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CONTENTS

Corporate Risk Governance and Board of Directors: Evidence from Malaysian Listed Companies

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ABSTRACT

Corporate governance and risk management research continues to gain attention given the increasing cost of risk management and corporate governance failures, which often remain underestimated attributed by the complex intertwining of risk management and corporate governance in such failures. In response, regulators had increased the significance of risk management activities and the board's overall oversight responsibilities on risk governance. Prior studies provided conflicting outcomes on the relationship of corporate governance elements and board's oversight effectiveness. This study aims to ascertain board attributes (board independence, board committee structure, board experience, corporate reporting and disclosure, and dynamic and constructive dialogue adopted on risk governance matters) that contributed positively towards board's oversight effectiveness on corporate risk governance. The findings based on top 100 Bursa Malaysia listed companies between 2011 to 2015 suggest that board committee structure, disclosure on risk management framework, and detailed disclosure of risk management practices and processes are significantly positively related towards board's oversight effectiveness on corporate risk governance. However, other elements such as board independence, board experience, and dynamic and constructive dialogue on corporate risk governance do not contribute significantly. This study offers new insights on practices adopted by Malaysian listed companies on risk governance and help regulators to create greater awareness with respect to the intrinsic value derived from corporate risk governance practices, and to formulate director's training and development programme to enhance effectiveness of board's oversight on corporate risk governance.

Keywords: *corporate governance, risk management, corporate risk governance*

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INTRODUCTION

Over the past two decades, corporate risk management and governance failures have continued to dominate global headlines; partly contributed by the lack of adequate board-level risk management. This consequently led to heightening attention and initiatives to improve corporate governance standards and focus on risk management over the period of 2012 to 2014 with reforms specifically concentrated on the directors' role to enhance corporate governance and the board's risk management responsibilities, and to reinforce the importance of director's independence and clear articulation of the board's risk oversight responsibilities (Roberts, McNulty and Stiles, 2005; Germain, Gally and Lee, 2014). This is to ensure that boards are guided in their expanded remit, responsibilities and effectiveness on corporate risk governance. Although the agenda for increasing director's independence has been ongoing, the attention on board's risk oversight role and responsibility is an increasingly critical agenda. Additionally, the existing governance code reflects the perspective that risk management and corporate governance principles should be integrated in regard to the ongoing views that risk management should be a formidable element of corporate governance practices (McCrae and Balthazor, 2000; Woods, 2009). Hence, the concept to embed risk management within the corporate governance scope requires further insights and studies with the objective of enabling boards to effectively exercise their risk oversight responsibilities. This will be further discussed and forms the basis and justification to support this study.

The Malaysian Code of Corporate Governance ("MCCG") was introduced in 2000 and enhanced in 2012 to focus on sub-committees' roles and responsibilities, strengthening board composition, mandatory separation of the role of CEO and Chairman, and the adoption of internal control systems and risk management framework (Securities Commission Malaysia, 2012). The enhancements were consistent to the international corporate governance guidelines[1] refinements. Further changes were made in 2017 to further internalise the culture of corporate governance and the top 100 companies are encouraged to establish Risk Management Committees

1 The international corporate governance guidelines include but not limited to the South African Kings III report, Australian Stock Exchange Governance Principles ("ASX Principles) 2014, UK Corporate Governance Code ("UK Code") 2014, and Singapore Code of Corporate Governance ("Singapore Code") 2012.

("RMC") to further focus on risk related matters. Compliance to the MCCG remains a challenge given the more onerous burden of responsibilities expected of public listed boards on risk management oversight. This has accelerated the need to realign corporate governance practices to embed risk management within corporate governance, and hence the focus on corporate risk governance. This therefore has necessitated greater appreciation and studies to enhance comprehension of the determinants of board structure, role and responsibilities to ensure effective corporate risk governance, and hence the focus of this study.

Given the global corporate scandals, this further suggests that firms need to improve the effectiveness of board's oversight responsibilities to protect stakeholders' interests; namely its shareholders and investors. Coupled with the dynamic and competitive landscape, this increases the complexity of strategic decision making including matters in relation to corporate governance and risk management. Governance Institute of Australia, 2016 reinforced that "the oversight of the maintenance of sound risk management and internal control systems is core to the role of the board in steering organisations." Malaysia is a developing economy faced with economic, regulatory and social-political challenges, and deterioration in its governance ranking[2] (Yeap, 2016). Therefore, it is important to ascertain "which determinants will ensure an effective board's oversight on corporate risk governance, and what are the contributory elements that enable a board to be more effective in its oversight role and responsibilities in corporate risk governance?" given the inherent challenges of firms operating in Malaysia. Section 1 on literature review provides a discussion on previously published corporate governance and risk management research papers. This is followed by Section 2 which includes a discussion on the methodology applied for this study and Section 3, which embodies the discussion of the findings arising from this study and results thereof before concluding with a conclusion section.

2 In the biennial Corporate Governance Watch 2016 carried out for 11 Asia Pacific countries Malaysia's ranking has dropped from forth in 2014 to 6th in 2016. The report adds that a key contributing factor for the decline was attributed to the Malaysian state fund crisis.

LITERATURE REVIEW AND HYPOTHESES DEVELOPMENT

Good governance has been widely recognised as a key contributor in improving overall economic efficiency. Prior studies have advocated and acknowledged that the practice of corporate governance varies and hence is unable to effectively function in a singular manner. Instead, governance practices differ across economies, firms, sectors, and nations (Black, Gledson de Carvalho, Khanna, Kim and Yurtoglu, 2014). Hence, the appreciation of the theoretical framework that sets the building blocks and principles of corporate governance is important. This paper focuses mainly on agency, stewardship, resource dependency, and contingency theories.

Agency theory is primarily predicated on the alignment of proprietors and managers' interests premised on the underlying conflict of interest assumption that exists between management and its owners (Nicholson and Kiel, 2003) which necessitates the board's monitoring to minimise agency costs. It further suggests that attributes such as board independence are contributory factors towards enhancing effectiveness of board structures and functions. Many prior studies concluded that the increasing number of independent directors' have enhanced board governance and effectiveness (Annuar and Abdul Rashid 2015; Armstrong, Core and Guay 2014; Bliss, Muniandy and Majid, 2007; Germain et al., 2014; Gisbert and Navallas, 2013; Haniffa and Cooke, 2000; Kamardin, 2011; McNulty, Florackis and Ormrod, 2012). However, agency theory's shortcoming remains its over simplification in conceptualising the conflict of interest notwithstanding studies that have highlighted that the increasing number of independent directors do not enhance board effectiveness (Westphal, 2002; Nadler, 2004; Leblanc and Gillies, 2005).

Stewardship theory opines that managers are predominantly trustworthy and are good custodians of the resources entrusted to their care, thereby eradicating agency related costs (Nicholson and Kiel, 2003) and are motivated to act in the best interests of their principals (Donaldson and Davis, 1991). Thus, managers should be fully empowered in the firm's administration as they are deemed good stewards of the resources entrusted in them (Letza, Sun and Kirkbride, 2004). The stewardship theory's proponents further assert that stewardship behaviour is organisationally focused and hence its advocates are of the view that better financial performance is more likely to be associated with internal corporate governance principles that enable managers' greater empowerment.

However, resource dependence theory is not in favour of the other theories whereby it posits that companies depend on one another to acquire the requisite resources such as technology or capital and therefore interdependent relationships are formed (Pfeffer and Salancik, 1978; Brettel and Moss, 2013). Moreover, it is further assumed that multiple firms will create and maintain social relationships resulting in interlocking directorship.[3] In such instances, better synergies, lower transaction costs and more positive strategic decision making which lead to better firm results (Williamson, 1984) are expected, including beneficial relationships for all the interdependent firms. Therefore, within the resource dependency theory framework, boards with high levels of connections to the external environment would facilitate accessibility to valuable resources and strengthening of risk management and corporate governance practices and thereby improve firms' overall performance (Hillman and Dalziel, 2003; Nicholson and Kiel, 2007).

Organisational theorists found that the structure and activity of complex organisations was subject to the influence of many contextual and contingent variables and is the precursor to the contingency theory framework (Langfield-Smith, 1997; Chenhall, 2003). Prior risk management studies that had adopted the approach of contingency framework found that the dependence of risk management performance, outcomes and practices are dependent on organisational context and therefore varies from firm to firm (Chenhall, 2003). However, recent studies suggest a dearth of inconclusive results based on the longitudinal field studies, which posit that risk management practices and processes vary from firm settings, industry, social settings, as well as external and competitive environments (Beasley, Clune and Hermanson, 2005; Mikes A., 2009; Mikes A., 2011). Therefore, the main challenge of the contingency theory remains as the need for more focused research for the theory to mature, given that contingency theory and risk governance are both evolving disciplines.

3 Interlocking directorship occurs when the directors are members of two different boards for which they have relationships.

The Principles on Risk Management and the Board's Risk Oversight Responsibilities

Risk is a pervasive and inherent component of every firm's organisational strategy. Coupled with the complexity of business transactions, globalisation and technological advances; these have heightened the complexities of risks. Prior researches suggest that while much have been published on enterprise risk management, ambiguity remains and hence led to continuous evolvement on what constitutes enterprise risk management (AS/NZS 4360 Risk Management Standard, 1995; COSO, 2004; ISO 31000, 2010; The Institute of Internal Auditors, 2016; RIMS, The Risk Management Society, 2016). Given the multi-disciplinary nature of risks, researchers have identified the need for a more integrated manner of treating risks (Kloman, 1992; Shapiro and Titman, 2005; D'Arcy and Brogan, 2001) and have led to a more formal establishment of framework to deal with risk management such as ISO31000. The focus of ISO31000 has resulted in ongoing empirical studies on risk management and factors contributing to its effectiveness, for which various factors have been studied and results remain mixed. However, there remain limited studies on the detailed processes of risk management undertaken by board i.e. its risk oversight responsibilities hence motivating this particular study.

Risk Oversight Responsibilities

The board's main responsibility is its monitoring role and the need to exercise greater oversight over the firm's risk-taking and risk management activities to protect stakeholder value. Risk oversight encompasses practices adopted by the board to ensure that firms implement a robust mechanism for the purposes of identifying, prioritising, coordinating, executing, and managing the activities of the firm in order to minimise the impact of unwanted risk on desired outcomes. Through the risk oversight process, the board is then expected to obtain clear understanding of the risks inherent in the firm's corporate strategy, risk philosophy and risk appetite in executing its strategy, as well as being made aware of the organisational or management dysfunctional behaviour(s) that can lead to excessive risk taking. In such instances, the board is able to provide timely input to management on such critical risk issues. The board's risk oversight role is typically assisted through the formation of sub-committees such as Audit

Committee ("AC") or the RMC. Therefore, the board needs to holistically ensure that the role of risk and governance oversight of each committee is adequate to provide assurance to the board's overall responsibility of risk and governance oversight.

Board Effectiveness and Corporate Risk Governance

Malaysia's ongoing improvement to the corporate governance agenda includes the enhancement of board's effectiveness on risk management oversight responsibilities. Board's effectiveness is interpreted as a function of its contribution towards organisational performance, processes, and the board's support of the organisation and its dynamics in carrying out its responsibilities (Ingley and Van der Walt, 2003). Earlier studies (Nicholson and Kiel, 2003; Nuryanah and Islam, 2011; McNulty et al., 2012; Shukeri et al., 2012) have postulated that board effectiveness can be deduced as the outcome of the board's structure and responsibility although there remain mixed opinions. Thus, this study intends to determine the board structure and responsibilities that enable effective board oversight on corporate risk governance and to supplement gaps from existing studies amongst Malaysian listed firms.

The structure and responsibility of the board can be assessed based on the following perspectives:

Board composition and its independence. Board independence is assessed based on the ratio of independent directors present on a board and the need for independence is achieved by ensuring that the roles of the CEO and the chairman are segregated. Earlier studies found that external directors are perceived to be more independent and hence objective when compared to insider directors (John and Senbet, 1998; Haniffa and Cooke, 2000; Ayuso and Argandona, 2007; Kamardin and Haron, 2011; Germain et al., 2014), which lend support to the agency theorists. Studies also found that in Malaysian government-linked entities or family-owned corporations, the role of independent directors may however be influenced (Annuar and Abdul Rashid, 2015). Conversely, prior studies also found that composition of the board such as the CEO's duality role and board experience may not be directly linked with improving overall board governance effectiveness (Hermalin and Weisbach, 2000; Guest, 2008; McNulty et al., 2012; Shukeri et al., 2012) supporting the stewardship theory perspective. Therefore, the first hypothesis states:

H1: Board structures characterised by higher number of non-executive directors has a significant relationship towards the effectiveness of board's oversight on corporate risk governance.

Board committee structure. Boards are typically made up of several sub-committees to assist the board in carrying out its requisite roles and responsibilities. Studies have found that the formation of sub-committees enhanced overall governance effectiveness (Maassen, 2002; Subramaniam et al., 2009; Petri and Soublin, 2010). Moreover, the significance of the AC's role in instituting governance even in instances of CEO duality has also been noted (Carcello, Hermanson and Ye, 2011). Additionally, given the increasing importance and complexity of risk management, this has also warranted the formation of RMC (De Lacy, 2005; Yatim, 2009) as promulgated by international codes (Securities Commission Malaysia, 2012; Singapore Corporate Governance Committee, 2012; Financial Reporting Council, 2014) albeit studies that have yielded mixed results on the benefits of RMC in enhancing overall risk governance (Minton et al., 2014; Amoozegar, Pukthuanthong and Walker, 2017). Therefore, the second hypothesis states:

H2: Board structures characterised by the existence of AC/RMC has a significant positive relationship towards the effectiveness of board's oversight on corporate risk governance.

Board Experience and Skills. Board faces a myriad of responsibilities and therefore the expertise and experience of the board is closely mapped to the firm's needs (Castanias and Helfat, 2001; Nicholson and Kiel, 2004). Earlier studies have found that directors with accounting, finance or economics skills tend to be more effective in governance and risk management (Dionne and Triki, 2005; Minton, Taillard and Williamson, 2014; Clements, Neill and Wertheim, 2015; Ittner and Keusch, 2015). In a Malaysian study, financial competency was noted as the most important board competency affecting firm performance (Wan Yusoff and Armstrong, 2012). Hence, this study attempts to assess if directors with relevant skills and experience enhance the board's overall oversight effectiveness of corporate risk governance. Therefore, the third hypothesis states:

H3: Board with directors possessing accounting, economic, financial or risk management expertise and skills has a significant positive relationship towards the effectiveness of board's oversight on corporate risk governance.

Corporate Reporting and Disclosure. A key principle of corporate reporting is to ensure that companies continue to create long-term sustainable value. Therefore, improvement in the quality of corporate reporting is viewed as an extended agenda of corporate risk governance. Corporate reporting includes disclosure of financial information and any other information relevant for communicating with its shareholders. While Bursa's listing requirements stipulate that disclosure on the statement of risk management and internal control is mandatory in the annual report, the extent, depth and details of disclosure remain voluntary. Prior studies have suggested that governance and risk management mechanisms could potentially improve or decrease the levels of disclosures for corporate reporting and are dependent on the board's composition (Donnnelly and Mulcahy, 2008). Therefore, the fourth and fifth hypotheses are:

H4: Boards that have established and disclosed risk management framework have a significant positive relationship towards the effectiveness of the board's oversight on corporate risk governance.

H5: Boards that have adopted detailed reporting and disclosure of governance and risk management practices and processes have a significant positive relationship towards the effectiveness of board's oversight on corporate risk governance.

Dynamic and constructive dialogues on risk management and corporate governance practices. Corporate governance and risk management practices are lynchpins in many organisations and increasingly important. On the same token, while corporate governance and risk management disclosures have improved, there remains a strong argument to ensure that the practice is one grounded on substance over form. Hence, as part of this study, survey questionnaires will be used to ascertain the dynamism of the board in discussing matters in relation to corporate governance and risk management, strategising and formulating the organisation's risk appetite, reviewing and approving of action plans required to address key risks and governance issues, and thereafter monitoring the effectiveness of its corporate risk and governance initiatives. Therefore, the sixth hypothesis states:

H6: Boards that are involved in dynamic and constructive dialogues on risk management and corporate governance practices have a significant positive relationship towards the effectiveness of board's oversight on corporate risk governance.

RESEARCH DESIGN

Sample Selection

Samples for this study were selected from the top 100 public listed companies on Bursa Malaysia over five financial years from 2011 to 2015. The rationale for selecting the top 100 public listed companies is largely attributed to prior studies that indicated that efforts of risk management and governance are more genuine and valuable in large firms. Furthermore, the market capitalisation of the top 100 listed companies constitutes 77% (RM1,310 billion) of Bursa Malaysia's total market capitalisation of RM1,695 billion (Bursa Malaysia, 2015). Additionally, given the MCCG revision in 2012, data of post-2012 are a useful indicator to examine the effects of post adoption of additional risk management and governance requirements. Data for this study were collected from annual reports that were available from the Bursa Malaysia website, as well as survey data from survey questionnaire that were distributed to chairman of the top 100 Bursa listed companies. The purpose of the survey questionnaire was to better understand the processes adopted by the board on its risk governance oversight responsibilities. The questionnaire contained 13 questions whereby responses were solicited using the Likert-type scale.[4] Those 13 questions covered eight key areas (i.e. risk appetite statement, risk management framework, dedication risk management function, risk discussion, monitoring of risk process, sharing of risk information, risk oversight, and board effectiveness self-assessment) prepared and adapted based on the review of prior studies on board oversight and related processes

4 Likert Scale ranging from 1 = "No Emphasis", 2 = "Low Emphasis", 3 = "Average Emphasis", 4 = "Above Average Emphasis" and 5 = "High Emphasis" as well as measures for frequency of discussions on Likert-type scale, ranging from 1 = "Quarterly", 2 = "2-3 times a year", 3 = "Annually", 4 = "Less than once a year" and 5 = "Not at all".

(Finkelstein and Mooney, 2003; Nadler, 2004; Raber, 2003; Sobel and Reding, 2004; Kiel and Nicholson, 2005; Md Kassim, Ishak and Abdul Manaf, 2013; Barton and Wiseman, 2015).

Operationalisation and Measurement of Variables

This study assessed six independent variables: (a) board composition ("INDIR"), (b) board committee structures ("COMM"), (c) board experience and skills ("QUAL"), (d) implementation and disclosure of risk management framework ("DISC"), (e) boards that have adopted detailed reporting and disclosure of governance and risk management practices and processes ("RPT"), and (f) dynamic and constructive dialog ("RPD and RAS"). To ascertain the effectiveness of board's oversight on corporate risk governance, three variables that measure the firm's financial performance and market value were used i.e. the Return on Asset ("ROA"), Return on Equity ("ROE") for financial performance and Tobin's Q score for measuring market value, as a proxy measure of a board's effectiveness on corporate risk governance. The rationale for using three variables is based on prior studies, which suggest that there is a positive correlation between firm performance (as measured by Tobin's Q, ROA and ROE) and governance scores/index (Black, Jung and Kim, 2004; Habbash and Bajaher, 2014; Ramadan, 2014; Vo and Nguyen, 2014; Wang, 2015; Pamburai, Chamisa, Abdulla and Smith, 2015). The Tobin's Q, ROA and ROE formula used is as below:

$$\text{Tobin's Q} = \frac{\text{Market capitalisation}^{1} + \text{book value of debt}}{\text{Book value of total assets}}$$

$$\text{ROA} = \frac{\text{Net Profit}}{\text{Book value of total assets}} \qquad \text{ROE} = \frac{\text{Net Profit}}{\text{Shareholder's Equity}}$$

RESULTS AND DISCUSSION

Analysis of Results

The descriptive statistics are explored and discussed in the following table.

Table 1: Descriptive Statistics of Variables Tested for 2011 and 2015

	Minimum		Maximum		Mean		Standard Deviation	
	2011	2015	2011	2015	2011	2015	2011	2015
INDIR	28.57%	30.00%	75.00%	85.71%	45.78%	49.00%	11.01%	11.55%
COMM	0	0	1	1	0.24	0.46	0.429	0.501
QUAL	12.50%	9.09%	90.91%	90.00%	44.47%	45.64%	20.52%	18.76%
DISC	0.0	0	1	1	0.14	0.31	0.35	0.47
RPT	0.0	0	1	1	0.10	0.33	0.31	0.47
Tobin's Q	0.27	0.61	9.82	13.81	1.83	2.12	1.69	10.48
ROA	−0.46	−3.61	45.89	73.07	9.13	8.32	8.27	10.48
ROE	−0.71	−8.11	156.07	285.78	20.31	20.39	20.65	35.30
Sample Size	88	100						

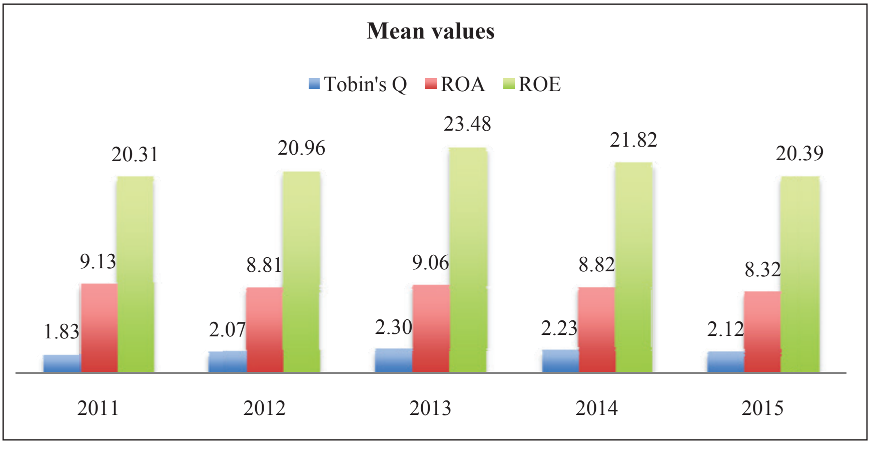
Table 2: Results of t-test for Corporate Risk Governance Indicators, Firm Performance and Firm Valuation Variables for Comparison of Mean Values for 2011 and 2015

	2011		2015		
Variables	M	SD	M	SD	t-test
INDIR	0.458	0.110	0.489	0.117	−1.845
COMM	0.238	0.429	0.466	0.502	−3.239*
QUAL	0.445	0.205	0.465	0.193	−0.653
DISC	0.136	0.345	0.340	0.477	−3.489*
RPT	0.102	0.305	0.375	0.487	−4.255*
ROA	9.135	8.266	7.886	10.607	−.027
ROE	20.315	20.650	20.442	37.260	−.824
Tobin's Q	1.832	1.690	2.049	2.130	−.679

* $p < .005$, N=88

Board's Oversight Effectiveness. Board's oversight effectiveness is represented by proxy value of firm performance i.e. Tobin's Q, ROA and ROE. The results of the descriptive statistics (in Table 1) indicated that the mean value for ROA decreased, ROE increased and Tobin's Q increased, though the t-test (in Table 2) indicated that the respective increases and decrease as not statistically significant at $p < 0.005$. Separately, it is noted that the highest point of mean values for all three dependent variables occurred in 2013 as shown in Figure 1, which was a year post implementation of the MCCG 2012. This could possibly be attributed to the market's reaction of improvements in governance principles adopted by Malaysian firms and thereby improvements in firm performance as measured by Tobin's Q, ROA and ROE.

Figure 1: Summary of Movements in the Mean Values of Tobin's Q, ROA and ROE from 2011 to 2015



Board Composition and Board's Oversight Effectiveness. Companies studied increased the number of independent directors (INDIR) in compliance to MCCG 2012. This is reflected by the increase in the mean value of 45.8% in 2011 to 48.9% in 2015, though the t-test indicated that the mean difference was not statistically significant at $p < 0.005$ as summarised in Table 2. Furthermore, the relationships predicted in the Pearson's correlation (see Table 3) and analysis of variance (Table 4) provided no statistically significant evidence to suggest that relationship between board composition as represented by the number of independent directors to board's oversight effectiveness exists. Hence, the results provided evidence to reject H1 are consistent to recent studies (Haniffa and Hudaib, 2006; Erkens, Hung and Matos, 2012; Pan, 2013; Zemzem and Kacem, 2014).

Table 3: Pearson Correlations of Independent and Dependent Variables

	INDIR			COMM			QUAL			DISC			RPT			Tobin's Q			ROA			ROE		
	Cumm.	2011	2015	Cumm.	2011	2015	Cumm.	2011	2015	Cumm.	2011	2015	Cumm.	2011	2015	Cumm.	2011	2015	Cumm.	2011	2015	Cumm.	2011	2015
INDIR	1.000	1.000	1.000																					
COMM	0.177**	0.099	0.238*	1.000	1.000	1.000																		
QUAL	0.400	0.080	0.085	0.199**	0.298**	0.137	1.000	1.000	1.000															
DISC	0.235**	0.308**	0.167	0.402**	0.477**	0.336**	0.251**	0.171	0.287**	1.000	1.000	1.000												
RPT	0.084	0.064	0.113	0.074	0.163	−0.050	0.092*	0.104	0.117	0.316**	0.303**	0.219*	1.000	1.000	1.000									
Tobin's Q	−0.010	0.059	−0.013	−0.076	−0.159	−0.058	0.022	−0.012	−0.025	0.000	−0.129	0.043	0.157**	0.160	0.136	1.000	1.000	1.000						
ROA	−0.046	0.048	−0.103	−0.172**	−0.258*	−0.131	−0.008	−0.053	−0.033	−0.063	−0.240*	0.016	0.133**	0.111	0.133	0.830**	0.768**	0.844**	1.000	1.000				
ROE	−0.055	−0.015	−0.048	−0.025	−0.003	−0.006	0.053	0.003	0.031	0.058	−0.107	0.159	0.094*	0.189	0.096	0.787**	0.837**	0.751**	0.764**	0.785**	0.780**	1.000	1.000	1.000

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

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

Table 4: Summary of the Analysis of Variance

	ROE						ROA						Tobin's Q					
	2011		2015		Cumulative		2011		2015		Cumulative		2011		2015		Cumulative	
	F	Sig.	F	Sig.	F	Sig.	F	Sig.	F	Sig.	F	Sig.	F	Sig.	F	Sig.	F	Sig.
INDIR	0.02	0.888	0.227	0.635	1.429	0.233	0.199	0.657	1.058	0.306	0.996	0.319	0.303	0.583	0.017	0.895	0.044	0.834
COMM	0.001	0.979	0.004	0.85	0.305	0.581	6.134	0.015	1.699	0.195	14.54	0	2.244	0.138	0.334	0.564	2.778	0.96
QUAL	0.001	0.979	0.096	0.757	1.317	0.252	0.247	0.621	0.105	0.746	0.032	0.858	0.013	0.91	0.063	0.802	0.24	0.625
DISC	1.001	0.32	2.551	0.113	1.583	0.209	5.262	0.024	0.024	0.878	8.527	0.004	5.262	0.024	0.024	0.878	8.527	0.004
RPT	3.176	0.078	0.916	0.341	4.235	0.04	1.075	0.303	1.752	0.189	1.882	0.171	2.259	0.137	1.849	0.177	12.104	0.001

This is however in contrast with earlier studies which suggest a significant relationship of board independence and effectiveness of board's oversight (Nicholson and Kiel, 2003; Abdullah, 2004). Notwithstanding the lack of statistically significant relationship in this study, the regression results indicated negative beta coefficient of independent directors and Tobin's Q, ROA and ROE, which is consistent to recent studies that suggest an inverse relationship of the increasing the number of independent directors and its impact on firm's operating performance (Bhagat and Bolton, 2008; Dar, Naseem, Rehman and Niazi, 2011; Erkens et al., 2012). It is also further observed that Pearson's correlation was positive in 2011 albeit insignificant (see Table 3), but subsequently became negative in 2015, following the implementation of the MCCG 2012 (see Table 3).

Board Committees and Board's Oversight Effectiveness. The number of companies adopting board committees ("COMM") increased from the mean value of 0.238 in 2011 to 0.466 in 2015. Additionally, the t-test as summarised in Table 2 reported that the mean difference was a statistically significant increase in the establishment and presence of RMC and combined AC and RMC by the companies sampled between 2011 and 2015. Based on the correlation analysis, board committee was reported to have a significant relationship with ROA albeit a negative relationship in 2011 and for the cumulative period (see Table 3). However, no significant relationship was reported in 2015 based on Pearson's correlation analysis (see Table 3). Nevertheless, the analysis of variance reported that there is statistically significant relationship with ROA with F-statistics 6.134 ($p = 0.015, < 0.05$) for 2011 and F-statistics 14.540 ($p = 0.000, < 0.01$) for cumulative period as summarised in Table 4. Therefore, the results provided evidence to support H2. This is consistent to prior research that AC (Wild, 1996; Laing and Weir, 1999; Ismail, Iskandar and Rahmat, 2008; Kirkpatrick, 2009; Aldamen, Duncan, Kelly, McNamara and Nagel, 2012) and RMCs (Hoyt and Liebenberg, 2011; Tao and Hutchinson, 2013) support the significant relationships. In contrast, there has been a number of past studies suggesting that board committees were not associated with firm's corporate governance practices, firm performance and valuation, and thereby effectiveness of board's oversight on corporate risk governance (Menon and Williams, 2001; Leng, 2004; Beasley et al., 2005; Puni, 2015). Therefore, the impact of board committee is an important mechanism in ensuring the effectiveness of board's oversight in Malaysia against the backdrop of challenging economic, political and social-political environments. However, the results above also indicated a negative relationship between board committee structure specifically RMC and effectiveness of board's oversight. A similar negative relationship was also noted in a recent study in Tunisia (Zemzem and Kacem, 2014), and a possible reason for the negative relationship albeit a significant one could be attributed to the study's sample size.

Board Experience and Skills and Board's Oversight Effectiveness. There is a marginal increase in the percentage of board experience and skills (QUAL) from the mean value of 44.5% in 2011 to 46.5% in 2015. The t-test results indicate no significant differences in the scores for 2011 as summarised in Table 2. Additionally, the relationships predicted in the Pearson's correlation results (see Table 3) and analysis of variance provided no statistically significant evidence (see Table 4) to suggest that a relationship between board experience and skills as represented by the number of directors with requisite skills and experience in accounting, economic, financial or risk management to any proxy values of effectiveness of board's oversight exists. Hence, there are sufficient evidence to reject H3. This is consistent to other prior studies (Anderson, Mansi and Reeb, 2004; Goodwin-Stewart and Kent, 2006) as well as those focusing specifically on Malaysian firms (Yatim, 2009; Kallamu, 2015) as opposed to prior studies which found a significant relationship between the board/director's financial knowledge and their ability to effectively manage a firm's risk and governance both amongst Malaysian firms (Johl, Kaur and Cooperis, 2015) and those of other developing economies (Dionne and Triki, 2005; Arioglu and Tuan, 2014). A plausible reason for the lack of statistical significant relationship supports the resource dependency theory whereby for boards to be effective in their oversight responsibilities, it would require other skills and experience beyond that of accounting, finance, economics or risk management but those specifically in relation to the respective industries for which the firms operate in (Hillman, Cannella and Paetzold, 2000; Marlin and Geiger, 2012).

Corporate Reporting and Board's Oversight Effectiveness. The number of companies embarking on corporate reporting of risk management framework (RPT) increased from the mean value of 0.136 in 2011 to 0.340 in 2015, while corporate reporting on detailed reporting and disclosure of risk management practices and processes (DISC) increased from the mean value of 0.102 in 2011 and 0.375 in 2015. Based on the t-test on DISC, there is a significant difference in the scores for 2011 and 2015. Likewise, the t-test for RPT indicates a significant difference in the scores for 2011 and 2015 as shown in Table 2. Based on the correlation analysis, RPT was reported to have a significant positive relationship with ROA, ROE, and Tobin's Q for cumulative period (see Table 3). However, no significant relationship was reported in 2011 and 2015. Additionally, the analysis of variance and regression results indicate that there is a statistically significant relationship between RPT with Tobin's Q and ROA but not ROE. Separately, based on the correlation analysis, DISC was reported to have a significant negative relationship with ROA for 2011 (see Table 3). However, no significant relationship was reported for cumulative period and 2015. Additionally, the analysis of variance and regression results also reported that there is statistically significant relationship with Tobin's Q and ROA but not significant with ROE (see Table 4). Therefore, the results of the statistical analysis provided evidence to support H4 and H5. There are however some studies which have indicated that reporting and disclosure of governance and risk management framework alone have no conclusive impact of firm performance or effectiveness of board's oversight on governance (Quona, Zeghal and Maingot, 2012). Other prior studies have also indicated a positive impact on firm performances, especially for firms that have adopted and embedded detailed risk management and governance practices into their practices and processes (Gordon, Loeb and Tseng, 2009; Pagach and Warr, 2011; Hoyt and Liebenberg, 2011; Miihkinen, 2012).

Corporate Risk Governance Process and Board's Oversight Effectiveness. Based on the questionnaire data, the results of the reliability measures with the Cronbach's alpha values of 0.896 indicated that the required levels of reliability have been achieved. The factorability of the eight items were examined and noted to be correlated at least 0.3. The Kaiser-Meyer-Olkin measure is 0.670 and the Bartlett's test of spherity is highly significant ($p < 0.001$), confirming that factor analysis is appropriate for the survey data collected. Additionally, the communalities as summarised in Appendix A are all greater than 0.5. The factor analysis using principal component analysis with Varimax (orthogonal) rotation resulted in two factors that explained 78.50% of the variance for the variables studied. The two factors identified were "process of risk and governance discussion and oversight" ("RPD"), which explained 63.29% and "risk appetite statement"

("RAS") with 15.22% of the variances respectively. For the process of risk and governance discussion and oversight factor, there were high loadings for frequent discussions on risk and governance, monitoring of risk and governance related processes, as well as having the board frequently perform self-assessment of its risk oversight role and responsibilities. These loadings were subsequently used to operationalise the testing of H6 using variables RPD and RAS. Based on the correlation analysis, there was no statistically significant relationship reported between RPD and RAS with Tobin's Q, ROA or ROE as summarised in Table 5. The multiple regression analysis and analysis of variance also did not indicate any statistically significant relationship (see Tables 6 and 7). Therefore, the results provide evidence to reject H6. The results of this study contradict with prior studies on risk governance (which focuses on the risk and governance practices adopted by the firm) and its impact on firm performance (Mat Rahim, Mahat, Md. Nassir and Yahya, 2015; Rudnyckyj, 2014; Teoh and Muthuveloo, 2015) though the studies remain limited thus far.

Table 5: Pearson Correlations of Independent and Dependent Variables

	RPD	RAS	Tobin's Q 2015	ROA 2015	ROE 2015
RPD	1.000				
RAS	−0.279	1.000			
Tobin's Q 2015	0.229	0.091	1.000		
ROA 2015	0.262	0.171	0.893**	1.000	
ROE 2015	0.132	0.122	0.895**	0.888**	1.000

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

Table 6: Multiple Regression Analysis of Variance for Independent Variables RPD and RAS and Each Dependent Variable

	F	Sig	R	R^2	Adjusted R^2	Standard Error of the Estimate
Tobin's Q	0.725	0.499	0.280	0.079	0.000	2.1629
ROE	0.397	0.678	0.211	0.045	0.000	64.2830
ROA	1.309	0.296	0.365	0.133	0.031	8.2810

Table 7: Analysis of Variance for Effectiveness of Corporate Risk Governance between RPD and RAS

Dependent Variable	Independent Variable	2015	
		F	Sig.
ROE	RPD	0.277	0.938
ROA	RPD	0.228	0.960
Tobin's Q	RPD	0.175	0.979
ROE	RAS	0.312	0.736
ROA	RAS	1.878	0.183
Tobin's Q	RAS	0.435	0.654

Data from the questionnaire also provided useful insights in the study of board practices and processes. About 82% of the respondents indicated that boards retain the overall responsibility of corporate risk oversight and 86% discussed and approved the risk appetite statement. Furthermore, 57% of the respondents also discussed the risk management framework and methodology and its organisational impact on a quarterly basis while another 29% did so on an annual basis. Apart from that, 83% further indicated that the board has regular quarterly risk management discussions on emerging risks, key strategic risks, and its corresponding action plans with management. On a quarterly basis, boards would typically share high level summary of top risks and summary of emerging risks while on an annual basis, summary of exceptions and scenario analysis for risk planning would be presented. Furthermore, 80% indicated that there is an above average emphasis of effective monitoring of the risk management process. To facilitate board monitoring responsibilities, 86% of the respondents indicated that they were supported by a dedicated risk management function of which 50% reported to the CEO. The respondents also highlighted the challenges they faced in their risk governance oversight responsibilities. 60% indicated lack of commitment due to overriding priorities as inhibitors to their risk oversight responsibilities; possibly attributed by directors who sit on multiple boards. Other challenges indicated include lack of guidance, awareness, and training in the areas of risk management. Nevertheless, 80% respondents viewed the current corporate risk oversight and governance as either "effective" or "highly effective", while the remaining 20% suggested that "some improvements" may be required. The respondents further added that the board periodically undertakes self-assessment of its risk oversight effectiveness. Other than that, 60% of the respondents do so annually while the remaining 40% do so on a quarterly basis. In summary, the majority of boards are actively involved in the risk governance process of approving their risk appetite statement and risk framework and methodology, actively and regularly monitoring the risks and governance matters, as well as to undertake health check of its own effectiveness vis-à-vis its oversight role on risk governance in spite of concerns raised on overriding priorities being a key concern of the board's oversight effectiveness of risk governance. Hence, on a holistic basis, there may still be grounds to support the theoretical perspective of contingency theory requiring boards to delve into the industry/organisation specific risk management discussions, articulate the specific implications and consequence of each actions, and the outcomes are in fact more effective in their oversight role; an area for further research.

CONCLUSION

The study's purpose was premised on exploring attributes and determinants of board structure and responsibilities that will contribute towards the effectiveness of board's oversight role on corporate risk governance. Attributes such as board committee structures, boards that have established and disclosure its risk management framework and board's disclosure of detailed risk and governance practices and processes were found to contribute significantly towards the effectiveness of board's oversight on risk governance amongst Malaysian listed companies supporting the tenets of agency theory. However, this study also found that the board's independence, its skills and experience, and its involvement in dynamic and constructive dialogues on risk management and governance do not have any significance on improving effectiveness of board's oversight supporting the resource dependency theory. This study also indicated insufficient evidence that Malaysian boards are involved in dynamic and constructive dialogues on risk management and corporate governance practices, such as frequent discussions on risk and governance (at least on a quarterly basis), monitoring of risk and governance related processes through the quarterly risk reporting of risk management progress and on-going self-assessment, are positively related to the effectiveness of the board's oversight on corporate risk governance.

As the study on corporate risk governance remains an emerging focus, this study attempts to close the research gap on the determinants that will enhance the Malaysian board's oversight effectiveness on corporate risks governance. This study contributes to the collective knowledge and insights on: (a) corporate risk governance and how board committee should be structured, (b) the quality of its corporate reporting disclosures, and the practices and processes adopted by the board on risk management matters that can affect firm performance given the challenging operating environment experience in Malaysia during the period (i.e. 2011 to 2015) of the study, (c) importance of integrating governance and risk management as part of a firm's risk and governance culture, and (d) improvements to board's continuous education programme specifically on risk management.

In conclusion, the board's oversight responsibilities on risk governance remains a relatively nascent role for Malaysian boards and progress continues to be made including the ongoing review of risk and governance reforms. Therefore, while the findings of this study have limitations and mixed results consistent with prior studies, the findings are nevertheless insightful and could help regulators move their agenda forward, especially in providing clarity on the practices and processes of integrating risk management and governance. This includes in-depth awareness of principles of risk management which enables a board to participate in a more in-depth and regular basis on risk related matters of balancing the firm's objective of sustainable and profitable growth against the risks it needs to undertake while improving overall shareholder's value.

LIMITATION OF THE STUDY

An inherent limitation of this study is the scope which is focused mainly on the top 100 listed companies on Bursa Malaysia. Hence, while the data represent a statistically relevant sample of Malaysian listed companies, the findings of the study and the observations thereon are only limited to Malaysian firms.

APPENDIX A

Factor Analysis Table for Dynamic and Constructive Dialogues on Risk Management and Corporate Governance Practices

	Loadings	
	Component 1: Process of Risk & Governance Discussion and Oversight	**Component 2: Risk Appetite Statement**
Frequently have risk and governance discussions	0.909	
Monitoring of the risk and governance related processes	0.883	
Effectiveness of board risk oversight	0.789	
Discussion of risk management methodology	0.754	
Board frequently perform self-assessment on risk oversight role	0.752	
Discussion of top key risks	0.687	
Discussion and approval of risk appetite statement		0.949
Frequently discusses and assesses risk appetite statement		−0.922
Eigenvalue	5.063	1.218
% of Total Variance	63.285	15.219
Total Variance		78.504%