applied measure within the corporate governance literature serving as a proxy for a firm's ability to generate shareholder wealth. It is used in comparable studies and can be seen as the predominant measure. The denumerator serves as a proxy for the replacement value of the firm's current assets. If the ratio is less than 1 it is cheaper to buy capacity in the financial marketsthan in the real asset markets. If on the contrary, a firm's Tobin's Q exceeds 1, this may reflect the presence of strong comparative advantages or growth opportunities (Rose, 2007).

Tibben (2010) examines whether top management team (TMT) diversity has a positive or negative impact on firm performance, based on evidence from Western European firms during a three-year period (2007-2009). The authors found a significant influence of TMT diversity on firm performance, measured by TQ. Carter et al. (2003) investigate the relationships among corporate governance, board of director diversity, and firm value, focusing the analysis on publicly traded *Fortune* 1000 firms. In a comparison of firms with and without diverse boards, firms with two or more women directors are larger ($26.5 billion in total assets versus $5.0 billion), have larger boards (12.7 directors versus 8.9 directors), have more annual meetings (8.2 versus 7.2), and have a greater proportion of minority directors (8.6% versus 2.9%). Firms with two or more women directors also perform better, as measured by Tobin's Q (1.58 versus 1.03) or return on assets (5.2% versus 2.5%).

Deszo and Ross (2012) argue that female representation in top management brings informational and social diversity benefits to the top management team, enriches the behaviors exhibited by managers throughout the firm, and motivates women in middle management. The authors find that female representation in top management improves firm performance (TQ) but only to the extent that a firm's strategy is focused on innovation, in which context the informational and social benefits of gender diversity and the behaviors associated with women in management are likely to be especially important for managerial task performance.

Deszo Yermack (1996) finds a negative relationship between board size and Tobin's Q. A study which also uses TQ as a measure of firm performance is conducted by

Rose (2007). The study has provided Danish evidence showing that gender in relation to board composition does not influence firm performance.

2.3 INDEPENDENT VARIABLES

Gender diversity, ethnic diversity, director's age, director's qualification and foreign directors' are the five independent variables used in this study.

2.3.1 Ethnicity and Culture Diversity

Numerous previous studies have shown that diversity in the boardroom is favourable to firms as it increases their performance. Hambrick & Mason (1984) in their research found that top management's characteristics (e.g. demographic) influence the decisions that they make and therefore the actions taken by the firms that they lead. With greater diversity, it is believed that top management members including board of directors could influence decision making process in the top level management and positively contribute to firm performance.

Watson et al., (1993) suggest that diversity leads to a greater knowledge base, creativity and innovation, and therefore becomes a competitive advantage. One study that investigates the relationship between board diversity as represented by the presence of woman and minorities on board, and firm performance was conducted by Erhardt et al. in 2003. They used a sample 112 large public companies in various industries in the United States. The research yielded a result that shows that executive board of director diversity was positively associated with both return on investment

and return on assets. Thus, diversity with boards of directors appeared to have an impact on overall organisational performance.

Cultural values are important because they have a strong influence on the way people behave. Since Malaysia is a multicultural society, directors of Malaysian companies come from different ethnic backgrounds. They each hold and practice their own cultural values and religious beliefs. Hence, directors of Malaysian companies manage and direct their companies according to their cultural values. This view is further supported by Abdullah (1992), who suggests that an organisation's culture is influenced by the culture of a country.

In Malaysia, Iskandar and Pourjalali (2000) analysed the substantial changes in the Malaysian economy and its culture from 1987 to 1997. Their analysis indicates that individualism had increased due to increases in the country's wealth and higher survival rate in the competitive market, because of more opportunities in business and urban migration. The uncertainty avoidance factor, however, had decreased due to a lower inflation rate, improvement in quality of life and the ambitious vision of 2020. Following Gray's hypothesis, Iskandar and Pourjalali (2000) categorized Malaysia as a low conservative country, supported by Ball et al. (2003) who found that Malaysian auditors and managers were less transparent especially in the recognition of losses.

It is important to note that Iskandar and Pourjalali's (2000) analysis was on the national culture. Culture as defined by Perera (1989, p. 43) is "an expression of norms, values, beliefs, and customs which reflected typical behavioral characteristics" that are widely shared in a specific society at a particular point in time. Since Malaysia is a multiracial country, national culture may not explain behaviour of the

ethnic groups in the country. Specter and Solomon (1990) claimed that, the behaviour of different groups within a nation might not represent the national culture. To predict the conservatism practices of the Malays and Chinese ethnic groups in Malaysia, it is important to identify their level of individualism and uncertainty avoidance. Literature on the Malay and Chinese individualism are mixed. Firstly, some studies argued that Malays are less individualistic than Chinese. Abdullah (1992) presented cultural values of the Malays, as among others, faith in god, compliance, obedience, non-aggression and reciprocal obligations, hence indicating that the Malays have high uncertainty avoidance.

The Chinese however are referred to as gamblers or risk takers; implying they have low uncertainty avoidance. Islam is closed to collectivism and protect the rights of private ownership (Baydoun & Willett, 1995); and since Islam is the main religion of Malays, they are expected to have low individualism. Borrowing from management research, Hamzah, Saufi and Wafa (2002) found the Chinese to be more individualistic but had lower uncertainty avoidance than Malays. They assessed the Malaysian managers' leadership style and found that the Chinese prefered the delegating style of leadership, greater autonomy and being more directive. Malays, in contrast, preferred a participant leadership style, where they preferred to get involved with the decision making. This is consistent with Abdullah's (1992) findings that Malays were more masculine because they preferred relationship-based as compared to the Chinese who were task-oriented in achieving career-success.

Secondly, previous evidence indicated that the culture values between Malays and Chinese are indifferent. Lim (1998) stated that conceptually both Malays and

Malaysian Chinese have high collectivism (low individualism) which differs only in terms of content. Although Malays derive pleasure from community spirit that help to develop their sense of responsibility in helping others, the Chinese also have the same spirit but they channel it through associations that they build amongst members of the same clan, dialect or educational group, through which they offer help and security. This is supported by Juri (1999) who identified that Malays and Chinese entrepreneurs in Peninsular Malaysia mostly shared the same cultural values of masculinity, individualism and power distance, except that the Malays had higher uncertainty avoidance than the Chinese.

Selvarajah and Meyer (2008) examined two leadership styles of Malaysians, (a) managerial behaviour type, assigned to the Chinese and (b) personal qualities type, assigned to the Malays. The study argued that the Malays were assigned to personal qualities type because they were considered as sensitive individuals living in harmony, having secured good relationships with the community members. The Chinese were believed to have persuasive powers and a strong sense of trust on leadership, thus relevant to the Managerial Behaviour type. The results however showed that, both ethnic groups fell under the Managerial Behaviour type. They argued that changes in mindset might have narrowed the commercial gap between the Malays and Chinese as the nation strives towards vision 2020. Abdullah (2001) found that religiosity was the only factor that differentiated the Malays from Chinese and Indian. This is further confirmed by Fontaine and Richardson (2005) who found that the three ethnic groups; Malays, Chinese and Indian were not culturally different as they shared most of the cultural values examined in their studies.

Thirdly, some evidence suggested that Malays have high individualism levels. Tamam, Hassan and Said (1996) reported that Malays middle-executives portrayed the individualistic attribute. Haniffa and Cooke (2002) examined the Malays ethnic influences on voluntary disclosure in the Malaysian firms' annual reports. They predicted that Malays would provide less disclosure, consistent with Gray's (1988) hypothesis that low individualism and high uncertainty avoidance lead to secrecy. However, they found opposite directions that implied increased individualism in the Malays. Similarly, Zawawi (2008) found that Malay employees in Nestle Malaysia acted individualistically in certain situations if such acts would be of benefit to themselves. The evidence on high individualism for Malays is consistent with the claim of Iskandar and Pourjalali (2000) that Malaysia is experiencing modernisation. Rahman and Ali (2006) added that Malays wealth had increased since the introduction of the National Development Policy (NDP) in 1991 which provided positive discrimination in favour of Bumiputera. As a nation becomes wealthier, individual behaviour appears stronger (Hofstede, 1983).

Patel, Harrison and McKinnon (2002) examined the accountants' professional judgement on auditor-client conflict resolution. Their survey on Malaysian Chinese, Australian and Indian accountants revealed that Malaysian Chinese had lower individualism because their decision could still be influenced by the client in order to maintain harmonious interpersonal relationships and to avoid conflict. The Australian accountants, however, were less likely to resolve conflict by acceding to client demands and assessed the auditors' decision as being more unethical than the Indian and Malaysian Chinese.

Hambrick, Cho and Chen (1996) discussed advantages of having ethnic diversity in board. Ethnic diversity broadens knowledge, idea and experience through the range of information resources of different cultural background among the board members. An organization with high level of cultural heterogeneity in management able to share ideas and reach ultimate decision based on the various thinking and thus, will improve management performance through a common consensus among the multiracial group of the boards. Thus, large ethnic diversity may improve firm performance by sharing and reaching ultimate decision.

Shukeri, Ong and Shaari (2012) conducted a sample on 300 listed companies in Malaysia and found that ethnic diversity to be positively significantly associated with firm performance. The authors further explained that larger ethnic diversity on the board would yield to enhance firm performance. The finding can be explained by Malaysia as a multi-racial community, people are used to live and interact with another from different ethnic background. Therefore in management, it is less likely to cause conflict or miscommunication. Upper Echelon Theory suggested that high degree of demographic diversity in board may combine different idea; opinion and expertise thus generate better strategies. I therefore hypothesize that:

H_1 : Malay directors have positive relationship with firm performance.

2.3.2 Gender Diversity

Diversity in the boardroom and in top management team has become an increasingly relevant issue for more than a decade now. Previously considered a social issue and

an issue of image, diversity is increasingly considered as a value-driver in organisational strategy and corporate governance, thus becoming a challenging issue in recent academic research.

In the context of the working environment, gender diversity refers to the proportion of men and women in the workplace that may affect the way people communicate and work with each other in that area, and influence the organization's performance (Herring, 2009). Specifically, gender diversity in the context of the boardroom refers to the presence of women as board members (Dutta & Bose, 2006).

In most countries around the world, the presence of woman in the top management team including the board of directors is still low. The Higgs Review (Higgs, 2003), points out that although approximately 30% of managers in the United Kingdom corporate sector are female, women hold only 6% of non-executive director positions. In addition, a study conducted by Catalyst (2011) on US Fortune 500's women boards of directors found that more than 50% of companies had at least two women on their board of directors, and women held 14.4% of executive officer positions. However in recent years, there has been an increase of the numbers of woman on board.

In order to increase the number of woman directors, there has been a debate on whether the government should play a role and implement new regulations regarding the matter. In Norway, for example, from 2006 onwards large firms must have at least 40% female representation among the members of the board of directors, as a result of which Norway currently scores 44.2% female board representation. Spain, Iceland, and France are also in talks of imposing gender quotas as well, while in Belgium, the

Netherlands, and Italy such laws have passed at least the first stage of the legislative process (Ahern and Dittmar, 2011).

Past findings of the relationship between gender diversity and firm performance seems to be mixed. If there is a positive relationship between the gender and ethnic diversity of the board and firm performance, the economic implications of board diversity are important. To the contrary, if the relationship is negative, the costs of inclusion of women and ethnic minority directors become a factor to be considered (Carter et al. 2010). Hillman, Cannella, and Harris (2002) contend that one of the most important trends in US boardrooms over the past two decades is a shift toward the inclusion of women and ethnic minorities.

Fondas (2000) argues that the presence of women directors helps a board execute its strategic function because their experience is often closely aligned with company needs. For example, she notes that women may have a slight edge over men in terms of impacting strategic planning. Therefore, women can potentially help the board fulfil its strategic role. A more diverse board of directors might lead to a better understanding of markets that are themselves diversified in terms of gender, increase firm creativity and innovativeness, improve decision-making as more alternatives are evaluated, select more productive board members, and improve the image of the firm (Daunfeldt and Rudholm, 2012).

Adams and Ferreira (2004) examined a cross-sectional sample of data on boards of directors of all Fortune 500 firms and found that firms which have fewer women on their boards of directors are facing more variability in their stock return. The authors

further documented that firms with a greater proportion of women on their boards provide a greater part of their compensation to directors in the form of restricted shares; they reduce the relative importance of the fixed salary and keep the fraction of stock options relatively constant. Some empirical findings indicate that diversity results in greater knowledge, creativity and innovation and thus, organizations tend to become more competitive (Watson et al., 1993). In addition, a more recent study done by Deszo and Ross (2012) came to a conclusion that female representation in top management leads to better firm performance but only to the extent that a firm is focused on innovation as part of its strategy.

Smith, Smith and Verner (2005) stated the advantages of having women in board where women directors may better understand particular market conditions than men, which may bring more creativity and quality to board decision making. Higher gender diversity on the board may generate a better public image of the firm and improve firm performance. Also, it is possible that the involvement of women in board explore external talent pool. Furthermore, the number of female top managers may positively influence the career development of women in lower positions by motivate them as inspiring model.

On the other hand, investigating sample of one hundred Fortune 500 firms, Zahra and Stanton (1988) found that the ratio of board member minorities, including women, was negatively related to the organization's financial performance in terms of profitability and efficiency. They found no relationship between diversity and TQ, profit margin, sales to equity, earnings per share, or dividends per share. In addition, a study done by Prihatiningtias (2012), the quantitative results indicated that there was a

negative significant relationship between gender diversity in the boardroom as measured by the Blau Index and firm financial performance as measured by Tobin's Q. Wellalage and Locke (2012) conducted study on non-financial firms listed on the Colombo Stock Exchange (CSE) during the period 2006 to 2010 to determine the impact of board gender diversity on firm financial performance. Their results had shown a negative and significant relationship between woman on board and firm financial performance as measured by Tobin's Q.

However, Marimuthu and Kolandaisamy (2009) found that gender diversity was not correlated with performance and conclude that this is an early signal that gender diversity might not have any considerable impact on firm financial performance. In a study conducted by Farrell and Hersch (2005), no conclusion can be made whether board gender diversity could generate better firm performance. They put forward that due to internal preferences or external pressure for greater board diversity, the demand for female representation allows women to self-select better performing firms. Women are added to boards when a board has low or no female representation.

H_2 : Woman directors have a positive relationship with firm performance.

2.3.3 Board of Directors' Age

The effect of directors' age on board efficacy and firm performance is ambiguous. On one hand, age can be a good proxy for business experience and the degree of conservatism, which may be important for solving problems and taking risk-averse actions before and during the crisis. On the other hand, old directors may not catch up with new information and technology as easily as young directors do, which may be

important in dealing with unexpected and new problems during the crisis (Francis, Hasan and Wu, 2012).

Age diversity has the potential to enhance board performance, because directors of different ages will, to some extent, have different backgrounds, skills, experiences and social networks. Several examples of the benefits of a more age diverse board of directors come to the authors' minds. One example being that different age groups have varied access to information and expertise. Today's younger generations have grown up with computers and internet at home, and may be better informed and more experienced on the subject of online business. The older generation may, however, be more experienced dealing with the business offline, as they have greater experience in this field through their career. Today more and more businesses have both online and offline services, so experience of both types of business is of importance to many firms (Dagsson and Larsson, 2011). By expanding the age diversity on the board of directors, the board's aggregated human and social capital can be maximised. Carter et al. (2010) state this clearly when they argue that "diversity holds the potential to improve the information provided by the board to managers due to the unique information held by diverse directors".

Huse and Rindova (2001) arguments state that boards must represent the different types of stakeholders. Diversity in directors' age is assisting in the process of creating different perspectives, views and ultimately consensus. A firm may, for example, attract their customers in different age groups due to the variety of products and services, provided by the firm. In order to represent the spread of interests of these

customers due to age dispersion, boards need to have directors from different age groups to enhance a variety of perspectives.

Francis et al. (2012) did a study on 876 non-financial companies listed in the S&P 1500 to examine whether and to what extent corporate boards affect the performance of firms. One of their findings show that director age is positively related to firm performance, indicating that during times of crises, experience is a valuable resource to shareholders. Overveld (2012) examines the relationship between board diversity, in terms of gender composition and age dispersion, and the financial firm performance measures return on assets and Tobin's Q. The relationship is tested with data from 2010 of 95 Dutch firms, listed on Euronext Amsterdam. The author had found that age diversity positively influence the firm performance.

H_3 : Age diversity has a positive relationship with firm performance.

2.3.4 Board of Director's Qualification and Education

The Malaysian Code on Corporate Governance indicates that all audit committee members must be financially literate and at least one should be a member of an accounting association or body (Securities Commission, 2007)[2]. The Bursa Malaysia adopts the same condition in its listing requirements but has specifically stated that (a) at least one director must be a member of Malaysian Institute of Accountants, or alternatively, (b) must have at least three years working experience with (i) academic qualifications as listed in Part I of the First Schedule of the Accountants Act 1967, or

[2] The Malaysian Code on Corporate Governance (Revised, 2007)

(ii) a member of one of the recognised bodies list out in the Part II of the First Schedule of the Accountants Act 1967. The definition of financial experts employed in Malaysia is therefore, strictly applied to directors who have qualifications and experience in accounting and finance.

Lanfranconi and Robertson (2002) pointed out that the collapse of Enron and WorldCom was due to the lack of knowledge of their board members. Specifically, in the Enron case, the board members did not understand its complex financial planning structures that used 'special purpose entities'. In the WorldCom case, the board members had no knowledge of basic accounting principles, as they were not aware of expenditure being capitalised instead of expensed. Hence, in the two cases one could ask how effective the directors were in carrying out their duties.

Qualifications of individual board members are important for decision making. For example, the monitoring role can be effectively implemented if the board members are qualified and experienced. From the resource dependency perspective, qualified and skilful board members can be considered as a strategic resource to provide a strategic linkage to different external resources (Ingley & van der Walt, 2001). Board members with higher qualifications would ensure an effective board, which requires, "high levels of intellectual ability, experience, soundness of judgement and integrity".

The findings of Agrawal and Chadha (2005) on US firms highlighted the importance of accounting knowledge among the outside directors. Initially, they found that independent directors did not determine the probability of firms being required to restate their accounts. However, when the study tested outside directors with financial

expertise, the result was significant. The finding implies that outside directors are effective in reducing the probability of financial restatements only if they have financial expertise. Guner, Malmendier and Tate (2008) examined several types of financial expertise including financial executives, finance professors and bank executives. The study reported that bank executives acting as directors on the board benefit the creditors but not the shareholders. Specifically, bank executives were associated with higher debt though the firms had low investment opportunities. The findings on the non-bank finance executives however confirmed that, this type of financial expertise promotes better governance as it led to less value-destroying acquisition.

As noted by Volpe and Woodlock (2008), many boards have been charged to review major issues on accounting principle and financial statements presentation. Hence, knowledge on accounting and financial aspects is of the utmost importance. However, the highlight from the survey of 160 Fortune companies showed that the board members had a lack of knowledge on financial and accounting issues including basic accounting.

Very few studies explored financial expertise on the board as they focused more on the financial expertise of the audit committee. Haniffa and Cooke (2002) found positive relationship between general business and accounting education of board directors and disclosure of information that demonstrates accountability and credibility of the top management team. Although the board assigned its committee with the oversight role of the financial reporting process, the quality of the reports remained the responsibility of the board members. Yermack's study (2006) outlined

that share price reactions are sensitive, among others, to director's professional qualifications, particularly in the area of accounting and finance. It is clear that directors' qualifications and their specialisations are related to firm performance.

H_4 : Qualified directors have a positive relationship with firm performance.

2.3.5 Foreign Directors on Board

Foreign directors can provide valuable international expertise and advice to firms, especially those with significant foreign operations or plans for overseas expansion. On the other hand, foreign independent directors are less effective in overseeing management than local-based independent directors and thus, they could weaken a board's monitoring and disciplining role. Foreign directors can be less effective monitors for several reasons. First, a director's geographic distance from corporate headquarters generates substantial oversight costs, since making on-site visits and attending board meetings, usually held at corporate headquarters, become more difficult and time-consuming. This undermines a director's ability and incentives to gather information and closely monitor management (Masulis, Wang and Xie, 2012). It was reported in the *Korean Times* (2007), the Korean Corporate Governance Service highlighted the poor board meeting attendance record of foreign outside directors of Korean companies over the 2004–2006 period and suggested that 'the main reason behind foreigners 'low attendance is that most of them live outside Korea and are unable to fit travelling here for the meeting on their schedule'.

In addition, Randoy et al., (2006) argued that due to their different backgrounds, foreign directors can add valuable and diverse expertise which domestic directors do

not have. However, foreign directors may be less informed about domestic affairs which can lower a director's effectiveness. Another important disadvantage is changing the board language to fit foreign directors which can be very costly.

Notwithstanding the evidence of advantages and disadvantages of heterogeneous groups, Dowling & Aribi (2012) reveals that the individual characteristics, like nationality, of just one director can influence corporate decision making, and eventually financial firm performance. Van Veen and Elbertsen (2008) examined, with sample data of UK, Germany and the Netherlands, the level of nationality diversity of a corporate board as a dependent factor on the governance regime of the country of origin of the company. As a result of global economic forces, the study shows an increase in the diversity of nationalities on corporate boards. It seems that the nationality diversity within the three countries shows substantial differences. Germany shows the lowest proportion of foreigners in corporate boards, UK an intermediate proportion, and the Netherlands the top position. The data analysis demonstrate differences in pace of absorption of foreigners on the corporate boards. A major part of these differences is determined to governance regime features of the company's country of origin. In alignment with human capital theory, a foreign board member can bring different skills and capabilities to the boardroom, but does not necessarily have to affect performance.

H_5 : Foreign directors have a negative relationship with firm performance.

2.4 CONTROL VARIABLES

The three control variables used in this study are board size, firm size and industry type.

2.4.1 Board Size

Identifying appropriate board size that affects its ability to function effectively has been a matter of continuing debate. Druckeriv (1992) claimed that larger board possessed expertise in information and knowledge over smaller board and therefore improves the firm performance. The study claimed that larger board is tougher to manipulate other members and better monitoring on firm financial performance. They argued that larger board size has more external linkage, ability to extract critical resources such as funding, and expertise or experience in running the business and these attributes could lead to higher performance.

In addition, Shukeri et. al (2012), in their study proved that board size is positive and significantly associated with firm performance measured by ROA. The result provides evidence that larger board size tends to ensure that the management control of the company is strong. Consequently, it generates positive influence on the managers to mitigate the conflict of interest and personal interest and thus, able to ensure that the managers are strive to work for the betterment of firm performance.

Previous studies claimed that as board size increase, conflict of interest will arise, as well as communication obstacles, which ultimately deteriorate firm performance. Coles, Naveen and Naveen (2008) indeed find evidence that larger firms, diversified firms, and firms that rely more on debt financing, will derive greater firm value from

having larger boards. Thus, with the presence of more board size, proper management and control will be emphasized and help improve the company's financial and non financial performance.

Jensen (1993) and Lipton and Lorsch (1992) suggest that large boards can be less effective than small boards. The idea is that when boards become too big, agency problems (such as director free-riding) increase within the board and the board becomes more symbolic and less a part of the management process. Yermack (1996) tests this view empirically and finds support for it. He examines the relationship between Tobin's Q and board size on a sample of large U.S. corporations, controlling for other variables that are likely to affect Q. Yermack's results suggest that there is a significant negative relationship between board size and Q.

Confirming the Yermack (1996) finding, Eisenberg et al. (1998) document that a similar pattern holds for a sample of small and midsize Finnish firms. The data therefore appear to reveal a fairly clear picture: board size and firm value are negatively correlated.

H_6 : Board size has a negative relationship with firm performance.

2.4.2 Firm Size

Size of the firm is often used as a control variable in an analysis of financial performance and is shown to be related to market returns by Fama and French (1992), among others. In previous studies, it is extensively measure by the natural log of the total assets of the company. However, there are other forms of measurements for firm

size. Marinova et al. (2010) measures firm size by the natural logarithm of the net sales of the firm. The findings of the study suggest that firm size has an inverse relationship with firm performance, when measured by Tobin's Q.

Ramasamy, Ong, and Yeung (2005) found that firm size has a negative correlation with profitability. Larger firms would therefore be harder to manage and result in loss of organisational effectiveness stemming from overcoming problems in bureaucratic management structures (thereby inhibiting swift and efficient decision-making process), general managerial and technical inefficiencies. These organisational problems lead invariably to higher production costs which depress overall profitability. In addition, Tibben (2010) also found similar results suggesting that firm size have a negative influence on firm performance which indicates that small and young companies had a better financial performance than 30 bigger and older Western European companies during 2007-2009. However, the impact of firm size in firm performance is small.

As larger firms are more in the public eye and thus under more societal pressure for board diversity (Adams and Ferreira, 2004), firm size is expected to have a positive impact on firm performance. It is generally argued that big firms possess economies of scale and better access to capital markets to achieve lower costs and higher returns. This is further proven by Lee (2009). The author conducted a study on 7,000 US publicly-held firms during the period 1987–2006 and the results provides evidence that profit rates are positively correlated with firm size in a non-linear manner.

H_7 : Firm size has a negative relationship with firm performance.

2.4.3 Industry Type

Theories from strategic management and industrial organization have emphasized the importance of industry affiliation to firm performance. Barriers to entry and other structural features of industries create significant differences in firm performance (Bain, 1966; Caves, 1989; Porter 1981). Due to the differences in sunk and fixed-cost requirements by industry, firm performance may differ significantly by industry regardless of country affiliation. Thus, even among firms with different affiliations by country, important differences may arise in performance by industry.

In industrial organization economics, profit differences are considered to be the result of structural differences among industries (Bain, 1966; Porter, 1981). The resource-based view argues that heterogeneous firm resources that are difficult to imitate, are not traded on factor markets and can only be developed over time, drive firm performance (Wemerfelt, 1984; Dierick:x and Cool, 1989). In this view, industry structure is a result of firm choices and firms can adapt and change industry structure through their resource-based strategies. Empirical evidence provides robust support for the resource-based view that firm performance is driven more by internal factors than structural elements (Rumelt, 1991). McGahan and Porter (1997) argue that industry structure is a central determinant of firm performance, and firm differences are considered against an industry background. Their results provide strong support for the idea that industry membership has an important influence on profitability.

H_8 : Industry type has a relationship with firm performance.

2.5 CHAPTER SUMMARY

This chapter highlights the concept of board diversity in general and highlights previous studies on the each of the dependent, independent and control variables used in this study. The findings of the past literature are compared and hypotheses for this study are developed. The hypotheses are tested in order to seek the relationship between firm performance measures and board diversity characteristics.

CHAPTER THREE:

RESEARCH METHODOLOGY

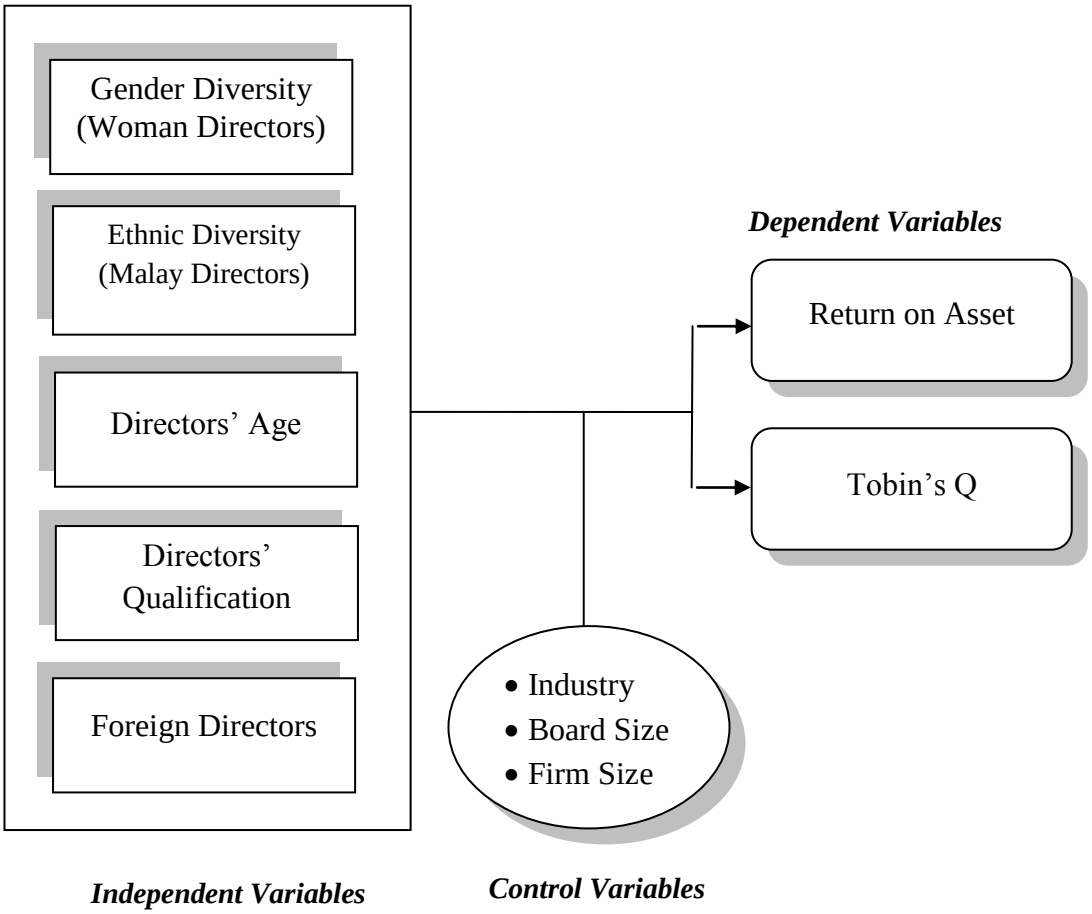
3.1 INTRODUCTION

This chapter discusses the theoretical framework adopted in the study. This is followed by the research design, the data collected and their source and measurements of variables. It also deliberates the methods used in the study, analysis used to obtain the results such as descriptive analysis, multiple linear regression analysis, correlation analysis and finally the summary of the chapter.

3.2 RESEARCH FRAMEWORK

The present study examines the effects of several common determinants of board diversity on firm financial performance based on the literature reviewed in chapter two. The general elements of board diversity are gender diversity and ethnic diversity. To further extend the literature, this study also investigates director's age, director's qualifications, and foreign directors on board. These variables represent the independent variables, while firm financial performance, measured by Return on Asset (ROA) and Tobin's Q (TQ), represent the dependent variable. The control variables used are board size, firm size and industry type. Figure 3.1 depicts the research framework including the independent, control and dependent variables that will be tested in this study.

Figure 3.1
Research Framework



3.3 RESEARCH HYPOTHESES

Based on the literature discussed in Chapter Two, the hypotheses are developed as follows:

H_1 : Malay directors have positive relationship with firm performance.

H_2 : Woman directors have a positive relationship with firm performance.

H_3 : Age diversity has a positive relationship with firm performance.

H_4 : Qualified directors have a positive relationship with firm performance.

H_5 : Foreign directors have a negative relationship with firm performance.

H_6 : Board size has a negative relationship with firm performance.

H_7 : Firm size has a negative relationship with firm performance.

H_8 : Industry type has a relationship with firm performance.

3.4 RESEARCH DESIGN

This study is designed to achieve its objectives by using correlation studies to explore the relationship between gender diversity, ethnic diversity, directors' age, directors' qualification and foreign directors as independent variables and the dependent variables which is firm performance, measured by ROA and TQ.

3.5 DATA COLLECTION

The type of data that is used for this study is secondary data. The data are collected from annual reports published by the sample companies. These annual reports were retrieved from the Bursa Malaysia website in the company announcements section.

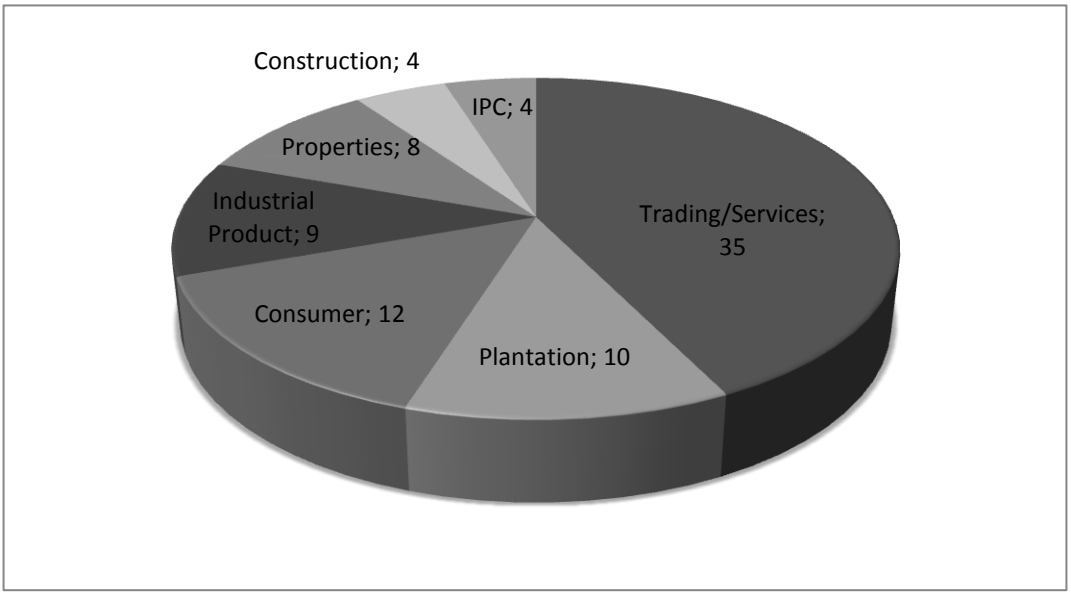
In the Director's Profile section, for each board member, their gender, ethnicity, age, qualification, nationality, and number of directors on board are recorded. In the Financial Statements section, the data collected are the total asset, total equity, total debt and lastly net income attributed to shareholders. The gender of the board members was indentified using the following rules. First, is by identifying the name of the directors. Next is by looking at photograph of the director in the annual report is viewed. If a photo is not available, then determine whether the biographical information uses identifying pronouns such as 'she' and 'her,' or 'he' and 'his'. In addition, to help in identifying which industry the company is in, the information are collected from the profile of each of the sample companies available in the Bursa Malaysia website.

3.6 SAMPLING

Out of the 822 listed companies in the Bursa Malaysia Main Market in year 2011, this study uses a sample of 100 companies which are the top 100 companies by market capitalization as at December 2nd, 2011. The companies are listed on the Malaysian Stock Exchange which is the Bursa Malaysia Main Market. The market capitalization represents the aggregate value of a company or stock. It is obtained by multiplying the number of shares outstanding by their current price per share.

However, after excluding the financial firms and some missing data, the final sample for this study is reduced to 82 listed companies. It is an accepted methodology to exclude financial companies from any comparative financial analysis of a sample of companies when performance is being analysed and this exclusion is due to the different financial structure of such organisation. The list of companies' names could be found in Appendix D. Figure 3.2 illustrates the distribution of the 82 companies according to their respective industry.

Figure 3.2
Companies by Industry Type



The data collected for this study was the latest one available, which was the year 2011. The data for year 2012 could not be used since different companies have different financial year end, not all of the companies have reached their financial year end 2012 yet. Thus, the annual report for year 2012 is not available.

3.7 VARIABLES AND MEASUREMENTS

In an experiment, the independent variable is the variable that is varied or manipulated by the researcher, and the dependent variable is the response that is measured. An independent variable is the presumed cause, whereas the dependent variable is the presumed effect. The variables in this study are divided into three types as follows:

3.7.1 Dependent Variables

The dependent variable used in this study is firm performance. It is measured by Return on Asset and Tobin's Q.

Table 3.1
Dependent Variables

VARIABLE	ACRONYM
Return on Asset	ROA
Tobin's Q	TQ

3.7.2 Independent Variables

The independent variables used in this study are ethnic diversity, gender diversity, directors' age, director's qualification and foreign directors.

Table 3.2
Independent Variables

VARIABLE	ACRONYM
Malay Directors (%)	MDIR
Woman Directors (%)	WOMDIR
Directors' Age	AVGAGE
Director's Qualification	QUAL
Foreign Directors	FORDIR

3.7.3 Control Variables

The control variables used in this study are industry, board size and firm size.

Table 3.3
Control Variables

VARIABLE	ACRONYM
Board Size	BDSIZE
Firm Size	FIRMSIZE
Industry	IND1 – IND7

3.7.4 Measurements of Variables

Table 3.4 shows all the variables used and the measurements utilized in the current study. All the measurements used are based on previous literature.

Table 3.4
Measurements of Variables

VARIABLE	MEASUREMENT
Dependent Variables	
Return on Asset	$\frac{Net\ Income}{Total\ Asset}$
Tobin's Q	$\frac{Market\ Value\ of\ Equity + Book\ Value\ of\ Debt}{Book\ Value\ of\ Debt + Book\ Value\ of\ Equity}$
Independent Variables	
Ethnic Diversity – Malay Directors (%)	$\frac{Number\ of\ Malay\ directors}{Total\ number\ of\ directors}$
Gender Diversity - Woman Directors (%)	$\frac{Number\ of\ woman\ directors}{Total\ number\ of\ directors}$
Directors' Age (years)	$\frac{Total\ age\ of\ directors}{Total\ number\ of\ directors}$
Director's Qualification (%)	$\frac{Total\ number\ of\ directors\ with\ finance,\ economic\ or\ accounting\ qualification}{Total\ number\ of\ directors}$
Foreign Directors (%)	$\frac{Total\ number\ foriegn\ directors}{Total\ number\ of\ directors}$
Control Variables	
Industry	1; if the company is in the trading&services / consumer / plantation / industrial products / properties / construction / IPC 0; if otherwise
Board Size	Total number of directors on board
Firm Size	Natural logarithm of total assets

3.8 DATA ANALYSIS

There are three types of analysis used in this study. They are (1) Descriptive Analysis, (2) Ordinary Least Squares (OLS) Regression Model and (3) Correlation Coefficient Analysis. The data were transported into IBM SPSS Statistics version 19 to be analyzed and yield desired outcomes.

3.8.1 Descriptive Analysis

Descriptive statistics is the term given to the analysis of data that helps describe, show or summarize data in a meaningful way such that, for example, patterns might emerge from the data. However, descriptive statistics do not allow conclusions to be made beyond the data that have been analysed or reach conclusions regarding any hypotheses that might have been made. Hence in this study, they are simply a way to summarize and describe the data collected for all the companies used as the sample.

3.8.2 Ordinary Least Squares (OLS) Regression Model

Ordinary Least Squares (OLS) regression is used as a tool in this study for examining the relationship between two or more interval/ratio variables. OLS regression assumes that there is a linear relationship between the two variables. The basic idea of linear regression is that, if there is a linear relationship between two variables, one variable can be used to predict values on the other variable. In Model 1, the independent variables are regressed against ROA while in Model 2, the independent variables are regressed against TQ.

Multiple Linear Regression Model

Model 1: $Y = \alpha + \beta_1 MDIR + \beta_2 WOMDIR + \beta_3 AVGAGE + \beta_4 QUAL + \beta_5 FORDIR + \beta_6 BDSIZE + \beta_7 FIRMSIZE + \beta_8 IND1 + ... + \beta_{14} IND7 + \varepsilon$

Model 2: $Y = \alpha + \beta_1 MDIR + \beta_2 WOMDIR + \beta_3 AVGAGE + \beta_4 QUAL + \beta_5 FORDIR + \beta_6 BDSIZE + \beta_7 FIRMSIZE + \beta_8 IND1 + ... + \beta_{14} IND7 + \varepsilon$

Where:

Y	=	Firm Performance (ROA) in Model 1
Y	=	Firm Performance (TQ) in Model 2
α	=	Constant
β	=	Beta Coefficient
MDIR	=	Malay Directors
WOMDIR	=	Woman Directors
AVGAGE	=	Directors' Age
QUAL	=	Directors' Qualification
FORDIR	=	Foreign Directors
BDSIZE	=	Board Size
FIRMSIZE	=	Firm Size
IND1	=	Trading/Services Industry
IND2	=	Consumer Industry
IND3	=	Plantation Industry
IND4	=	Industrial Product Industry
IND5	=	Properties Industry

IND6	=	Construction Industry
IND7	=	IPC Industry
ε	=	Error Term

3.8.3 Correlation Coefficient Analysis

The correlation coefficient is used to indicate the relationship of two random variables. It provides a measure of the strength and direction of the correlation varying from -1 to +1. Positive values indicate that the two variables are positively correlated, meaning the two variables vary in the same direction. Negative values indicate that the two variables are negatively correlated, meaning the two variables vary in the contrary direction. Values close to +1 or -1 reveal the two variables are highly related. There are three methods of the correlation analysis. The current study uses Pearson Correlation to generate results.

3.9 CHAPTER SUMMARY

This chapter explains the hypotheses regarding the expected association between the dependent and the independent variables and their measures. It also explains the table of variables, the analysis technique and the research framework. Finally, this chapter puts forward the necessary information about the sampling and data collection.

CHAPTER FOUR

FINDINGS AND DISCUSSIONS

4.1 INTRODUCTION

This chapter discusses the results of this research. It explains the acceptance or rejection of the hypotheses that are tested by comparing them with the results obtained. Data are analyzed using IBM SPSS Statistics version 19. The analyses begin first with the descriptive analysis, followed by correlation analysis between variables and regression coefficients analysis. This chapter also discusses about another type of test namely the multicollinearity test and lastly the acceptance or rejection of hypotheses of the study.

4.2 DESCRIPTIVE ANALYSIS

4.2.1 Dependent Variables

Table 4.1 depicts the descriptive analysis for the dependent variable which is firm performance. For the current study, firm performance is measured using two variables which are Return on Asset (ROA) and Tobin's Q (TQ).

Table 4.1
Descriptive Statistics for ROA and TQ

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation
roa	82	.6610	-.2019	.4591	.089889	.0853887
tQ	82	11.8064	.5218	12.3282	2.085382	1.8110419
Valid N (listwise)	82					

Table 4.1 shows the descriptive statistics for ROA and TQ based on the sample consisting of top 82 non-financial firms listed on the Main Market of Bursa Malaysia. The maximum value of ROA is 45.91% while the minimum value is -20.19% resulting in the immense difference of 66.10%. The ROA in this study has a mean of 8.99% and its standard deviation is 0.0854

On the other hand, TQ shows a maximum value of 12.33 and minimum value of 0.5218. The gap between the highest value and the lowest value is really high (11.81). The mean and standard deviation for TQ are 2.09 and 1.8110 respectively.

4.2.2 Independent Variables

Table 4.2 depicts the descriptive analysis for the independent variables (IVs) which is (1) ethnic diversity, measured by the percentage of Malay directors, (2) gender diversity measured by the percentage of woman directors, (3) directors' average age, (4) director's qualification and (5) foreign directors.

Table 4.2
Descriptive Statistics for IVs

Descriptive Statistics

	N	Range	Minimum	Maximum	Mean	Std. Deviation
Mdir	82	1.0000	.0000	1.0000	.450223	.2656092
womdir	82	.4000	.0000	.4000	.077653	.0938942
avgage	82	20.0833	50.7500	70.8333	58.492956	4.2611774
qual	82	.8333	.1667	1.0000	.587853	.1800465
fordir	82	.6000	.0000	.6000	.095364	.1630082
Valid N (listwise)	82					

Referring to Table 4.2, there are five variables used as a proxy for independent variables. This sample consists of top 82 non-financial firms listed on the Main Market of Bursa Malaysia. The highest percentage of Malay directors present at the board is 100% while the lowest amount of Malay directors on board is 0%. This indicates that in the sample, some firms have all Malay directors on their board, at the same time some firms have none at all. On an average, firms in the current study sample have 45.02% Malay directors on board and the standard deviation for this variable in 0.2656.

For woman directors on board, the maximum value is 40.00% while the minimum value is 0%. This point out that Malaysian firms consisted in the sample still have low percentage of woman directors which is less than half of the total numbers of directors on board. Some of the firms have no female directors and only consists of male directors. This can be compared to Norway, where large firms must have at least 40% female representation among the members of the board of directors (Tibben, 2010). The mean value is 7.77% and the standard deviation is 0.0939.

The oldest director in this study is 70.83 years old while the youngest is 50.75 years old. The age difference between the oldest and the youngest is 20.08 years. The average age of directors is 58.49 years old and the standard deviation is 4.2612. The directors in the sample are slightly younger than compared to the directors in the study of Francis et al. (2012), Marinova et al. (2010) and Carter et al. (2003) with the average age of 61, 59.75 and 59 years old respectively.

The average percentage of directors with finance, economics or accounting qualifications is 58.79%, indicating more than half of the directors are qualified and

experienced to make sound decisions for their company. Ranging from 100% to 16.67%, the range of qualification is 83.33% and deviates 0.1800 from its mean.

Regarding foreigners on the board of directors, the highest percentage of foreign directors is 60.00% and the lowest is 0% revealing that some of the firm in the sample have no foreign directors at all. The mean and standard deviation for this variable is 9.54% and 0.1630 respectively.

4.3 MULTIPLE LINEAR REGRESSION ANALYSIS

Multiple linear regression attempts to model the relationship between two or more explanatory variables and a response variable by fitting a linear equation to observed data. Every value of the independent variables (MDIR, WOMDIR, AVGAGE, QUAL, FORDIR) is associated with a value of the dependent variables (ROA, TQ).

4.3.1 Model 1: ROA as Dependent Variable

The result of the multiple regression analysis for Model 1 is shown in Tables 4.3, 4.4, 4.5 and 4.6.

Table 4.3
Model Summary (Model 1)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.672[a]	.452	.347	.0690060

a. Predictors: (Constant), IND7, firmsize, IND5, IND6, womdir, IND4, fordir, IND3, bdsize, qual, avgage, Mdir, IND2

Table 4.3 includes the variability between return on asset (ROA) as a dependent variable and the independent variables. R in this analysis represents the correlation between the observed and predicted values of dependent variable. ROA has a 0.672 correlation with the linear combination of independent variables and a standard error of 0.0690. The R-Square and adjusted R-Square for this model is 45.2% and 34.7% respectively. Therefore, 34.7% of the ROA is influenced by the independent variables in the study while 65.3% of the ROA is influenced by other variables. The adjusted R-Square for this current study is relatively higher compared to previous studies such as Francis et al. (2012) and Nielsen and Huse (2010), with 21% and 13% respectively.

Table 4.4
ANOVA table (Model 1)

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	.267	13	.021	4.310	.000[a]
	Residual	.324	68	.005		
	Total	.591	81			

a. Predictors: (Constant), IND7, firmsize, IND5, IND6, womdir, IND4, fordir, IND3, bdsize, qual, avgage, Mdir, IND2
b. Dependent Variable: roa

Out of all the information presented in the ANOVA table, the major interest of researchers is most likely focused on the value located in the "Sig." column. The 'Sig.' is also referred to as the significance level, P-value. P-value is a test of the entire model as a whole. The accepted significance level in most research fields is 0.05 or at the 5% level. Looking at Table 4.4, the last column shows the goodness of fit of the model. The significance level of this model is 0.000 indicating that the

model using ROA as dependent variable is valid and has a very good significance level.

Table 4.5
Excluded Variables (Model 1)

Excluded Variables[b]

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	IND1	.[a]	.	.	.	.000	.	.000

a. Predictors in the Model: (Constant), IND7, firmsize, IND5, IND6, womdir, IND4, fordir, IND3, bdsize, qual, avgage, Mdir, IND2
b. Dependent Variable: roa

Table 4.5 shows that IND1 is excluded in the analysis of the current study. At least one variable must always be omitted which leaves something with the value of zero with which to compare each of the other variables. The omitted variable becomes the reference variable against which the effects of the other variables are assessed. The results can be interpreted as the difference between each category and this omitted variable.[3] This automatic omission process by the SPSS software produces a perfect collinearity among a subset of predictors. Including two predictors that are perfectly collinear will result in one of them being excluded from the model entirely (Gujarati, 2003).

Table 4.6 provides information on the individual significance level (p-value) of each independent variable. There are two variables that are significant in the current study. The accepted level of significance is 0.05 or 5% at the 95% confidence level. The first significant variable is FIRMSIZE with a significance level of 0.001 or 0.1%. Another

[3] http://groups.chass.utoronto.ca/pol242/Labs/LM-9B/LM-9B_content.htm

accepted level of significance is 0.10 or 10% at the 90% confidence level. There is one variable that is significant at this level, which is FORDIR with p-value of 0.092.

Table 4.6
Coefficients Table (Model 1)

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	.353	.149		2.367	.021		
	Mdir	-.044	.035	-.137	-1.269	.209	.688	1.455
	womdir	-.039	.097	-.042	-.399	.691	.712	1.405
	avgage	.000	.002	-.007	-.067	.947	.721	1.387
	qual	.001	.051	.001	.012	.991	.691	1.447
	fordir	.098	.057	.187	1.710	.092	.675	1.481
	bdsize	-.002	.004	-.040	-.399	.691	.810	1.235
	firmsize	-.064	.018	-.365	-3.529	.001	.752	1.329
	IND2	.038	.028	.159	1.378	.173	.608	1.644
	IND3	.042	.027	.162	1.577	.120	.767	1.303
	IND4	.012	.027	.045	.444	.658	.801	1.249
	IND5	-.020	.029	-.071	-.699	.487	.771	1.296
	IND6	-.031	.039	-.078	-.778	.439	.811	1.234
	IND7	.062	.039	.157	1.585	.118	.818	1.222

a. Dependent Variable: roa

Table 4.6 also shows the effect of individual variables on the dependent variable. This can be interpreted by looking at the unstandardized coefficients Beta (B) column. Out of all the 14 variables tested, only seven variables have positive relationship with the dependent variable. For every one unit increment in AVGAGE, ROA tends to increase by a very minimal value or 0.00%. The increment could be considered as negligible. For the QUAL, it can be explained that for every one unit increase of QUAL, the ROA will increase by 0.1%, holding all other independent variables constant. The result also shows that one unit increase in QUAL will not have any vital

effect on firm performance. In addition, an increase of 9.8% of ROA occurs when FORDIR is increased by one unit.

In contrast, there are nine variables that move inversely with ROA. With all other independent variables remain constant; one unit increase in MDIR will lower the ROA by 4.4%. Additionally, WOMDIRD, BDSIZE, and FIRMSIZE produces lower ROA by 3.9%, 0.2% and 6.4% respectively when they increase by one unit.

As for the IND variables, all comparisons are made in relation to omitted variable which is IND1. Table 4.6 shows that IND2 has 3.8% higher ROA than IND1. Besides that, IND3, IND4 and IND7 also have higher ROA compared to IND1 with a value of 4.2%, 1.2% and 6.2% respectively. On the other hand, IND5 and IND6 earn lower ROA compared to IND1 with values 2.0% and 3.1% respectively.

Thus, substituting the α and β value in the Regression model for Model 1, the new regression model is:

Model 1:

$$ROA = 0.353 - 0.044(MDIR) - 0.039(WOMDIR) + 0.000(AVGAGE) + 0.001(QUAL) + 0.098(FORDIR) - 0.002(BDSIZE) - 0.064(FIRMSIZE) + 0.038(IND2) + 0.042(IND3) + 0.012(IND4) - 0.020(IND5) - 0.031(IND6) + 0.062(IND7) + \varepsilon$$

4.3.2 Model 2: TQ as Dependent Variable

The result of the multiple regression analysis for Model 2 is shown in the Table 4.7 – Table 4.10.

Table 4.7
Model Summary (Model 2)

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.620[a]	.385	.267	1.5503334

a. Predictors: (Constant), IND7, firmsize, IND5, IND6, womdir, IND4, fordir, IND3, bdsize, qual, avgage, Mdir, IND2

Referring to Table 4.7, it can be seen that the correlation between TQ and the independent variables are 0.620 and has a standard error of 1.5503. The following statistic shown in the table are R-Square and Adjusted R-Square of 38.5% and 26.7% respectively. The Adjusted R-Square for this model is slightly lower than the Adjusted R-Square in Model 1 using ROA as dependent variable where it is 34.7% compared to 26.7%. The Adjusted R-Square indicates that 26.7% of the TQ is influenced by the independent variables in the study while 73.3% of the TQ is influenced by other variables. The Adjusted R-Square for this model is higher compared to Erhardt et al. (2003), where the value in that study is 21%.

Table 4.8
ANOVA table (Model 2)

ANOVA[b]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	102.229	13	7.864	3.272	.001[a]
	Residual	163.440	68	2.404		
	Total	265.670	81			

a. Predictors: (Constant), IND7, firmsize, IND5, IND6, womdir, IND4, fordir, IND3, bdsize, qual, avgage, Mdir, IND2
b. Dependent Variable: tQ

The 'Sig.' or the significance level, P-value, is the most essential statistic in the ANOVA table and is the major concern for most researchers. The last column shows

the goodness of fit of the model. The accepted threshold in most research fields is 0.05 or at the 5% level. Looking at Table 4.8, the p-value of this model is 0.001 indicating that the model using Tobin's Q as dependent variable is valid and has a very good significance level.

Table 4.9
Excluded Variables (Model 2)

Model		Beta In	t	Sig.	Partial Correlation	Collinearity Statistics		
						Tolerance	VIF	Minimum Tolerance
1	IND1	.[a]	.	.	.	.000	.	.000

a. Predictors in the Model: (Constant), IND8, bdsize, IND4, IND7, qual, IND5, IND2, Mdir, IND6, fordir, firmsize, MdirD, IND3, womdir, avgage, womdirD
b. Dependent Variable: TQ

Referring to Table 4.9, the excluded variable in Model 2 is the same as the excluded variable in Model 1, which is the IND1. The reason for the excluding the variable has been discussed in the Excluded Variables section of Model 1.

Table 4.10 provides information on the individual significance level (p-value) of each independent variable. In previous studies, the most commonly used level of acceptance for significance are 0.05 (5%) or at the 95% confidence level. In other words, statistical significance at a .05 level means there is a 95 percent chance that the relationship among the variables is not due to chance.[4] Looking at the result in Table 4.10, there are two variables that are statistically significant. First, FORDIR has a p-value of 0.022. The next significant variable is FIRMSIZE with a p-value of 0.013. Both of these variables are below the 0.05 accepted significance level.

[4] http://www.ats.ucla.edu/stat/stata/ado/analysis/

Table 4.10
Coefficients Table (Model 2)

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
		B	Std. Error	Beta			Tolerance	VIF
1	(Constant)	6.962	3.351		2.077	.042		
	Mdir	-.361	.782	-.053	-.462	.646	.688	1.455
	womdir	-.377	2.175	-.020	-.174	.863	.712	1.405
	avgage	-.032	.048	-.075	-.674	.503	.721	1.387
	qual	1.266	1.151	.126	1.100	.275	.691	1.447
	fordir	3.019	1.286	.272	2.347	.022	.675	1.481
	bdsize	-.007	.093	-.008	-.078	.938	.810	1.235
	firmsize	-1.044	.409	-.280	-2.552	.013	.752	1.329
	IND2	.908	.621	.178	1.462	.148	.608	1.644
	IND3	-.387	.597	-.070	-.648	.519	.767	1.303
	IND4	.327	.612	.057	.535	.595	.801	1.249
	IND5	-.621	.657	-.102	-.946	.348	.771	1.296
	IND6	-.259	.883	-.031	-.294	.770	.811	1.234
	IND7	.982	.879	.117	1.117	.268	.818	1.222

Apart from analyzing the significance of variables, the coefficients table also describes the direction and movements of dependent variable in accord to the unstandardized coefficients Beta (B) column of Table 4.10. There are only five variables that have positive relationship with TQ. The first variable is QUAL. For every one unit increase in QUAL, TQ will improve by substantial amount of 126.6%. Similar affects can be seen when one unit of increase in FORDIR will enormously increase TQ by 301.9%. This shows that QUAL and FORDIR play a central role to improve firms TQ. On the contrary, the majority of the variables demonstrate a negative relationship with the dependent variable, TQ where eight out of 14 variables showing a negative sign. For the interpretation, it can be said that for every one unit increase in MDIR, the TQ will decrease by 36.1% while holding all other independent

variables constant. In addition, there is a 37.7% decrease in TQ if the WOMDIR increase by one unit. The same applies for variables such as AVGAGE and BDSIZE, where the decline of TQ is 3.2% and 0.7% for every one unit increase in them. FIRMSIZE will decrease TQ by a staggering amount of 104.4% if it increases one unit.

As for the IND variables, all comparisons are made in relation to omitted variable which is IND1. It was found that three industries have higher TQ compared to IND1. IND2 earns TQ 90.8% more than IND1. Furthermore, IND4 generate 32.7% of TQ higher than IND1. IND7 substantially earn more TQ compared to IND1 which is 98.2%. There are also some industries that earn lower TQ than IND1, namely IND3, IND5 and IND6 where they generate 38.7%, 62.1% and 25.9% poorer TQ.

Thus, substituting the α and β value in the Regression model for Model 2, the new regression model is:

Model 2:

$$TQ = 6.962 - 0.361(MDIR) - 0.377(WOMDIR) - 0.032(AVGAGE) + 1.266(QUAL) + 3.019(FORDIR) - 0.007(BDSIZE) - 1.044(FIRMSIZE) + 0.908(IND2) - 0.387(IND3) + 0.327(IND4) - 0.621(IND5) - 0.259(IND6) + 0.982(IND7) + \varepsilon$$

4.4 MULTICOLLINEARITY TEST

Multicollinearity occurs when two or more predictors in the model are correlated and provide redundant information about the response. One method to detect multicollinearity is by looking at the variance inflation factors (VIF) values. Cohen,

Cohen, West and Aiken (2003) define VIF as something that provides an index of the amount that the variance of each regression coefficient is increased relative to a situation in which all of the predictor variables are uncorrelated. Table 4.11 depicts the VIF values in this study.

Table 4.11
Collinearity Statistics

Model		Collinearity Statistics	
		Tolerance	VIF
1	(Constant)		
	Mdir	.688	1.455
	womdir	.712	1.405
	avgage	.721	1.387
	qual	.691	1.447
	fordir	.675	1.481
	bdsize	.810	1.235
	firmsize	.752	1.329
	IND2	.608	1.644
	IND3	.767	1.303
	IND4	.801	1.249
	IND5	.771	1.296
	IND6	.811	1.234
	IND7	.818	1.222

Various recommendations for acceptable levels of VIF have been published in the literature. Perhaps most commonly, a value of 10 has been recommended as the maximum level of VIF (e.g., Hair, Anderson, Tatham, & Black, 1995; Kennedy, 1992; Marquardt, 1970; Neter, Wasserman, & Kutner, 1989). However, a recommended maximum VIF value of 5 (Rogerson, 2001) and even 4 (Pan & Jackson, 2008) can be found in the literature.

It would appear that researchers can use which ever criterion they wish to help serve their own purposes. For this study, a value of 10 is used as the benchmark for the maximum level of VIF. Looking at Table 4.11, it is seen that none of the variables have VIF that exceeds 10. Thus, multicollinearity problem does not exist in this study.

4.5 PEARSON CORRELATION COEFFICIENT

Correlation Coefficient is a statistic that measures the degree of correlation between two variables. In other words, this statistic tells us how closely one security is related to the other. For the current study, the analysis is used as a tool to determine correlation between the dependent variable, firm performance, which is measured by ROA and TQ with the independent variables, which are ethnic diversity, gender diversity, directors' age, directors' qualification and foreign directors on the board and the control variables which are board size, firm size and industry type.

The Pearson correlation coefficient measures the strength and direction of the linear relationship between the two variables. The correlation coefficient (r) can range from -1 to +1. A value of -1 indicates a perfect negative correlation, +1 indicate a perfect positive correlation, and 0 indicate no correlation at all. A variable correlated with itself will always have a correlation coefficient of 1.[5] The Correlation Coefficient is positive when both securities move in the same direction, up or down while it is negative when the two securities move in opposite directions.

[5] http://www.ats.ucla.edu/stat/spss/output/corr.htm

Regarding the strength of the correlations, for interpretation purposes, values between 0 and 0.29 (0 and -0.29) indicate a weak positive (negative) linear relationship. Besides that, values between 0.3 and 0.69 (0.3 and -0.69) indicate a moderate positive (negative) linear relationship. In addition, values between 0.7 and 1.0 (-0.7 and -1.0) indicate a strong positive (negative) linear relationship. [6]

The result of the analysis also reveals the significance level (p-value) of each individual variable. The accepted levels of significance are at the 0.05 level and the 0.01 level. These levels of acceptance are automatically programmed in the SPSS software as default and are used by the majority of researchers.

A statistically significant finding is one that is determined (statistically) to be very unlikely to happen by chance. Statisticians are able to calculate the likelihood that any observed relationship between two variables (as indicated by any number of cases) could have happened by chance (or random variation). If it is calculated that there is less than a one in twenty chance (.05 or 5%) that the observed relationship could have happened by chance, the findings are designated as significant. If there is less than a one in one hundred chance (.01 or 1%), they are designated as highly significance.[7]

4.5.1 Model 1: ROA as Dependent Variable

Referring to Table 4.12, found in the Appendix A, out of the 14 independent and control variables combined, only five variables move in the same direction as the

[6] http://www.dmstat1.com/res/TheCorrelationCoefficientDefined.html
[7] http://faculty.quinnipiac.edu/libarts/polsci/statistics.html

dependent variable while nine variables move in the contradicting direction with the ROA.

The first variable that has a positive relationship with ROA is FORDIR. FORDIR is found to be moderately and positively correlated with ROA. In other words, these two variables move in the same direction. Besides that, FORDIR is significant at the 0.01 level since the p-value is 0.000. Thus, is could be reported as (r=0.386, p=<0.01). This is supported by Randoy et al. (2006), stating that the presence of foreign directors on board would lead to better firm performance since they can bring in diverse expertise that local directors do not have.

The other four variables that have positive relationship with ROA are the industry type variables which are IND2, IND3, IND4 and IND7. IND2 which is the consumer industry, have a moderate positive relationship with ROA and is statistically significant at the 0.01 significance level since the results shows a value of (r=0.342, p=<0.01). In addition, IND3 (r=0.178, p=0.110), IND4 (r=0.023, p=0.841) and IND7 (r=0.160, p=0.150) are not significantly related with ROA.

Moving on with the variables that have negative relationship with ROA, MDIR has a moderate negative correlation of -0.340 with the ROA. This means that when MDIR increases, the ROA will decline. Furthermore, it is significant at the 0.01 level since the p-value is 0.002. Therefore, it could be said that MDIR is negatively significant with ROA, (r=-0.340, p=<0.01). This finding is contradictory with the findings of Shukeri et al. (2012) and Salleh et al. (2005) where they found that ethnic diversity to have a positive correlation with firm performance. Other variables that are negatively

and significantly correlated with ROA are FIRMSIZE (r=-0.513, p<=0.01) and IND1 (r=-0.321, p<=0.01).

Next, the results indicate that WOMDIR is negatively but insignificantly correlated with ROA (r=-0.209, p=0.059). The movement of direction for gender diversity and firm performance is inconsistent with Marinova et al. (2010), where the author suggests that there is a positive relationship between the two variables. Other variables that have negative and insignificant relationship with ROA are AVGAGE (r=-0.093, p=0.407), QUAL (r=-0.060, p=0.590), BDSIZE (r=-0.200, p=0.072), IND5 (r=-0.098, p=0.380) and IND6 (r=-0.152, p=0.173). The finding for AVGAGE is inconsistent with Francis et al. (2012), where age is positive and is marginally significant in affecting firm performance. As for BDSIZE, the results seems to be in line with Yermack and Shivdasani (1999), who argue that small boards are more effective and can increase firm performance.

Correlation coefficient also analyzed the relationship of other variables among themselves. MDIR is positively and significantly correlated with WOMDIR (r=0.283, p=<0.01), FIRMSIZE (r=0.263, p=<0.05) and IND1 (r=0.409, p=<0.01) while it is negatively and significantly correlated with FORDIR (r=-0.286, p=<0.01) and IND5 (r=-0.252, p=<0.05). In addition, WOMDIR is positively and significantly correlated only with BDSIZE (r=0.316, p=<0.01) and IND3 (r=-0.225, p<=0.05) is negatively and significantly correlated with WOMDIR. There was a significant, negative relationship between AVGAGE (r=-0.268, p<=0.05) and QUAL. Besides that, the QUAL coefficient is positive and significant with IND1 (r=0.237, p<=0.05) while negative and significant with IND6 (r=-0.222, p<=0.05). FORDIR was found to have

a positive and significant relationship with IND2 (r=0.415, p<=0.01). Furthermore, FIRMSIZE is positively significant with IND1 (r=0.283, p<=0.01) but negatively significant with IND2 (r=-0.286, p<=0.05).

4.5.2 Model 2: TQ as Dependent Variable

Looking at Table 4.13 found in the Appendix B section, the results shown are akin to the results when ROA was analyzed as the dependent variable. There are five variables found to have positive correlation with TQ while the remaining variables have positive relationship with TQ.

Identifying the positive relationships, QUAL is positively correlated with TQ although the strength is weak at r=0.078. The relationship is also not significant since p=0.078. This result is supported by Francis et al. (2012) where the authors found that directors' with financial qualification is essential in improving firm performance. IND4 (r=0.050, p=0.657) and IND7 (r=0.116, p=0.300) are positively but insignificantly correlated with TQ. Another positive relationship is between FORDIR and TQ. The strength of the correlation is moderate with the value of 0.469. In addition, FORDIR is significant at the 0.01 level because its p-value is 0.000. TQ was also found to have a positive and significant relationship with IND2 at the value of (r=0.375, p<=0.01).

On the other hand, for the ethnic diversity variable, which is MDIR (r=-0.203, p=0.064) show a negative relationship with TQ. This means that, the higher the percentage of Malay directors on board, the lower the TQ will fall. Marimuthu and

Kolandaisamy's (2009) result does not support this finding since the authors found that ethnic diversity is positively correlated with firm performance.

Similar output can be seen in the gender diversity variable. WOMDIR (r=-0.097, p=0.387) has a weak correlation and negative relationship with TQ. The variable is insignificant at both accepted levels of significance of 0.01 and 0.05. This finding is supported by Francis et al. (2012) and Adams and Ferreira (2009), where they found that the presence of female directors does not affect firm performance during the financial crisis.

For AVGAGE, the correlations with TQ is weakly negative at the r=-0.238 value. The results also show that it is significant at the p-value of 0.032. The same interpretation can be applied to FIRMSIZE where the values for correlation and significance level is (r=-0.392, p=<0.01). BDSIZE (r=-0.130, p=0.243) is negatively but insignificant related to TQ. The result for BDSIZE is consistent with Hermalin and Weisbach (2003) although it is inconsistent with Yermack and Shivdasani (1999) and Carter et al. (2003).

The output for the industry variables show there is four industries that move inversely with TQ. IND1 (r=-0.167, p=0.133), IND3 (r=-0.083, p=0.461), IND5 (r=-0.130, p=0.243), and IND6 (r=-0.114, p=0.310) have negative weak correlations with TQ. They are also insignificant at both levels of significance of 0.01 and 0.05.

Correlation coefficient also analyzed the relationship of other variables among themselves. MDIR is positively and significantly correlated with WOMDIR (r=0.283,

p<=0.01), FIRMSIZE (r=0.263, p<=0.05) and IND1 (r=0.409, p<=0.01). Inversely, MDIR is significantly negative with FORDIR (r=-0.286, p<=0.01) and IND5 (r=-0.253, p<=0.05). The coefficient on female representation, WOMDIR, is positive and statistically significant at the 0.01 level with BDSIZE (r=0.316, p<=0.01) while significantly negative with IND3 (r=-0.225, p<=0.05). AVGAGE is only significant with QUAL (r=-0.268, p<=0.05) although it shows a negative relationship. In addition, QUAL is found to be significantly and positively correlated with IND1 (r=0.237, p<=0.05) but weakly significantly and negatively correlated with IND6 (r=-0.222, p<=0.05). The next variable is FORDIR. It is moderately significant and positive with IND2 (r=0.415, p<=0.01). FIRMSIZE is significantly positive with IND1 (r=0.283, p<=0.01) but significantly negative with IND2 (r=-0.286, p<=0.01).

4.6 ACCEPTANCE OR REJECTION OF HYPOTHESIS

Following several previous researchers, the acceptance or rejection of hypothesis is made by looking at the regression results which are displayed in Table 4.6 where ROA is the dependent variable and Table 4.10 where TQ is the dependent variable.

The first variable is ethnic diversity measured by MDIR. MDIR is found to be negatively related with both measures of firm performance which are ROA and TQ. However, MDIR is insignificant for both ROA and TQ. The regression values for MDIR in both models are (B=-0.044, p=0.209) and (B=-0.361, p=0.646) respectively. Thus, Hypothesis 1 is rejected in Model 1 and Model 2.

Secondly, we look at the gender diversity variables measured by WOMDIR. The values (B=-0.039, p=0.691) and (B=-0.377, p=0.863) indicates that WOMDIR is negatively and not significantly related with firm performance, ROA and TQ. Here, Hypothesis 2 is rejected for both models.

The following variable is the age diversity measure, AVGAGE. The variable is found to be positively and insignificantly related to ROA but negatively and insignificantly related to TQ at the value (B=0.000, p=0.947) and (B=-0.032, p=0.503) respectively. As a result, Hypothesis 3 is accepted for Model 1 but rejected in Model 2.

For the QUAL variable, it is positively and insignificantly related with both measures of firm performance, ROA and TQ at the values of (B=0.001, p=0.991) and (B=1.266, p=0.275) respectively. Hence, Hypothesis 4 is accepted in both Model 1 and Model 2.

The fifth variable is FORDIR. Both results in Model 1 and Model 2 suggest a positive and significant relationship between foreign directors and firm performance at the values of (B=0.098, p=0.092) and (B=3.019, p=0.022) respectively. Therefore, Hypothesis 5 is rejected.

Next is the controlling variable BDSIZE. BDSIZE is found to be negatively and insignificantly related with both ROA at the value of (B=-0.002, p=0.691) and TQ at the value (B=-0.007, p=0.938). Thus, Hypothesis 6 is accepted in both Model 1 and Model 2.

Moving on to the seventh predictor, FIRMSIZE is both negatively and statistically significant with firm performance, ROA and TQ. The values for this variable is (B=-0.064, p=0.001) and (B=-1.044, p=0.013) respectively. Hence, Hypothesis 7 is accepted for both models.

Finally, the last variable analyzed is the industry type. The industries for this current study can be represented by variables IND1 until IND8. Since there are many industries analyzed at once in this study, no concrete result is found. The result shows contradicting findings with some showing a positive relationship while others inversely related with firm performance. This shows that there is a relationship between industry type and firm performance. However, none of the industry type variables have a significant impact on firm performance. Thus, Hypothesis 8 is accepted for both models.

Table 4.14 provides a summary of the findings and the acceptance or rejection of hypotheses.

Table 4.14
Acceptance or Rejection of Hypotheses

	MDIR	**WOM DIR**	**AVG AGE**	**QUAL**	**FORDIR**	**BD SIZE**	**FIRM SIZE**	**IND. TYPE**
Hypotheses between the IVs and DV	+	+	+	+	-	-	-	Have a relationship
The findings (ROA)	-	-	+	+	+	-	-	-/+

The findings (TQ)	-	-	-	+	+	-	-	-/+
The acceptance /rejection of hypotheses (ROA)	R	R	A	A	R	A	A	A
The acceptance /rejection of hypotheses (TQ)	R	R	R	A	R	A	A	A

(+) Positive association. (-) Negative association. (Sig) Significant association. (A) Accept or (R) Reject the hypotheses.

4.7 CHAPTER SUMMARY

This chapter provides the descriptive statistics for all the variables used in this study which is based on the 82 companies used as the sample study. There are also various results from the regression analysis such at the ANOVA and Coefficients table. Multicollinearity tests are also included in this chapter. Besides that, this chapter provides the results from the Pearson correlations analysis. After all the analysis and tests have been interpreted, thus the hypothesis is either accepted or rejected.

CHAPTER FIVE

CONCLUSION AND RECOMMENDATIONS

5.1 INTRODUCTION

This chapter presents the discussion and summary for the findings in this study. It is then followed by the limitations encountered in completing the study and finally recommendations for future research.

5.2 DISCUSSION AND IMPLICATIONS OF FINDINGS

Firstly, look at ethnic diversity which is measured by MDIR. MDIR is found to be negatively related with both measures of firm performance which are ROA and TQ. This is contradictory with Marimuthu and Kolandaisamy (2009) where the author found that to a certain extent, ethnicity in boards of directors created a significant impact on firm financial performance. Hence, ethnic diversity could be used an effective way to improve on corporate governance among the listed companies in the event of economic instability (Mitton, 2002). This study suggests that Malay directors have high uncertainty avoidance, thus are not willing to take on risks. There is a rule of thumb in investment which is, the higher risk taken will result in higher return. In this case, the avoidance of risk has resulted in lesser returns for the company. Hence, lowering the firm performance.

The second variable is gender diversity variables measured by WOMDIR. Both results for the gender diversity measured by WOMDIRD show that it is negatively

and insignificantly with ROA and TQ. The result is supported by Rose (2007) who found that gender has no impact on firm performance in Danish firms. She further suggested that the board of directors are traditionally considered as "old boy's club" thus the gains from having female board members are never realised or reflected in any chosen performance measure. The findings of this current study imply men are openly favoured for positions of power, especially in Asia. Rarely do women become successors of family-owned businesses. Women on the board of directors in Malaysia listed companies are still scarce. Furthermore, it appears that there are still hardened mind sets and behaviours, not just in companies, but among women themselves, which pose roadblocks to their advancement and this old-fashioned prejudice is seen to hamper a woman's transition from middle to senior management level.

The third variable is the age diversity measure, AVGAGE. The variable is found to be positively but insignificantly related to both measures of firm performance namely ROA and TQ. This is supported by Dagsson and Larsson (2011), Francis, Hasan and Wu (2012) and Overveld (2012), where they came to a conclusion that positive association between age diversity and firm performance. Such relationship could be due to the fact that older board members have more experience, expertise and social network to bring forth the company to a greater success. The current study suggest that age can be a good proxy for business experience and the degree of conservatism, which may be important for solving problems and taking risk-averse actions before and during the crisis.

Next is the QUAL variable. It is found to be negatively and insignificantly related with ROA while it is positively and insignificantly related with TQ. The result for this

aspect is contradicting but it is clear that QUAL have no significant impact on firm performance. This is the opposite with some past studies that suggest directors' qualifications and their specialisations are related to firm performance (Yermack, 2006; Haniffa and Cooke, 2002; Guner, Malmendier and Tate, 2008).

The consequent variable is FORDIR. Both results in Model 1 and Model 2 suggest a positive and significant relationship between foreign directors and firm performance. This finding is inconsistent with other previous studies such as Randoy et al (2006) and Dowling & Aribi (2012). They rationalized that foreign directors may be less informed about domestic affairs which can lower a director's effectiveness.

BDSIZE is found to be negatively and insignificantly related with ROA. However, BDSIZE is positively but not significantly related with TQ. The result seem to oppose the results found by Shukeri et al. (2012), where in their study proved that board size is positive and significantly associated with firm performance measured by ROA.

Moving on to the seventh predictor, FIRMSIZE is both negatively and statistically significant with firm performance, ROA and TQ. The studies that supported this result are Marinova et al. (2010), Tibben (2010) and Lee (2009). In his study of Western European firms from year 2007-2009, Tibben (2010) reports that small and young companies had a better financial performance than bigger and older companies.

The last and eight variable analyzed is the industry type. There are eight industries present in this study which are conveniently labelled as IND1 until IND8. Analyzing many industries all at once, no concrete result is found. The result shows

contradicting findings with some showing a positive relationship while others inversely related with firm performance. Barriers to entry and other structural features of industries create significant differences in firm performance. Due to the differences in sunk and fixed-cost requirements by industry, firm performance may differ significantly by industry regardless of country affiliation (Bain, 1966; Caves, 1989; Porter 1981).

The research is important since study of the relation between board diversity and firm performance is beneficial and deepens the knowledge about how board diversity might enhance corporate governance and firm performance in Malaysia.

5.3 LIMITATIONS OF STUDY

In completing this study, one of the limitations is in terms of data collection. Due to the fact that all the data in this study are secondary data gathered from annual reports of companies, it poses a challenge since there is only one source of information. If the annual reports are not published for a particular year, such as year 2012, then we are resorted to the next latest year which is 2011. Next, this study only explored the top 100 listed companies in Malaysia. Thus, the results could not be generally applied to all the companies listed in the Main Market of Bursa Malaysia. Another limitation is in terms of the variables used. There are so much more measures that could be used for determining board diversity, however, the current study only examines five aspects of diversity.

5.4 RECOMMENDATIONS FOR FUTURE RESEARCH

There are several recommendations for researchers in the future. For this current study, the numbers of companies that are analyzed are restricted to only the top 100 companies in the Main Market of Bursa Malaysia. Future research could widen the scope of sample frame and include more companies in the research to generate a more extensive and accurate result.

This study analyzes the companies for one year only which is year 2011. The next recommendation is to carry out a longitudinal study to see the effect of time period on the relationship between board diversity and firm performance.

Since there are several other characteristics in diversity that could affect firm performance, it is suggested that future research look into other aspects of diversity to enrich the literature relating to this area of study. This study only explores five diversity elements which are ethnic diversity, gender diversity, age diversity, nationality diversity and foreign directors on board.

The last recommendation is to use other forms of measurement to determine firm performance. This study uses measures such as ROA and TQ. Future studies could use other accounting-based measures for example return on investment (ROI) and return on equity (ROE).

5.5 CHAPTER SUMMARY

This chapter provides a summary of findings for the current study. The limitations of this study and recommendations for future are also discussed in this final chapter.

REFERENCES

Abdullah, A. (1992). The influence of ethnic values on Malaysian managerial practices. *Malaysian Management Review, 27(1),* 3-18

Abdullah, A. (2001). Influence of ethnic values at the Malaysian workplace. In Abdullah, A & Low, A. (Eds), *Understanding the Malaysian Workforce: Guidelines for Managers*. Malaysian Institute of Management, Kuala Lumpur, 1-24.

Adams, R. B., & Ferreira, D. (2004). Gender Diversity in the Boardroom. Finance Working Paper No. 57/2004, European Corporate Governance Insitute.

Adams, R. B., & Ferreira, D. (2009). Women in the boardroom and their impact on governance and performance. *Journal of Financial Economics, 94*: 291–309.

Adusei, M. (2011). Board structure and bank performance in Ghana. *Journal of Money, Investment and Banking, 19*

Agrawal, A., & Chadha, S. (2005). Corporate governance and accounting scandals. *Journal of Law and Economics, 48,* 371-406.

Ahern, K. R., & Dittmar, A. K. (2011). The changing of the boards: the impact on firm valuation of mandated female board representation. *Quarterly Journal of Economics*, 127(1), 137-197.

Ali, M., Kulik, C., T., & Metz, I. (2011). The gender diversity-performance relationship in services and manufacturing organizations. *International journal of human resource management, 22(7),* 1464-1485

Ararat, M., Aksu, M., & Cetin, A.T. (2010). Impact of board diversity on boards' monitoring intensity and firm performance: Evidence from the Istanbul Stock Exchange. *Annual Conference of the Multinational Finance Society*, Barcelona

Bain, J.S. (1966): International differences in industrial structure, New Haven: Yale University Press

Ball, R., Robin, A., & J. Wu. (2003). Incentives Versus Standards: Properties of Accounting Income in Four East Asian Countries, and Implications for Acceptance of IAS. *Journal of Accounting and Economics,* 235-270.

Barber, B., & Lyon, J., (1997). Detecting long-run stock returns: the empirical power and specification of test statistics. *Journal of Financial Economics 43,* 341–372.

Baydoun, N. & R. Willett. (1995). Cultural relevance of western accounting systems to developing countries. *Abacus, 31 (1),* 67-92.

Bhagat S., & Bolton B. (2008). Corporate governance and firm performance. *Journal of Corporate Finance, 14*, 257-273.

Boeker, W. (1997). Executive migration and strategic change: The effect of top manager movement on product-market entry. *Administrative Science Quarterly, 42*, 213-237.

Bohren, O., & Strom, O., (2010). Governance and politics: Regulating independence and diversity in the board room. *Journal of Business Finance & Accounting*, 37(9) & (10) 1281–1308, November/December 2010, 0306-686

Campbell, K. & Minguez-Vera, A. (2008). *Gender diversity in the boardroom and firm financial performance. Journal of Business Ethics, 83*, 435-51.

Carter, D. A., D'Souza, F., Simkins, B. J., & Simpson, W. G. (2010). The gender and ethnic diversity of us boards and board committees and firm financial performance. *Corporate Governance: An International Review*, 18(5), 396–414

Carter, D. A., Simkins, B. J., & Simpson, W. G. (2003), Corporate Governance, Board Diversity, and Firm Value. *Financial Review, 38*, 33–53.

Catalyst 2011, Women on Boards, retrieved 2 August 2011 from www.catalyst.org/publication/433/women-on-boards.

Caves, R. E. (1989). International differences in industrial organization. Handbook of Industrial Organization, 2, Elsevier Science Publishers B.V.

Cohen, J., Cohen, P., West, S. G., & Aiken, L. S. (2003). Applied multiple regression/correlation analysis for the behavioral sciences. Lawrence Erlbaum Associates: London.

Coles, J. L., Naveen, D. D., & Naveen, L. (2008). Boards: Does one size fit all? *Journal of Financial Economies, 87*(2), 329-356

Core, J. E. & Larcker, D. F. (2002). Performance consequences of mandatory increases in executive stock ownership, *Journal of Financial Economics*, 64(3), 317–340.

Dagsson, S. & Larsson, E., (2011). How age diversity on the Board of Directors affects firm performance. Blekinge Institute of Technology School of Management, Sweden

Darmadi, S., (2011). Board diversity and firm performance: The Indonesian evidence. *Journal of Corporate Ownership and Control, 8*, 524-539.

Daunfeldt, S. O., & Rudholm, N. (2012). Does gender diversity in the boardroom improve firm performance? No 60, *Working Papers from the Swedish Retail Institute (HUI)*

Dezsö, C. L., & Ross, D. G. (2012). Does female representation in top management improve firm performance? A panel data investigation. *Strategic Management Journal, 33,* 1072–1089

Dierickx, I., & Cool, K., (1989). Asset stock accumulation and sustainability of competitive advantage. *Management Science, 35,* 1504-1511.

DiTomaso, N., Post, C., & Parks-Yancy, R. (2007). Workforce diversity and inequality: power, status, and numbers. *Annual Review of Sociology Vol. 33,* 473-501

DiTomaso, N., Post, C., & Parks-Yancy, R. (2007). Workforce diversity and inequality: Power, status, and numbers. *Annual Review of Sociology, 33,* 473-501

Dowling, M., & Aribi, Z., A. (2012) Female Directors and UK Company Acquisitiveness, *Working paper series*

Druckeriv, P. (1992). Corporate governance after Enron and Worldcom applying principles of results-based governance. *Working Paper presented at Insight Conference on Corporate Governance*.

Dutta, P & Bose, S. (2006). Gender diversity in the boardroom and financial performance of commercial banks: Evidence from Bangladesh. *The Cost and Management, 34 (6),* 70-74.

Dwyer, S., Richard, O. C., & Chadwick, K. (2003). Gender diversity in management and firm performance: The influence of growth orientation and organizational culture. *Journal of Business Research, 56,* 1009-1019.

Eisenberg, T., Sundgren, S., & Wells M. (1998). Larger board size and decreasing firm value in small firms. *Journal of Financial Economics, 48,* 35-54

Erhardt, N., L., Werbel, J., D., & Shrader, C., B. (2003). Board of director diversity and firm financial performance. *Journal of Corporate Governance, 11(2),* 102–111

Fama, E. R., & French, K. (1992). The cross-section of expected stock returns. *Journal of Finance, 47,* 427–465.

Farrell, K., & Hersch, P. (2005). Additions to corporate boards: The effect of gender. *Journal of Corporate Finance, 11,* 85–106.

Fondas, N. (2000). Women on Boards of Directors: Gender bias or power threat? Women on corporate Boards of Directors. Netherlands: Kluwer Academic, 171–177

Fontaine, R., & Richardson, S. (2005). Cultural values in Malaysia: Chinese, Malays and Indians compared. *Cross Cultural Management: An International Journal. 12 (4),* 63-77.

Francis, B., B., Hasan, I., & Wu, Q., (2012). Do corporate boards affect firm performance? New evidence from the financial crisis. *Bank of Finland Research Discussion Paper No. 11/2012*.

Francoeur, C., Labelle, R., & Sinclair-Desgagne, B. (2008). *Gender diversity in corporate governance and top management. Journal of Business Ethics, 81,* 83-95.

Gray, S. J. (1988). Towards a theory of cultural influence on the development of accounting systems internationally. *Abacus, 24,* 1-15.

Gujarati, D., N. (2003). Basic econometrics. McGraw Hill. p. 1002. ISBN 0-07-233542-4.

Guner, A., B., Malmendier, U., & Tate, G., A. (2008). Financial expertise of directors. *Journal of Financial Economics (JFE), 88(2),* 323-354.

Hair, J. F. Jr., Anderson, R. E., Tatham, R. L., & Black, W. C. (1995). Multivariate Data Analysis (3rd ed). New York: Macmillan.

Hambrick, D. C. & Mason, P. A. (1984). Upper echelons: The organization as a reflection of its top managers. *Academy of Management Review, 9,* 193-206.

Hambrick, D. C., Cho, T. S., & Chen, M. (1996). The influence of top management team heterogeneity on firms' competitive moves. *Administrative Science Quarterly, 41,* 659-684. http://dx.doi.org/10.2307/2393871

Hamzah, Y. Z., Saufi, R. A., & Wafa, S. A., (2002). Leadership style preference of Malaysian managers. *Malaysian Management Review, 37,* 1-10.

Haniffa, R. M., & Cooke, T. E. (2002). Culture, corporate governance and disclosure in Malaysian vorporations. *Abacus, 38(3),* 317–349.

Harrison, D.A., Klein, K.J. (2007). What's the difference? Diversity constructs as separation, variety or disparity in organizations, *Academy of Management Review, 32(4),* 1199-1228.

Hermalin, B.E., & Weisbach, M. S. (2003). Boards of Directors as an endogenously determined Institution: A survey of the economic literature. *Economic Policy Review, 9(1),* 7–26.

Herring, C. (2009). 'Does diversity pay?: Race, gender, and the business case for diversity, *American Sociological Review, 74*, 208-224.

Hillman A. J., Cannella Jr. A. A., & Harris I. C. (2002). Women and racial minorities in boardroom: How do directors differ. Journal of Management, 28(6), 747-763.

Hofstede, G. (1983). The cultural relativity of organizational practices and theories. *Journal of International Business Studies, 14 (2),* 75-89.

Huse, M., & Rindova, V. (2001). Stakeholders' expectations of board roles: The case of subsidiary boards. *Journal of Management and Governance*, 153-178.

Ingley, C. B., & Van der Walt, N. T. (2001). The strategic board: the changing role of directors in developing and maintaining corporate capability. *Corporate Governance: An International Review, 9(3),* 174-185.

Iskandar, T.M., & Pourjalali, H. (2000). Cultural influences on the development of accounting practices in Malaysia. *Asian Review of Accounting, 2(2),* 126-146

Jensen, M. (1993). The modern industrial revolution, exit, and the failure of internal control systems. *Journal of Finance, 48(3),* 831-80.

Kennedy, P. (1992). A Guide to Econometrics. Oxford: Blackwell.

Krishnan, H. A., & Park, D. (2005). A few good women—on top management teams. *Journal of Business Research, 58 (12),* 1712-1720.

Lanfranconi, C. P., & Robertson, D. A. (2002). Commentary: Corporate financial reporting: The role of the board of directors. *Ivey Business Journal*, 1–3.

Lee, J. (2009). Does size matter in firm performance? Evidence from US public firms. *International Journal of the Economics of Business, 16(2),* 189–203

Lim, L. (1998). Cultural attributes of Malays and Malaysian Chinese: Implications for research and practices. *Malaysian Management Review, 33(2),* 81-8.

Lipton, M., & J. Lorsch. (1992). A Modest Proposal for Improved Corporate Governance. *Business Lawyer, 48(1),* 59-77.

Mak, Y. T. & Kusnadi, Y. (2005). Size really matters: Further evidence on the negative relationship between board size and firm value. *Pacific-Basin Finance Journal, 13*, 301-318.

Mannix, E., & Neale, M. A. (2005). What differences make a difference? The promise and reality of diverse teams in organizations. *Psychological Science in the Public Interest, 6*, 31-55.

Marimuthu, M., & Kolandaisamy, I. (2009). Demographic diversity in top level management and its implications on firm financial performance. *International Journal of Business and Management, 4(6),* 176-188.

Marinova, J., Plantenga, J., & Remery, C., (2010). Gender diversity and firm performance: Evidence from Dutch and Danish boardrooms. No 10-03, *Working Papers from Utrecht School of Economics*, the Netherlands

Marquardt, D. W. (1970). Generalized inverses, ridge regression, biased linear estimation, and nonlinear estimation. *Technometrics, 12*, 591–256.

Masulis, R., Wang C., & Xie, F. (2012). Globalizing the Boardroom - The effects of foreign directors on corporate governance and firm performance. *Journal of Accounting and Economics, 53(3),* 527-554.

Maznevski, M. L. (1994). Understanding our differences: Performance in decision-making groups with diverse members. *Human Relations, 47*, 531-552.

Mitton, T. (2002). A Cross-firm analysis of the impact of corporate governance on the East Asian financial crisis. *Journal of Financial Economics*, *64*, 215-241.

Montgomery, C. A. (1979). Diversification, market structure and firm performance: An extension of Rumelt's model. Ph.D. dissertation, Purdue University

Neter, J., Wasserman, W. & Kutner, M. H. (1989). Applied Linear Regression Models. Homewood, IL: Irwin.

Nielsen, S., & Huse, M. (2010). The contribution of women on boards of directors: going beyond the surface. *Corporate Governance: An International Review, 18(2),* 136–148

Omet, G. (2006). Ownership structure and capital structure: Evidence from the Jordanian capital market (1995–2003). *Corporate Ownership & Control, 3(4),* 99–107.

Overweld, M., N., J. (2012). Board diversity and financial firm performance in Dutch listed firms. *International Business Research*, 5(9), 79-86

Pan, Y, & Jackson, R. T. (2008). Ethnic difference in the relationship between acute inflammation and serum ferritin in US adult males. *Epidemiology and Infection, 136,* 421-431.

Park H., K. (2007, August 13). Foreign outside directors' presence at board meetings low. *The Korean Times*

Patel, C., Harrison, G. L., & McKinnon, J. L. (2002). Cultural influences on judgments of professional accountants in auditor–client conflict resolution. *Journal of International Financial Management & Accounting*, *13*, 1-31.

Pelled, L. H. (1996). Demographic diversity, conflict and work group outcomes: An intervening process theory. *Organization Science, 7*, 61 5-631.

Perera, M. H. B. (1989). Towards a framework to analyze the impact of culture on accounting. *The International Journal of Accounting, 24*, 42-56.

Porter, M. (1981). The contributions of industrial organization to strategic management. *Academy of Management Review*, 6(4), 609-620.

Porter, M., & McGahan, A. (1997). How much does industry matter, really? *Strategic Management Journal, 18,* Special Issue (Summer), 15-30

Prihatiningtias, Y., W. (2012). Gender diversity in the boardroom & firm performance: Evidence from Indonesian publicly-listed financial firms. *University of Canberra, Australia.*

Rahman, R., & Ali, F., H. (2006). Board, audit committee, culture and earnings management: Malaysian evidence. *Managerial Auditing Journal, 21(7),* 783 – 804

Ramasamy, B., Ong, D., & Yeung, M., C., H., (2005). Firm size, ownership and performance in the Malaysian palm oil industry. *Asian Academy of Management Journal of Accounting and Finance. 1*, 81–104

Randoy, T., Thomsen, S., & Oxelheim, L. (2006). A Nordic perspective on corporate board diversity. *Nordic Innovation Centre, Oslo*.

Robinson, G. & K. Dechant, (1997). Building a business case for diversity. *Academy of Management Executive 11*, 21–30.

Rogerson, P. A. (2001). Statistical methods for geography. London: Sage.

Rose, C. (2007). Does female board representation influence firm performance? The Danish evidence. *Corporate Governance: An International Review, 15 (2),* 404-13.

Rumelt, R. P. (1991). How much does industry matter?. *Strategic Management Journal, 12,* 167-185.

Salleh, N. M., Iskandar, T. M., & Rahmat, M. M. (2005). Earnings management and board characteristics: Evidence from Malaysia. *Jurnal Pengurusan, 24,* 77-103.

Selvarajah, C. & Meyer, D. (2008). One nation, three cultures: Exploring dimensions that relate to leadership in Malaysia. *Leadership & Organization Development Journal, 29 (*8), 693 – 712

Shukeri, S. N., Ong, W. S., & Shaari, M. S. (2012). Does board of director's characteristics affect firm performance? Evidence from Malaysian public listed companies. *International Business Research*; 5(9), 120-129

Smith, N., Smith, V., & Verner, M. (2005). Do Women in top management affect firm performance? A Panel Study of 2500 Danish Firms. *IZA Discussion Paper No. 1708.*

Tamam, E., Hassan, M. S., & Said, M. Y. (1996). Are Malay middle-level executives more collectivistic than individualistic?. *Malaysian Management Review, 31 (4),* 50-56.

Tibben, P., A., (2010). Top management team diversity and firm performance. Utrecht University, the Netherlands

Timmerman, T. (2000). Racial diversity, age diversity, interdependence, and team performance, *Small Group Research, 31*, 592–606.

Van Veen, K. & Elbertsen, J. (2008). Governance regimes and nationality diversity in corporate boards: a comparative study of Germany, the Netherlands and the United Kingdom. *Corporate Governance: An International Review, 16*, 386–399. doi: 10.1111/j.1467-8683.2008.00698.x

Volpe, R., & Woodlock, P., (2008). A survey of board financial literacy. *Corporate Finance Review*, 12(5), 16-21.

Watson, W. E., Kumar, K., & Michaelsen, L. K. (1993). Cultural diversity's impact on interaction process and performance: Comparing homogeneous and diverse task groups. *The Academy of Management Journal* , 36 (3), 590-602

Watson, W., Johnson. L. & Merritt, D. (1998). Team orientation, self orientation and diversity in task groups: Their connection to team performance over Time. *Group and Organization Management, 23*, 161-189.

Wellalage, N. H. & Locke, S., (2012). Women on board, firm financial performance and agency costs. *Asian Journal of Business Ethics*

Wernerfelt, B. (1984), A resource-based view of the firm. *Strategic Management Journal, 5*, 171–180.

Yermack, D. (1996). Higher market valuation of companies with a small board of directors. *Journal of Financial Economics, 40(2),* 185-211.

Yermack, D. (2006). Board members and company value. *Financial Markets Portfolio Management, 20(1),* 33–47.

Yermack, D., & Shivdasani, A., (1999). CEO involvement in the selection of new board members: an empirical analysis. *Journal of Finance*, 54(5), 1829-1853

Zahra, S. A., & Stanton, W. W. (1988). The implications of board directors' composition for corporate strategy and performance, *International Journal of Management, 5(2),* 229-237

Zawawi, D. (2008). Cultural dimensions among Malaysian employees. *International Journal of Economics and Management 2(2),* 409 – 426