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CORPORATE GOVERNANCE IMPACT ON SIGNIFICANT ASPECT OF FIRMS' PERFORMANCE: AN EVIDENCE FROM TOP 100 GLOBAL PUBLIC COMPANIES

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ABSTRACT. Studies of corporate governance in the context of Fortune global 100 public listed companies are found very limited in literature. The objective of this research is to quantify the relationship between corporate governance (CG) and the performance of these global firms. In this study, Corporate Governance characteristic that were investigated are; Size of the board, Board structure (single-tier & dual-tier), CEO duality, CEO gender, Presence of female on board; and presence of academician on board. Secondly data has been collected and analysed using multiple regression technique was performed. The results of this study indicate that only CEO duality have a positive impact to firms' performance. This result provides some support to the stewardship theory, where shareholders interest is maximized when the CEO is also the chairman of the Board. The study also finds board diversity (by having both women and academician on the board) and having a bigger board (bigger board size and dul-tier board) does not contribute to better Shareholders' returns.

2020 *Mathematics Subject Classification.* 00A69.

Key words and phrases. Corporate Governance, Agency theory, Stewardship theory, firm performance, CEO duality, board composition, gender diversity, board size, Shareholders and Stakeholders.

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1. Introduction

Corporate Governance can be defined as "the process and structure used to enhance business prosperity and corporate accountability with the ultimate objective of realizing long-term shareholder value, whilst taking into account the interest of other stakeholders" (Dodgson, Lee, & Drager, 2017). Abdullah & Valentine, (2009) highlighted Corporate governance is "represented by the structures and processes lay down by a corporate entity to minimize the extent of agency problems as a result of separation between ownership and control." Ciftci, Tatoglu, Wood, Demirbag & Zaim, (2019) pointed out as, corporate governance in an organizational context is the totality of the control, monitoring and directing mechanism utilized by strategic management in the best interests of its stakeholders and firm performance.

Firm performance is a concept that supports the effective and efficient use of financial resources to achieve overall company objectives which include both shareholders wealth maximisation and profit maximisation objectives. Fureth tot this Bandiera, Prat, Hansen, & Sadun, (2020) highlighted that firm performance can be based on long term market performance (Shahzad, I. A., et. al., 2018) or by using short term measures. The measure of firm performance employed in this study is from a non-market oriented perspective which is most common and requires the use of accounting ratios which are the profitability and investor ratios. Hermalin and Weisbach, (1991) and Shahzad, Farrukh, Yasmin, (2020) pointed out as the most common board characteristics that are often tested are the size and board tier-type, the CEO duality, CEO gender and also board composition (e.g. women on board, academician on board). This study intends to contribute to the limited researches on the Global top 100 public listed firms performance and corporate governance which resulted in mixed outcomes It would also provide credible findings to support deliberations on this topical issue.

Background of the study:

The problem areas that spurred the interest in researching on this topic are specifically the loss of confidence by the investors on the capital market, the persistent agency problem and the insolvency of large companies as a result of financial improprieties. These issues are discussed more explicitly below. The recent corporate scandals around the world and the collapse of major corporate institutions in the USA, Europe and South East Asia have shaken investors' faith in the capital markets and the effectiveness of the existing corporate governance (CG) practices in promoting transparency and accountability. Good Corporate Governance is critical in rebuilding investors' confidence and encouraging more stable, long-term investment flows. The loss of investor confidence in the public listed firms' governance is therefore an indicator of poor corporate governance practice. Also, the existence of the agency problem which arises in a bid to intermediate the interests of the management and that of the shareholders typically influences firm performance. It is for this reason that managers might take steps to increase the size of the company and, often, their pay, although they may not necessarily raise the company's profit, the major concern of the shareholder.

The insolvency of large companies as a result of financial improprieties has awakened discuss on the effect of corporate governance on firm performance (Shahzad, Raju, Farrukh, Kanwal, Ikram, 2018). In the same vein, the predominance of sharp practices by management and insider trading for the purpose of defrauding such companies as a result of the need to satisfy some personal interest may also a contributory factor to poor firm performance. It is therefore believed that by examining the relationship between these corporate governance mechanisms and its impact to firm performance would attempt to address the problems as stated. This research is conducted to understand the impact of various corporate governance elements to firm performance. It is understood that good corporate governance principle will lead to superior firm performance. As such, this research is prove if this corporate governance elements (Board size, Board tier-type, CEO duality, CEO gender, women on board and academician on board) have a positive impact on firm value and performance (Shahid & Abbas, 2019).).

This finding of these results will also provide evidence to support which theory (agency theory or stewardship theory) is relevant to enhance firm performance and is beneficial to maximize shareholders interest. The research will also see if CEO duality (CEO is also the chairman of the board) will benefit this global 100 firms. This research will also provide answers to whether a smaller or bigger boards and also if board structure (single tier and dual-tier) board will impact firms returns. The study will also proof is board diversity, by having women and academician on board do have a positive impact to firm performance.

2. LITERATURE REVIEW

Stewardship Theory is the opposite of the alternative theory (Donaldson et al, 1991). Based on the Stewardship theory, the CEO may have other motivations like sense of achievement, responsibility and altruism and he may not tend to be an opportunistic. The assumption of the stewardship theory is that the CEO will take care of what is the best for the organisation. As such, the CEO is assumed to be good steward for the firm. As such, the stewardship theory may provide an alternative explanation with regard to the relationship between CEO duality and firm performance. Based on this stewardship theory, managers may be viewed as having positive attitude and motivation. Unlike the agency theory, stewardship theory proposes that CEO duality has a positive impact to firm performance due to the clear leadership and unity command of the firm. (Donaldson et al, 1991). When the CEO is also the chairman of the firm, better decisions could be made and also in a faster environment, and as results leads to better firm performance as compared to firms that separate the two positions (Davies, 2020).

Corporate Governance (CG) is "a set of rules and policies that guide and administer a company in their operations and business dealings" (Shleifer and Vishny, 1997). K. Keasey et al. (2005); Strampelli, (2020) noted that corporate governance not merely carries different interpretations, but also analyses and involves diverse disciplines and approaches. Many studies have been conducted to research the relationship between board structure and BOD characteristics with firm performance. The most common board characteristics that are often tested are the size and board tier-type, the CEO duality, CEO gender and also board composition (e.g. women on board, academician on board). To date, many of these studies on the impact of board composition and firm performance effects have yielded mixed results. Thus, some of the major corporate governance characteristics that impact firm performance that are investigated in this study are:

1. Board Size
2. Board Structure (Tier Type)
3. CEO Duality
4. CEO Gender
5. Women on Board

5. Academician on Board

Board size:

The board of directors is composed of both the executive directors and non-executive members. The number of board members could range anywhere from between 5 to over 25 board members depending on the country and board structure, single tier or dual tier. Normally dual tier have bigger board members due to existence of a management board and supervisory board.

There are two different schools of thoughts with regard to the relationship between the size of a board and a firm's performance, the first school of thought supports the argument that a smaller board size will improve firm success (Lipton and Lorsch, 2002; Ongsakul, Treepongkaruna, Jiraporn & Uyar, 2020). Based on these studies, board effectiveness become dysfunctional when the board have more that seven or eight members. Based on research on big U.S. firms, Yermack (1996) found there is an inverse relationship between the board sizes and firm performance. The second school of thought is that a larger board size will enhance the firm's performance (Coles et al., 2008). These studies indicate that a large board will support and advise firm management more effectively because of a complexity of the business environment and an organizational culture (Klein, 1998). Moreover, a large board size will ensure much more information and knowledge is available to make better decisions. As a result, a large board size will ensure a better firm performance (Dalton and ctg, 1999; Ghazali, N. A. M. 2020).

There are school of thought that suggest that having bigger boards will improve a firm's performance. Abidin et al. (2009) concluded that board size tremendously affects the efficiency and performance of a firm. These researchers have shown that bigger board will be able to advice and support the management more effectively because of a complexity of the current environment. This is due to bigger board will ensure much more knowledge and information are available to make better decisions. Hence, a large board size will ensure a better firm performance (Dalton, 1999; Adeabah, Gyeke-Dako & Andoh, 2019). Thus, a research hypothesis, H1 is developed, as below.

Hypothesis H1:

There is positive relationship between board size and a firm's performance.

Board structure (tier type):

A firm's board system (structure) is the foundation for an effective board and is at the heart of firm's performance. There exist many different kinds of corporate governance system around the world as businesses operate and firms operate in different business contexts.

The two most common corporate governance structure around the world are:
1-Single-tier board, also sometimes referred to as unitary board, and
2- Dual-tier, also called two-tier board

Naciti, V. (2019) highlighted as in some countries, like England, a single-tier corporate governance system is adopted by all firms, while in Germany, Netherland and China a two-tier system is adopted by all firms. However, in some countries like Hungry, public listed companies can operate either under a single-tier or two-tier system Within the 28 countries in the European Union (EU), 8 countries operate under the single-tier system, 10 countries operate under the two-tier system and the remaining countries adopt a either of this two corporate governance systems. The single-tier board is more likely, but not exclusively, to be found in an Anglo-Saxon context, while the two-tier board systems are more common in continental Europe.

Single tier board:

Under a single-tier board system, the company board is governed by a unified board composing of both executive directors and non-executive directors. However, the distinction is not formal or as 'black and white' if compared to the two-tier board. Generally, in a single-tier system, the board will comprise at least five members and no more than 15 members. However, the most of the board directors are non-executive members. The single-tier board are more likely, but not exclusively, to be found in an Anglo-Saxon style of corporate governance system. Public listed companies in the Canada, United States, United Kingdom, Belgium, Ireland, Sweden, Spain, Portugal, Greece, Singapore, India and Malaysia operate under the single-tier board (Pham, & Tran, 2019).

Dual tier board:

The dual-tier board system is made up of a management board and a supervisory board. A two-tier board can normally have a minimum of twelve members and can be as large as having 30 board members. In several countries, such as

Hungry, Netherlands and France, firms can choose between a single-tier board structure and a dual-tier board structure (Dehaene, De Vuyst, & Ooghe, 2001). This research used the international terminology that refers to the management board and supervisory board together as the "board". Many countries like Germany, Netherlands and even China adopt two-tier board as they believe that there is positive relationship between two-tier board and firm performance. As such, a research hypothesis, H2 is developed, as below.

Hypothesis H2:
Firms with two tier board, on average perform better than single tier board.

CEO Duality:
The CEO is empowered and given mandate to manage and to optimize all resources of the organisation and work with the board on behalf of the firm. CEO duality is defined as when the position of the Chairman of the board and Chief Executive Officer (CEO) are held by the same individual (Bhagat & Bolton, 2010). As such, it is the board responsibility to ensure the firm CEO is taking care of the interests of the firm owners. Hence, the board is seen as a control and monitoring system that ensures that the CEO interests are similar to the interest of the firm owners (Finkelstein & D'Aveni, 1994; Lagasio, & Cucari, 2019).

CEO duality becomes problem when a CEO works for the benefit or him/herself and outwit the benefit of the organisation. Based on Yermack (1996), "corporations are more valuable when the CEO and chairperson's positions are held separately". Fosberg (2004) preached that, "organisations where the position of CEO and chairperson are evidently detached are expected to engage the optimal amount of debt in their capital structure". Ehikioya, Benjamin I (2009) suggested that firms with separating power between CEO and chairman of the board may gain confidence on the firms' ability to increase additional capital and hence there are less chances of the firm going bankrupt. Other research conducted by Coles, McWilliams and Sen (2001) acclaims that CEO as a chairman may delay the board from their obligations including assessing and monitoring performance of the management that would create agency costs resulting in ineffective board and reducing overall performance of the corporation. Another study by Core, Holthausen and Larcker (1999) found that CEO duality leads to weak corporate governance as agency theory suggests that such overlapping control is believed enable oneself to gain sufficient controlling power to gain private benefits (Finkelstein and D'Aveni, 1994; Wang, DeGhetto, Ellen, & Lamont, 2019).

There are two basic theories underpinning the topic of CEO duality; the agency theory and stewardship theory. Stewardship theory proposes that CEO duality has the merit of a powerful, clear leadership structure reflected in a unity command of the firm (Donaldson et al, 1991). As such, with CEO duality, the decisions could be made in a better and faster and, as a result lead to a better performance compared to firms than separate the two positions. Donaldson et al (1991) also find the empirical evidence in their study which reveals that returns on equity (ROE) to shareholders are increased if the positions of the CEO and the chairman are combined. These studies support the stewardship theory by stating that the unity of command of CEO duality has benefits for shareholders and can increase shareholder returns. On a ground of the above analysis, a research hypothesis, H3 is developed as follows:

Hypothesis H3:
There is a positive association between CEO duality and firm's performance.

CEO Gender:
Based on various studies on corporate governance (CG), a diverse board is expected to affect positevly firm profability. According to a study using large datasets from 2500 Danish firms over the period 1994-2003, the number of women in top management jobs has from no affect or positive affect on firm performance. Based on other literatures (Smith et al, 2006; Ullah, Fang, & Jebran, 2019), there positive arguments supporting diversity in management as seen from a 'business case perspective'. There are many studies in favour of management diversity. This arguments believe the more diverse the managers are, the more capable they are in making decisions as they have a wide pool of different experiences and knowledgeable directors that can contribute to more opinions, options and creativity and come up with innovation ideas that could benefit the firms. This could result in better board decisions and improve firm performance. Furthermore, having more women as CEO are also likely to affects the career aspirations of many younger women in this firms and as a results the pool of potential candidates for top management positions will increase within the company.

Another school of thought that are against management diversity. Based on this arguments, board heterogeneity could results in too many opinions and cause conflict within the board and thus slower and poorer decisions especially when business environment change rapidly and decisions need to made fast (Smith et al, 2006). Thus, having diverse boards could result negatively in firm performance. Based on historical findings the empirical evidence is mixed. Ullah, Fang, & Jebran (2019) reported no positive relations between firm performance and gender diversity in management of United States firms. The concept of 'female-friendly' firms is found that these firm performance is superior to that of other firms. However, based on a few Scandinavian studies on gender diversity in management and firm performance, the relationship between the numner of women among boards members and firm performance is found to be negative especially for non-financial firms in Norway (García-Sánchez, Hussain, & Martínez-Ferrero, 2019).

Based on various researches, it is found that by having women as CEO, the firm performance can improves. It has been noted that in addition to being more risk averse, women are also very concern with the way the firm money is spent. Women CEO also normally extract less personal benefits compared to men. Women also make more ethical decisions in the workplace compared to men.

Based on various researches, it is found that by having women as CEO, the firm performance can improves. It has been noted that in addition to being more risk averse, women are also very concern with the way the firm money is spent. Women CEO also normally extract less personal benefits compared to men. Women also make more ethical decisions in the workplace compared to men. Based on the above, a research hypothesis, H4 is developed as follows:

Hypothesis H4:

Firms managed by female CEO's, on average, perform better than firms managed by male CEOs.

Women on board:

Whether or not firms with women board of directors perform better than firms with no women on board is an interesting subject. As such, there are many debate and empirical studies conducted on women on board. This studies look at the link between these women on board members and good corporate governance (Brammer et. al., 2007; Lagasio& Cucari, 2019). Currently many nations have laws installed that obliges firms to have women on board. In Norway the board composition must have at least 40 % women on board. Sweden law indicates a balanced board should account for minimum 40% women on board and there is preferential treatment in awarding public contracts. Many other countries have also regulate such laws. Having women on board reflect a diversified of the boar. Smith et al. (2006); García-Sánchez, Hussain & Martínez-Ferrero, (2019) have found 3 different reasons on the importance of women board members.

1. Women are assumed to have better understanding of a market if compared to male board members. Hence, this makes women better decision maker.

2. Having women on board is perceived to bring better images to the board and thus this will contribute positively to firm's performance.

3. When women are appointed as board members, this will enhanced the understanding of the business environment.

There is argument in favour of having board diversity. This arguments believe the more diverse board of directors are, the more capable they are in making decisions as they have a wide pool of different experiences and knowledgeable directors that can contribute to more opinions, options and creativity and come up with innovation ideas that could benefit the firms. There is another school of thought that is against board diversity. Based on this arguments, board heterogeneity could results in too many opinions and cause conflict within the board and thus slower and poorer decisions especially when business environment change rapidly and decisions need to made fast (Smith et al, 2006 Lagasio & Cucari, 2019).

There is argument in favour of having women on board. This arguments believe the more diverse board of directors with more women on board, the more capable the board are in making decisions as they have a wide pool of different experiences and knowledgeable directors that can contribute to more opinions, options and creativity and come up with innovation ideas that could benefit the firms. This could result in better board decisions and improve firm performance. Based on the above, a research hypothesis is developed as below.

Hypothesis H5:

There is a positive relationship between women on board and firm's performance.

Academician on board:

There is very limited research done on academicians as board members and their impact on firm performance. As such, this research to analyse the impact of having academician on board and to analyse their impact on board outcomes.

Based on a research paper titled "An Investigation of the Impact of Academicians as Directors", shows that firms with academician as board members are not have more vigilance and their firm performance do not differ with firms without academician on board. However, based on this research, having academician as board members are perceived to be add value, due to the possible positive impact of academicians on firm performance. This is due to the expertise wisdom and knowledge they possess in their respective fields. These academicians may be more willing and able to share valuable knowledge to these firms and may serve as more effective board members. This academician as board members are more likely to act as highly independent directors (Daily, Dalton, & Rajagopalan, 2003). Thus they satisfy the agency theory's mandates (Jensen & Meckling, 1976; Chin, Ganesan, Pitchay, Haron & Hendayani, 2019) that recommends vigorous independent and outside control.

Based on the resource dependence theory, academician on board may have impact on firm performance based on the wide knowledge base this academician provide (Zandi, Aslam, Selamat & Umar, 2018). Based on institutional theory (Zandi, Chuan & Mansori, 2019), academician on board may be legitimacy symbols based on their potential to add credibility to a firm's decisions. As such, one of the objective of this research is to study if this impact exists and if it is beneficial for academician to be board members. Also, due to their vast knowledge, many of these academicians also are board members of other firms as well, thus improving their social capital (Zandi, Aslam, Selamat, & Nasir, 2019).

Academicians have lifelong investments in education, are outside directors that can improve board monitoring and advising capabilities, thus can contribute significantly to board vigilance. As such, shareholders (owners) looking for greater board vigilance and to improve firm performance, are eager to appoint academicians as directors. Hence, the presence of academician on the board, signifies the shareholders' willingness to create a more vigilance on the board that can enhance firm performance on a ground of the above perspective, a research hypothesis is developed as below.

Hypothesis H6:

There is a positive association between academicians on board and firm's performance.

Performance measurement:

Thus, this study be looking at an independent variable. Firm performance measure selection includes several measures of accounting. Two most commonly used performance measures are return on equity (ROE) and return on assets (ROA). These firm performance (Shahzad, & Bhatti, 2008) measures are also commonly used in the various research studies. However for this research we focus only on the ROA measure for firm performance. Many literature analyses the performance of firms from various countries and sectors through indicators like return on assets (ROA). According to investopia, ROA gives an indicator of how profitable a firm is relative to its total assets. ROA refers to how effective management is at using its assets to generate income for the benefit of the organisation as a whole. ROA derived by dividing a company's annual earnings with its total assets and expressed as a percentage. It is also sometimes being refer as return on investment (ROI). ROA portrays what earnings were generated from invested capital which is assets of the company. Most public listed companies Return on Asset (ROA) vary substantially and will be highly dependent on the industry. In any company, assets comprised of both debt and equity and both can be used to finance business operation of the company. A good company will have higher ROA because it indicates the company is earning more money on less investment.

3. MATERIAL AND METHODS:

For this research, data is gathered based on the list of 100 top public listed firms listed in Fortune Global 500 magazine published in June 2015. The firms ranking are based on revenue generated by each firm for financial year 2015. This information is readily available at Fortune 500 website, www.fortune.com.

Additional information on board size, CEO duality, women on board, academician on board, etc. was extracted for the respective company websites. Use of other reports and website were needed too for some firms due to this information not found on the respective company websites. For this research, all data are based on secondary data and no surveys were conducted for this research. Refer to Table-1 for the list of 100 top global firms and their ranking based on revenue generated in FY 2014.

Since this study will discuss the component of corporate governance i.e. board size, board tier type, CEO duality, CEO Gender, women on board and well as academician on board its relationship with performance of a company(ROA), few research techniques shall be employed. Based on the data collected, measurement used for data analysis was made as per Table -2.

As such, the Pearson's correlation coefficient was used to test the severity of relationships among independent variables and in determining whether these independent variables have impact on firm performance, in this case the (Cherian, J., et.al., 2019)Return on Asset (ROA). Since multiple regression analysis helps to model and analyse variables and statistically calculate such variables, it is useful to use multiple regression in this study. In this study, independent variables are recognised under corporate governance component i.e. size of board directors, board tier type, CEO duality, CEO gender, women on board and academician on board, while dependent variable for firm performance, return on assets (ROA) was used.

4. Results

Based on the data analysed, listed below are the descriptive statistics for the 100 firms data gathered. Data for this study has been collected from Fortune 500 website, company website and FY 2015 annual financial reports.

In this study which is conducted for the Fortune 100 top public listed companies, the board size ranges from minimum 4 board members to a maximum 30 board members with an average of 14.16. Majority of board size are consist of 11 to 15 board members as shown in table 4 The average board size for this sample is 14 board members. Based on this study, 78% of the top 100 Global firm are based on single-tier board system while the remaining 22% (22 firms) are based on dual-tier board system. As can be seen in Table 4, data includes

45 firms (45%) from the 100 top global public listed have CEO duality which means the CEO is also the chairman of the board. While 55 firms have separate CEO and chairman role. Based on the study, only a minority (3%) of the Fortune Global 100 firms have women CEO's. These 3 women CEO's are all from firms based in 3 United States. Based on the study, most firms (86%) in the Fortune Global 100 firms have women board members. Only 14% or 14 firms have only men board members. Refer to Table 4 Based on this study, 44% of the 100 CEO's of Global Fortune 100 companies have academician on board. Refer to Table 4.

According to Schober, Boer & Schwarte, (2018), correlation among the variables in any research can enable the researcher to make interpretation to the regression and possible multicollinearity problem. The result of Pearson's correlation analysis is reported in Table 5. As we can see in the table, the correlation between variables in this study is quite low.

Multiple Regression analysis:

According to the regression analysis conducted, the P-value for board size was 0.435 ($p>0.05$) which means that there is no significant relationship between board size and firm performance. In this case there is no impact of the board size on Return on Asset (ROA) for these top 100 Global firms. Therefore Hypothesis H1 is rejected.

5. DICUSSION & CONCLUSION

As an attempt to evaluate the impact of corporate governance features like board size, board tier type, CEO duality, CEO gender, women on board and academician on board and its effect to firm performance, this study gathered secondary data from 100 top global firms listed by Fortune 500 organisation. The data regarding these six corporate governance features and performance of companies(ROA) were collected from various sources; Fortune 500 company website, the 100 firms annual financial report for FY 2015 and these companies' respective websites. Using the appropriate statistical techniques and software, the gathered data were analysed and reported. In the final chapter of this research the discussion and conclusions regarding the research questions and hypotheses are presented to compare the findings of this research against other researchers conducted on this subject.

On the grounds of the findings from this empirical study of the six features of corporate governance to firm performance, the following conclusion is reached:

1. First, only CEO duality has a positive impact to firm performance. This finding provides some support to the stewardship theory, where shareholders interest is maximized when the CEO is also the chairman of the board.

2. Second, the study finds board diversity (by having either or both women and academician on the board) have no impact to firm performance

3. Third, the study also proves having a bigger board (bigger board size and 2-tier board) do not contribute to better shareholders returns

The results of hypothesis testing show that among the research independent variables only CEO duality characteristic has significant relationship with firm performance. This indicates that firms with CEO duality bring results with higher Return on Assets (ROA) as compared to firm with no CEO duality. In case of CEO duality this results are consistent with the study of (Anderson, A. 2018). Many companies opt to separate the roles of CEO and board of chairman to ensure better monitoring and control of the firm's top management (Vafeas and Theodorou, 1998). However based on the findings of this research, its shows otherwise, its supports the stewardship theory where CEO duality may results in better firm performance. This could be perceived due to these firm are able to avoid conflicts, making decisions faster and better in a fast evolving business environment. It is also perceived the flow of critical information is also expected to be better when the CEO is also the chairman of the board. The unity of command due to chairman also being the CEO, like practised by most United States Fortune top 100 firms, could be viewed as a better corporate governance (Bandiera, Prat , Hansen, & Sadun, 2020)mechanism. However, there need to be a process to monitor and control the CEO from abusing his roles as chairman of the board to avoid financial frauds and avoid short term gains that may impact shareholders (owners) return in the long run. As such, these insights can be used to develop good corporate governance mechanism that will enhance firm's performance and maximize shareholders value.

6. TABLES

TABLE 1. Fortune Global Ranking

Ranking	Company	website	Ranking	Company	website
1	Wal-Mart	www.corporate.walmart.com	51	BMW Group	www.bmw.group.com
2	Sinopec Group	english.sinopec.com	52	SK Holdings	www.sk.com
3	Shell	www.shell.com	53	Credit Agricole S.A.	www.credt-agricole.com/en/
4	ExxonMobil	corporate.exxonmobil.com	54	Nissan Motor	www.nissanglobal.com
5	BP	www.bp.com	55	SAIC Motor	www.saic.com
6	Volkswagen Group	www.volkswagen.com	56	JPMorgan Chase and Co.	www.jpmorganchase.com
7	Toyota	www.toyota.com	57	Tesco Plc.	www.tescoplc.com
8	Glencore Xstrata	www.glencore.com	58	Siemens AG	www.siemens.com
9	Total SA	www.total.com/en/	59	Carrefour	www.carrefour.com
10	Chevron	www.chevron.com	60	(NTT) Group	www.ntt.co.jp/index$_{e}.html$
11	Samsung Electronics	www.samsung.com	61	Express Scripts Holding	www.express-scripts.com
12	Berkshire Hathaway	www.berkshirehathaway.com	62	Santander (Banco Santander)	www.santander.com
13	Apple Inc.	www.apple.com	63	Petronas	www.petronas.com.my
14	McKesson Corporation	www.Mckesson.com	64	Enel S.p.A.	www.enel spa.com
15	Daimler AG	www.daimler.com/en/	65	Nestle	www.nestle.com
16	(ICBC)	www.icbc-ltd.com	66	China Railway Engineering Group	www.crecg.com
17	EXOR Group	www.exor.com	67	(CNOOC)	www.cnooc.com
18	AXA	www.axa.com	68	GDF Suez (Engie)	www.gdfsuez.com/en/
19	General Motors	www.gm.com	69	Prudential Plc	www.prudential.com
20	E.ON	www.eon.com	70	StatOil	www.statoil.com
21	Phillips 66	www.phillips66.com	71	BASF	www.basf.com
22	General Electric (GE)	www.ge.com	72	Noble Group www.thisisnoble.com	
23	ENI SPA	www.eni.com	73	Electricite de France (EDF)	www.edf.com
24	Gazprom	www.gazprom.com	74	(CRCC)	english.crcc.cn/
25	Ford Motor Company	www.ford.com	75	Bank of America Corp	www.bankofamerica.com
26	Petrobras	www.petrobras.com	76	HSBC Holdings	www.hsbc.com
27	China Construction Bank	www.ccb.com/en/	77	IBM	www.ibm.com
28	CVS Health	www.cvshealth.com	78	Marathon Petroleum Corp.	www.marathonpetroleum.com
29	(Foxconn)	www.foxconn.com	79	Cardinal Health	www.cardinal.com
30	Allianz	www.allianz.com/en/	80	Boeing	www.boeing.com
31	AT and T	www.att.com	81	Citigroup	www.citigroup.com
32	Valero Energy Corporation	www.valero.com	82	China Development Bank	www.cdb.com.cn
33	United Health Group	www.unitedhealthgroup.com	83	Amazon.com amazon.com	
34	Japan Post Holdings	japanpost.jp/en/	84	Hitachi	www.hitachi.com
35	Trafigura Beheer	www.trafigura.com	85	Wells Fargo	www.wellfargo.com
36	Verizon Communications	www.verizon.com	86	ING Group	www.ing.com
37	BNP Paribas	www.bnppareibas.com/en/	87	JX Holdings	www.hd.jx-group.co.jp/english/
38	Lukoil	www.lukeoil.com	88	PTT Public Company Limited	www.pttplc.com
39	Honda	world.honda.com	89	China Life Insurance Company Limited	www.e-chinalife.com
40	Bank of China	www.boc.com	90	Microsoft	www.microsoft.com
41	AmerisourceBergen	www.amerisourcebergen.com	91	Ping An Insurance	pingan.com
42	PEMEX	www.pemex.com	92	Metro Group	www.metrogroup.de.com/en/
43	Gruppo Generali	www.generali.com	93	Legal and General Group	www.legalandgeneralgroup.com
44	Societe Generale	www.societegenerale.com	94	Hyundai Motor Group	www.hyundai motor group.com
45	Fannie Mae	www.fanniemae.com	95	Procter and Gamble	www.pg.com
46	Rosneft Oil	www.rosneftoil.com	96	Home Depot	www.homedepot.com
47	Costco	www.costco.com	97	Deutsche Telekom	http://www.telekom.com
48	Hewlett-Packard (HP)	www.hp.com	98	Munich R	e http://www.munichre.com
49	Kroger	ir.kroger.com	99	Archer Daniels Midland (AMD)	http://www.adm.com
50	China Mobile Limited	www.chinamobileltd.com/en/	100	Airbus http://www.airbusgroup.com	

TABLE 2. Summary of the Variables and Indicators

Items	Variable	Measurement Used	Indicator/Result
Corporate Governance Mechanism	**Independent Variable**	Board Size	Number of board members
		Board Tier type	0=Single tier
		Board Tier type	1=Two Tier
		CEO Duality/Chairman	0=no(seperate)
		CEO Duality/Chairman	1=Yes(Combined)
		CEO Gender	0=no CEO is male
		CEO Gender	1=no CEO is female
		Women on board	0=no women is on board
		Women on board	1=exist women on board
		Academecian on board	0=no Academecian on board
		Academecian on board	1=exist Academecian on board
performance indicators	Dependent Variable	Return on Asset (ROA)	Net Income divide by total assets

TABLE 3. Descriptive Restuls

	Mean	**SD**	**N**
ROA	2.7995	4.19531	100
Board Size	14.16	5.253	100
Board Tier Type	0.22	0.416	100
CEO Duality	0.45	0.5	100
CEO Gender	0.03	0.171	100
Women on Board	0.86	0.349	100
Academician on Board	0.44	0.499	100

TABLE 5. Correlation Results

		1	**2**	**3**	**4**	**5**	**6**	**7**
	ROA	X.000	.X86	-.X03	.X00	0.02	-0.098	.X07
	CEO Duality	.X86	X.000	.XX5	0.008	.X33	0.053	.X94
Pearson Correlation	Board Size	-.X03	.XX5	X.000	-0.039	0.338	0.57	-0.028
	Educators on Board	.X00	0.008	-0.039	X.000	0.009	-0.082	.X98
	Women on Board	0.02	.X33	0.338	0.009	X.000	-.X34	.07X
	Board Tier Type	-0.098	0.053	0.57	-0.082	-.X34	X.000	-0.093
	ROA		0.032	.X53	.X62	0.42	.X65	.X45
	CEO Duality	0.032		.X28	0.468	0.093	0.299	0.026
	Board Size	.X53	.X28		.35X	0	0	0.392
Sig. (X-tailed)	Educators on Board	.X62	0.468	.35X		0.463	.2X0	0.024
	Women on Board	0.42	0.093	0	0.463		0.093	.24X
	Board Tier Type	.X65	0.299	0	.2X0	0.093		.X78
	CEOGender	.X45	0.026	0.392	0.024	.24X	.X78	
	ROA	X00	X00	X00	X00	X00	X00	X00
	CEO Duality	X00	X00	X00	X00	X00	X00	X00
N	Board Size	X00	X00	X00	X00	X00	X00	X00
	Educators on Board	X00	X00	X00	X00	X00	X00	X00
	Women on Board	X00	X00	X00	X00	X00	X00	X00

TABLE 4. Summary of descriptive results

R	Company Name	W	A	S T	SD	R	Company name	W	A	S T	SD
1	Wal-Mart	X	X	X		51	BMW Group	X	X		X
2	Sinopec Group	X			X	52	SK Holdings			X	
3	Shell	X		X		53	Credit Agricole S.A.	X		X	
4	ExxonMobil	X	X	X		54	Nissan Motor			X	
5	BP	X	X	X		55	SAIC	X	X		X
6	Volkswagen Group	X			X	56	JPMorgan Chase Co.	X		X	
7	Toyota			X		57	Tesco Plc.	X		X	
8	Glencore Xstrata	X		X		58	Siemens AG	X			X
9	Total SA	X	X	X		59	Carrefour	X		X	
10	Chevron	X	X	X		60	(NTT) Group	X	X	X	
11	Samsung Eletronics	X	X	X		61	Express Scripts Holding	X	X	X	
12	Berkshire Hathway	X		X		62	Santander (Banco Santander)	X	X	X	
13	Apple Inc	X		X		63	Petronas	X		X	
14	McKesson Corparation	X		X		64	Enel S.p.A.	X	X	X	
15	Daimler AG	X			X	65	Nestle	X	X	X	
16	(ICBC)	X	X		X	66	China Railway Engineering Group				
17	EXOR Group	X		X		67	(CNOOC)		X	X	
18	AXA	X	X	X		68	GDF Suez (Engie)	X		X	
19	General Motors	X	X	X		69	Prudential Plc	X	X	X	
20	E.ON	X			X	70	StatOil	X	X	X	
21	Phillips 66	X		X		71	BASF	X	X		X
22	General Electric (GE)	X	X	X		72	Noble Group	X		X	
23	ENI SPA	X	X	X		73	Electricite de France (EDF)	X		X	
24	Gazprom		X	X		74	(CRCC)				X
25	Ford Motor Company	X		X		75	Bank of America Corp	X		X	
26	Petrobras	X		X		76	HSBC Holdings	X		X	
27	China Construction Bank	X			X	77	IBM	X	X	X	
28	CVS Health (formerly CVS Caremark)	X	X	X		78	Marathon Petroleum Corp.	X		X	
29	(Foxconn)	X		X		79	Cardinal Health	X		X	
30	Allianz	X	X		X	80	Boeing	X	X	X	
31	AT and T	X	X	X		81	Citigroup	X	X	X	
32	Valero Energy Corporation	X	X	X		82	China Development Bank	X			X
33	United Health Group	X	X	X		83	Amazon.com	X	X	X	
34	Japan Post Holdings	X		X		84	Hitachi	X		X	
35	Trafigura Beheer				X	85	Wells Fargo	X	X	X	
36	Verizon Communications	X		X		86	ING Group	X			X
37	BNP Paribas	X	X	X		87	JX Holdings	X	X	X	
38	Lukoil		X	X		88	PTT Public Company Limited	X		X	
39	Honda	X		X		89	China Life Insurance Company Limited		X		X
40	Bank of China		X	X		90	Microsoft	X		X	
41	AmerisourceBergen	X	X	X		91	Ping An Insurance	X			X
42	PEMEX	X		X		92	Metro Group	X			X
43	Gruppo Generali	X	X	X		93	Legal General Group	X		X	
44	Societe Generale	X		X		94	Hyundai Motor Group		X	X	
45	Fannie Mae	X		X		95	Procter Gamble	X	X	X	
46	Rosneft Oil			X		96	Home Depot	X		X	
47	Costco	X		X		97	Deutsche Telekom	X			X
48	Hewlett-Packard (HP)	X	X	X		98	Munich Re	X	X		X
49	Kroger	X		X		99	Archer Daniels Midland (AMD)	X		X	
50	China Mobile Limited			X		100	Airbus	X X			

TABLE 6. Multiple Regression Analysis Results

Variables	B	Std.Error	Beta	T	Sig	Zero-order	Partial	Part	Tolerance	VIF
(Constant)	2.824	X.482		X.905	0.06					
CEO Duality	X.574	0.869	.X88	X.8XX	0.07	.X86	.X85	.X82	0.938	X.066
Board Size	-0.09	.XX3	-.XXX	-0.784	0.44	-.X03	-.08X	-0.08	0.5	2.002
Educators on Board	0.689	0.863	0.082	0.798	0.43	.X00	0.082	0.08	0.956	X.046
Women on Board	0.298	X.424	0.025	.2X0	0.83	0.02	0.022	.02X	.7X9	X.390
Board Tier Type	-0.31	X.365	-0.03	-0.225	0.82	-0.098	-0.02	-0.02	0.549	X.820
CEO Gender	X.X34	2.568	0.046	.44X	0.66	.X07	0.046	0.044	.9X5	X.093

7. LIMITATION AND FUTURE RESEARCH

1. In this research, the firm performance (Return on Asset) of all the samples (100 global firms) were taken for only 1 financial year (based on FY 2015 annual report). It will be good to look at longitudinal performance and also at other firm performance like ROE, etc. future researchers can increase sample size for more robust results.

2. In this dissertation, only 6 corporate governance features (BOD size, Board tier type, CEO duality, CEO gender, women on board, and academician on board) were investigated. Researchers can include more variables in future study.

3. Many other information were ignore in this research like firms age, firm number of employees, type of industry, board experience, number of board meetings, foreigners on board, etc. Future researchers can include more aspects of the firms in order to have a holistic view of the phenomenon.

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