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The effect of corporate governance compliance and sustainability risk management (SRM) success factors on firm survival

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Abstract

The aim of this paper is to examine whether corporate governance compliance and sustainability risk management (SRM) success factors have an impact on firm survival. Corporate governance and risk management have become central issues for all types of organisations. The practices of corporate governance and risk management are interrelated and closely linked. The sustainability and the improvements of the firm's performance and survival are highly dependent on the effective role of both components. A survey questionnaire was distributed to the individuals responsible for firms' risk management activities in environmentally sensitive listed firms in Malaysia. Out of 105 questionnaires distributed, 53 responded with a response rate of 50.5 per cent. Partial Least Squares Structural Equation Modelling (PLS-SEM) technique was used to analyse the hypothetical model developed in this study. Corporate governance compliance has been found as one of the main reasons for SRM adoption. The results also revealed that corporate governance compliance, leadership and risk culture have an impact on firms' survival. The findings from this study enable firms to better understand the importance of corporate governance compliance and reinforcing leadership, risk culture and risk resilience to successfully implement SRM program.

Keywords: Corporate Governance Compliance; Sustainability Risk Management; Firm Survival

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1. Introduction

Factors like globalisation, technological innovation, changing market structures, firm's restructuring and disasters are risk factors that affect the firm's business environment (Lam, 2014). With a far-reaching impact of these factors on the businesses, sustainability risk management (SRM) is increasingly important to manage emerging risk issues and includes relevant possibilities of occurrence. SRM is an extension of the enterprise risk management (ERM) system which considers more external and emerging risk issues (Spedding and Rose, 2008). SRM is a vigorous process of managing risks and seizing opportunities in an effort to ensure better environmental, social and governance practices for firm survival while preserving communities and the environment (Nigam and Ramos, 2011).

The objective of an SRM approach is to effectively manage various risk issues in broader perspectives of environmental, social and governance for stakeholder value creation for sustainable development of the firm and society. The implementation of SRM program is broadly attributable to two factors. First, the increasing consumption of natural resources which led to depletion of natural resources and serious environmental problems reflects heightened concerns among the stakeholders (Begum et al., 2009). Major historical incidences such as Deepwater horizon oil spills in 2010 and Japan tsunami in 2011 demonstrated that companies fail to adapt and respond to environmental and social risks (Boultwood, 2016). Customers, employees, suppliers, government and other stakeholders are now realized the importance incorporating sustainable strategies and this brings pressure to the firms to adopt more socially responsible practices (Orlitzky, 2013). Secondly, the fundamental idea behind the SRM implementation is that businesses should undertake the responsibility for the impact of their business operation on society and create value with good relations with the stakeholders (Slack, 2012). Building on these arguments, sustainability integration into ERM approach is crucial to manage the sustainability-related risks and reduce the potential impact of the sustainability risk on the environment and society.

A number of studies have postulated a convergence between sustainability and ERM for a firm to stay competitive in adapting to the complexity of risks (Ahn, 2015; Aziz et al., 2016). According to COSO (2013), integrating sustainability into an ERM programme enables firms to address the complex interrelationship of risks affecting firm survival. Saardchom (2013) argued the importance of ERM being under a sustainability platform for improving environmental and social performance by reducing the associated cost of sustainability risk. Stakeholders expect firms to carry out their activities in a way which positively affects an organisation's reputation and image (Soleimani et al., 2014); whilst a number of businesses have obligations towards their stakeholders in terms of social and environmental responsibilities which are reflected in their corporate governance structures (Wieland, 2005).

Corporate governance can be a lead indicator of strong internal risk control, while risk management is a key component of internal control. Risk management can assist the governance level to achieve their responsibilities. Indeed, an effective internal risk control is a key element of sound business performance (Lipworth, 1997). A good corporate governance and sustainability risk management is important in order to stabilise, maintain, and increase the growth of the firm. By combining corporate governance and risk management, the organisation could gain a competitive advantage, create, protect, and enhance its shareholder value for the firm's survival. This argument is also supported by Knight (2006) who stated that corporate governance is considered as the glue that holds an organisation together towards achieving the strategic objective, while risk management ensures enterprise resilience.

Little research has been conducted on the SRM implementation regarding the influence of corporate governance compliance on the firm survival and the key factors to success SRM implementation that company must develop to ensure long-term survival. Hence, the main objective of this study is to examine the effect of corporate governance compliance and the success factors of SRM implementation on firm survival among environmentally sensitive listed firms.

2. Literature review

SRM implementation is integral part of the development of corporate governance requirements as it sustains value for firm survival. This study is motivated to contribute to this emerging field of research by providing initial insights on corporate governance compliance, sustainability risk management success factors and firm survival.

2.1. Sustainability Risk Management (SRM)

Sustainability is increasingly prevalent in firms globally as the stakeholders are demanding that businesses become more transparent in environmental, social and governance (ESG) practices. A recent example, such as the tsunami disaster that occurred in Japan in 2011, led to a significant macroeconomic impact on the country whereby great losses of human and physical capital were experienced, many people were killed, high volatility occurred in the Japanese and United States' financial markets, and the trade and supply chain were interrupted (Nanto et al., 2011). This has brought many firms to realise the importance of responsible environmental, social and governance practices.

In the literature, there is an increasing interest among researchers in sustainability and ERM, especially on the relationship of both approaches on firm performance. For example, Ahn (2015) found that there is a positive relationship between the performance measures and the integration of both sustainability and ERM processes for non-financial services firms. Furthermore, the result of Gramlich and Finster's (2013) study shows that the interaction of risk and sustainability still has to emerge. Certainly, sustainability factors are an integral part of the risk management process. Firms are becoming aware of the materiality of sustainability risks and are embedding sustainability into ERM for best practices. By having excellent corporate governance practices through the adoption of sustainable risk management, firms would be able to maximize their economic, environmental and social performance to survive and thrive in this regulatory environment.

The study attempts to explain from both a theoretical and empirical perspective on the success factors affecting SRM implementation. Many firms consider leadership as a strategy for firm's growth that help to demonstrate commitment of senior management to drive the business in economically, socially and environmentally sustainable manner (Rezzae, 2015). In addition, culture shapes the firm's actions and value to the risk management. To reinforce a sound risk culture, a firm needs to encourage intelligent risk taking to address environmental and social issues, while demonstrating high integrity and ethical conduct (Lam, 2017). Also, fostering risk resilience is important to respond to potential risks in the external environment and gaining visibility of opportunities to prevent loss of revenue, market share and reputation (PricewaterhouseCoopers, 2014).

Successful SRM implementation require empowering factors such as strong leadership support and commitment by the top management, sound risk culture, corporate governance compliance and strong capabilities for risk-resilience. It might be challenging to measure the success of SRM implementation but to the extent that leadership, risk resilience, corporate governance compliance and risk culture are strengthened, company can sustain over a long-term.

2.2. Corporate governance compliance

Most of the countries, including Malaysia, have introduced their corporate governance codes and risk management initiatives. Risk management is explicitly linked with corporate governance standards and has been cited as a key responsibility of the board of directors. This regulation is applied to public listed firms. As the Code was released, more than half (67 percent) of directors in listed firms expected their role to be significantly affected by the Code and only 20.0 percent were not sure of the impact (PricewaterhouseCoopers, 2001).

The Malaysian Code of Corporate Governance (MCCG) was introduced in March 2000, with revisions being made in 2007. In 2012, the Code was revised again and required listed firms to disclose all relevant processes and procedures related to sustainability criteria in their annual report in order to protect the stakeholder's interest. The Principle No. 1, Recommendation 1.4 of the Code requires that "the board should ensure that the company's strategies promote sustainability". The principle indicates that the board should focus on environmental, social and governance (ESG) aspects of business to meet the stakeholder's expectation (Securities Commission, 2012). Following the MCCG 2012, firms should undertake sustainability as a strategic focus and ensure effective compliance. Firms that do not feature sustainability as part of their business strategy have to explain why they cannot adhere to this directive.

Latest, a draft of MCCG 2016 has been proposed by Securities Commission (2016) to further strengthen the risk management requirement and enforces strict regulatory governance requirements for instilling a good governance culture. It also emphasised on the importance of managing environmental, social and governance risks in achieving long term growth. Accordingly, corporate governance compliance shape the way firm manage its businesses in ethical manner to ensure its continued survival.

2.3. Firm survival

Risk management is becoming increasingly linked to the success and survival of firms (Mateescu et al., 2013) to react adequately to the complexity of the risk landscape. In fact, firm survival has become the top agenda of management after the emergence of new risks that affect long-term objectives. Successful firms have highlighted that addressing risk is crucial in exploring opportunities for firm survival (Crouhy et al., 2006). Many firms have adopted an ERM programme to assist them in identifying those risks that affect the firm's objectives to increase shareholder value. Many studies in ERM also showed in terms of the empirical evidence on the positive relationship between ERM and shareholder value (Baxter et al., 2012; Farrell and Gallagher, 2014). In addition, a study by Manab et al. (2009) has found that survival was also the objective of ERM implementation in financial firms.

A recent review of literature showed that firm survival depends on its actions to portray good governance to the stakeholders through the harmonisation of financial, social and environmental performance (Rahardjo et al., 2013). Firms need to take three important sustainability aspects into account, which are financial, environmental, and social factors, as these factors might bring challenges to their firm's survival (Bertels, Papania and Papania 2010). Freeman, Harrison and Wicks (2007) stated that it is important that stakeholder objectives are integrated into risk-based decision making to strengthen the stakeholder relationship with the firm for long-term firm survival. Hence, the primary focus of the firm in deriving value to the stakeholders and shareholders is through efficient risk management strategies (Laszlo, 2008). The integration of ethical values in risk management is beneficial for the firm to meet stakeholders' expectations (Jondle et al., 2013). Thus, the integration of sustainability in the portfolio level of risk provides a better assessment of non-financial factors to help risk managers make strategic decisions for improving shareholder value and stakeholder value for firm survival.

3. Theoretical framework and hypothesis development

The study postulates that firm survival was influenced by corporate governance compliance (H1), leadership (H2), risk resilience (H3) and risk culture (H4). In the following, the relevant hypotheses are developed and further discussed.

3.1. Corporate governance compliance and firm survival

Corporate governance compliance has been the norm in most listed firms throughout the world (Tan and Tan, 2004). Firms are leveraging the lessons learned from the failure of corporate governance caused by global financial crises. Thus, corporate governance is needed at all levels of the organisation to achieve firm competitiveness and stakeholder value (Omolade and Tony, 2014). The changes in corporate governance development, stringent regulatory requirements and increasing demand for effective risk oversights by the stakeholders had placed greater pressure on firms to emphasize governance, risk management and compliance. Compliance is an on-going process to ensure the firm is in a state of being in accordance with established rules and regulations (Moeller, 2011). In order to meet these stringent requirements, many firms implement a risk management programme to conform to corporate governance requirements. Studies of prior scholars have illustrated that the emphasis on the critical role of corporate governance compliance drives the overall ERM implementation in the firm (Manab et al., 2010; Arena et al., 2011). Importantly, corporate governance requirements and compliance are interrelated to each other and are a fundamental part of a risk management programme. Therefore, the following hypotheses are surmised:

H1: There is a positive relationship between corporate governance compliance and firm survival of listed firms in Malaysia

3.2. Leadership and firm survival

Effective role and responsibilities of the board ensure that the management is capable of responding to all types of risks faced by the corporation (Beasley et al., 2005). Essentially, board and senior management leadership play a crucial role in supporting SRM implementation that allows organisations to have greater insight and preparedness towards emerging risks and other non-quantifiable risks for better decision making. The study by Ittner and Keusch (2015) examined the influence of board risk oversight responsibilities and ERM maturity. Their findings indicate that board risk oversight responsibilities affected the maturity of ERM programmes. In another study, Manab and Kassim (2012) examined the moderating effect of leadership support on the relationship between ERM framework, risk management culture and shareholder value. Their results indicate that leadership supports the development of sound risk management culture for successful ERM practices. Thus, leadership is a driving force for successful SRM implementation. Therefore, the proposed hypothesis is:

H2. There is a positive relationship between leadership and firm survival of listed firms in Malaysia.

3.3. Risk resilience and firm survival

With the emergence of new risks in today's business environment, risk resilience has been recognised as a key competitive factor in creating additional value (Gorzeń-Mitka, 2015). Risk resilience has risen in importance to help management in identifying relevant risk management strategies to cope with the emerging risks. Resilience refers to the capacity of an organisation to sustain, adapt, and thrive in the uncertain business environment (Fiksel, 2015). Risk resilience is an important aspect in risk management (Aven, 2014). Risk resilience necessitates firms to have enthusiastic understanding of the risk environment, determine the ownership of risks, and enhance the component of risk management system to effectively respond to those risks on the radar (Van der Vegt, 2015). Few studies identified the role of resilience in the field of risk management, crisis management and business continuity management (Mitchell and Harris, 2012; Gorzeń-Mitka, 2015). Thus, risk resilience has become an important component of the risk management process to withstand unintended consequences in the complex risk landscape. Therefore, the following hypotheses are surmised:

H3: There is a positive relationship between risk resilience and firm survival of listed firms in Malaysia.

3.4. Risk culture and firm survival

Risk culture is represented as beliefs, values and understanding of the management and employees that shape a decision about risks which is critical to the long-term growth and survival of the firm (Power, Ashby and Palermo, 2013). Being an important factor in organisations, manifesting risk culture is regarded as a compliance requirement for corporate governance. Recent studies have revealed that risk culture supports ERM implementation (Manab et al., 2012; Ahmed and Manab, 2016). Banks (2012) evaluated the risk culture into ten key metrics consisting of tone of leadership, governance, transparency, resources, skills, decision making, risk communication, reward mechanism, risk management relationship and operational surprises related to risks. Thus, the risk culture evaluation criteria should be paid attention to, which ensures that a sound risk culture supports successful SRM implementation. On the basis of this rationale, the following hypotheses are posited:

H4: There is a positive relationship between risk culture and firm survival of listed firms in Malaysia.

4. Methodology

A survey questionnaire was distributed to the individuals responsible for firms' risk management activities in the environmentally sensitive listed firms in Malaysia. The sample of 75 public listed firms was selected based on a stratified sampling technique. Out of the total of 105 questionnaires distributed, 53 responses were received, thus achieving a response rate of 50.5 percent. Environmentally sensitive listed firms are selected which are inclusive of chemical, construction, plantation, transportation, mining and resources, petroleum and industry products (Manaf et al., 2006). An environmentally sensitive industry has an adverse impact towards the ecosystem and the community (Deegan et al., 2002), hence, there is a need for those firms to be more proactive in mitigating the sustainability risk.

Data were recorded in the Statistical Package for Social Science (SPSS) for subsequent analyses using SmartPLS 3.0. PLS-SEM has become an increasingly practical method, in both academic research and in business research practice. Despite its widespread application, PLS-SEM is recognised as a key multivariate analysis method to estimate complex cause-effect relationship models with latent variables and does not necessitate larger sample or normal distribution of data (Hair et al., 2012). In addition, PLS-SEM has been widely adopted in the risk management discipline (Abdul Razak et al., 2016).

5. Results

To analyse the data collected, the descriptive analysis and partial least squares (PLS) analysis were used.

5.1. Participating companies

The study represented 53 responses from the environmentally sensitive sector of public listed firms in Malaysia. From the companies which responded, 39.6 percent were from the manufacturing sector, 34 percent from the construction sector, 18.9 percent from the oil and gas sector and 7.5 percent were primarily from the plantation sector. Table 1 presents the profile of firms that had responded to this study.

Table 1. Participating Firms Profiles (N=53)

Industry	Frequency	Percentage
Manufacturing	21	39.6
Construction	18	34.0
Oil and Gas	10	18.9
Plantation	4	7.5
Total	53	100

The results in Table 2 showed that corporate governance compliance (71.7%) and good business practices (71.7%) were the highest reasons why firms in environmentally sensitive sectors adopt an SRM programme. This result implied that compliance towards corporate governance requirements and demonstrating good business practices had motivated environmentally sensitive firms to implement an SRM programme.

Table 2. SRM Drivers

SRM Drivers	**Percentage**
Corporate governance compliance	71.7
Good business practice	71.7
Improve risk-based decision-making	69.8
Regulatory compliance	64.2
Operational effectiveness	54.7
Board of Directors (BOD) request	32.1
Long-term shareholder value	26.4
Occurrence of unexpected risk events	24.5
Value added function	22.6
Corporate reputation	18.9
Technological advancement	5.7
Competition	5.7
Stakeholder pressure	1.9

Regarding the ultimate objectives of the SRM implementation, the results showed that 86.8 percent of the firms agreed that an SRM programme can enhance stakeholder value. This was followed by 71.7 percent, which is to ensure better corporate reputation, as illustrated in Table 3.

Table 3. Percentages of the Objectives of SRM Implementation

Objectives of SRM Implementation	Percentage
Stakeholder value creation	86.8
Corporate reputation	71.7

5.2. Assessment of measurement model

The PLS analysis involves a two-step process with separate assessments of the measurement model and the structural model.

5.2.1. Assessment of measurement model

Table 4 depicts the assessment of construct reliability and convergent validity for the variables in this study. The study used the factor loadings, composite reliability (CR) and average variance extracted (AVE) to assess convergence validity. Following Hair et al. (2012), out of the 32 items, 5 were deleted because they load below the threshold. The loadings for all items exceeded the recommended value of 0.6 (Chin et al., 1997). The composite reliability values of firm survival (0.963), corporate governance compliance (0.928), leadership (0.852), risk culture (0.924) and risk resilience (0.943) are all above the recommended threshold value of 0.7 (Hair et al., 2012). These are good indicators that all constructs possess internal consistency. The average variance extracted (AVE), which reflects the overall amount of variance in the indicators accounted for by the latent construct, were in the range of 0.648 and 0.744, exceeding the recommended value of 0.5 (Hair et al., 2012). Figure 2 illustrates the result of partial least square analysis.

Table 5 illustrates the assessment of discriminant validity. The discriminant validity of the measures is evaluated by examining the Henseler's heterotrait-monotrait (HTMT) (2015) criterion. Henseler's HTMT criterion imposes more stringent assessment than the earlier criterion. It suggests that all constructs are empirically distinct at $HTMT_{0.85}$ threshold in which none of the confidence intervals contain the value of one (Kline, 2011).

5.2.2. Assessment of Structural Model

After the measurement model was validated, the path analysis is proceeded upon to test the 4 hypotheses generated for this study. Based on the bootstrapping result indicated in Table 6, the relationship between corporate governance compliance is significant at the 5 percent significance level (β=0.316; t=2.038) for firm survival. Similarly, the relationship between leadership and firm survival is significant at the 5 percent significance level (β=0.702; t=1.945). Also, the relationship between risk culture and firm survival is significant at the 10 percent significance level (β=-0.401; t=2.755).

As such, the results provided evidence to support the hypotheses H1, H2 and H4. However, the relationship between risk resilience and firm survival is not significant (β=-0.053; t=1.607), hence the hypothesis (H3) is not supported.

Table 4. Internal Consistency and Convergent Validity

Constructs	Items	Loadings	AVE	CR	Validity
Firm Survival (FS)	FS1	0.814	0.744	0.963	YES
	FS2	0.861			
	FS3	0.89			
	FS4	0.878			
	FS5	0.871			
	FS6	0.818			
Corporate Governance Compliance (COMP)	COMP1	0.83	0.648	0.928	YES
	COMP2	0.702			
	COMP4	0.829			
	COMP5	0.798			
	COMP6	0.851			
	COMP7	0.817			
	COMP8	0.801			
Leadership (LEAD)	LEAD2	0.889	0.657	0.852	YES
	LEAD4	0.865			
	LEAD5	0.905			
	LEAD6	0.831			
	LEAD7	0.848			
Risk Culture (RC)	RC3	0.799	0.671	0.924	YES
	RC4	0.83			
	RC5	0.802			
Risk Resilience (RR)	RR1	0.827	0.733	0.943	YES
	RR2	0.905			
	RR3	0.862			
	RR4	0.764			
	RR5	0.787			
	RR6	0.759			

Table 5. HTMT criterion

	CG Compliance	**Firm Survival**	**Leadership**	**Risk Culture**	**Risk Resilience**
CG Compliance					
Firm Survival	0.216				
Leadership	0.624	0.18			
Risk Culture	0.155	0.586	0.172		
Risk Resilience	0.149	0.412	0.271	0.397	

Criteria: Discriminant validity is established at HTMT $_{0.85}$

Table 6. Path Coefficient Assessment

Hypothesis	*Relationship*	*Direct Effect (ß)*	*StDev*	*T-Statistics*	*P Value*
H1	**CG Compliance -> Firm Survival**	0.316	0.215	2.038	0.042
H2	**Leadership -> Firm Survival**	0.702	0.244	1.945	0.052
H3	**Risk Resilience -> Firm Survival**	-0.053	0.171	1.607	0.108
H4	**Risk Culture -> Firm Survival**	-0.401	0.146	2.755	0.006

Note: t-value>1.96 (p<0.05); t-value>2.58(p<0.01**)*

Table 7 illustrates the assessment of coefficient of determination (R_2), the effect size (f_2), as well as the predictive relevance (Q_2) of exogenous variables in the endogenous variable in this study. The value of co-efficient of determination (R_2) for firm survival is 0.367. This suggests that the exogenous variables in this study; namely corporate governance compliance, leadership, risk culture and risk resilience explain 36.7% of variation in firm survival.

Overall, the Q_2 value of 0.223 for firm survival, which is larger than 0, suggests that corporate governance compliance, leadership, risk culture and risk resilience possess predictive ability over firm survival (Hair, et al., 2012). According to Henseler et al. (2009), values of 0.35, 0.15, and 0.02 indicate large, medium, and small relative impact (Q_2). So, the result shows that exogenous variables in this study have a medium and small effect size on firm survival.

Table 7. Determination of Co-efficient (R^2), Effect size (f^2) and Predictive Relevance (Q^2)

	Determination Co-efficient	*Predictive Relevance*	*Effect Size f^2*	
	R^2	*Q^2*	*CS*	*Effect Size*
Firm Survival	0.367	0.223		
CG Compliance			0.21	Medium
Leadership			0.08	Small
Risk Culture			0.189	Medium
Risk Resilience			0.083	Small

6. Discussion

This study provides both a theoretical and practical contribution to understanding the effect of corporate governance compliance on firm survival. The companies that have been considered successful in implementing SRM are not only being driven by corporate governance compliance, but also they are driven by best business practice. In order to sustain their success, the PLCs are forced to effectively and successfully practise risk management as mentioned by Florio and Leoni (2016). The results generated from the path analysis indicate that beside corporate governance compliance, leadership and risk culture also have a significant effect on firm survival. This result suggests that 36.7 per cent of the variance in firm survival can be explained by corporate governance compliance, leadership and risk culture. The previous studies on ERM by Manab, Kassim and Hussin (2010) and Manab and Kassim (2012) also show that corporate governance compliance, continual commitment and support of the board and senior management as well as strong risk culture contributed to the shareholder value. This study also indicates that these variables are crucial in SRM implementation to meet the growing needs of various stakeholders towards company's survival.

The introduction of MCCG 2012 had encouraged PLCs to implement SRM programme. Corporate governance and risk management requirements are vital in order to stabilise, maintain, and increase the growth of firms in the longer term (Cuomo et al., 2015). Nevertheless, the study failed to support the hypothesized statements about the relationship between risk resilience and firm survival. Risk resilience is assumed to improve the identification and monitoring of emerging risks in a timely manner to ensure firm survival. Without risk resilience, the firm is unable to predict unforeseen events. Consequently, only a few firms are effectively identifying, evaluating and assessing emerging risks as part of their risk management strategy (Boultwood, 2016).

7. Conclusion

Empirical study is performed to provide understanding on the impact of corporate governance compliance and success factors of SRM implementation on the firm survival. A growing regulatory environment and increasing risk complexity have led firms to pursue a broad range of governance, risk management and compliance initiatives across the firm to be sustained in the long-term. Compliance with corporate governance and a risk management requirement are the best way to deal with the challenges, risk issues, and to meet stakeholder expectations. Corporate governance compliance has driven firms to adopt SRM and also as a success factor of SRM implementation which affect firm survival. In addition, effective board and senior management leadership and risk management culture were identified as other SRM success factors.

There is progressive development among environmentally sensitive firms in adopting and practicing SRM implementation as to enhance stakeholder value and survivability. Furthermore, firms were triggered to comply with rules and regulations in avoiding non-compliance risks that may jeopardize their survival in the long term. In addition, MCCG 2012 might influence the firms in promoting sound corporate governance practices through better management of ESG risks for meeting the needs of the stakeholders. Overall, the research findings revealed that there are strong relationships between corporate governance compliance, leadership and risk culture on the firm survival. The outcome of this study will provide better insights for companies to successfully implement SRM program.

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References

Abd Razak, N., Ab Rahman, Z. and Borhan, H. (2016), “Modeling firm resources–enterprise risk management relationships: An empirical finding using PLS-SEM”, *World Journal of Entrepreneurship, Management and Sustainable Development*, Vol. 12 No. 1, pp. 35-49.

Ahmed, I. and Manab, N.A. (2016), “Moderating role of board equity ownership on the relationship between enterprise risk management implementation and firms performance: A proposed model”, *International Journal of Management Research and Reviews*, Vol. 6 No. 1, pp. 21-30.

Ahn, N., (2015), “Corporate Sustainability and Enterprise Risk Management: Implementation Effects on Performance”, available at: https://www2.aaahq.org/AM/display.cfm?Filename=SubID_800.pdf&MIMEType=application/pdf (accessed 12 May 2016).

Arena, M., Arnaboldi, M. and Azzone, G. (2011), “Is enterprise risk management real?”, *Journal of Risk Research*, Vol. 14 No. 7, pp. 779-797.

Aven, T. (2014), Risk, *Surprises and Black Swans: Fundamental Ideas and Concepts in Risk Assessment and Risk Management*, Routledge, New York, NY.

Aziz, N.A.A., Manab, N.A. and Othman, S.N. (2016), “Sustainability Risk Management (SRM): An Extension of Enterprise Risk Management (ERM) Concept”, *International Journal of Management and Sustainability*, Vol. 5 No. 1, pp. 1-10.

Baxter, R., Bedard, J.C., Hoitash, R. and Yezegel, A. (2013), “Enterprise Risk Management Program Quality: Determinants, Value Relevance, and the Financial Crisis”, *Contemporary Accounting Research*, Vol. 30 No. 4, pp. 1264–1295.

Begum, R.A., Pereira, J.J., Jaafar, A.H. and Al-Amin, A.Q. (2009), “An empirical assessment of ecological footprint calculations for Malaysia”, *Resources, Conservation and Recycling*, No. 53 Vol. 10, pp. 582-587.

Bertels, S., Papania, L. and Papania, D. (2010), *Embedding Sustainability in Organizational Culture – A Systematic Review of the Body of Knowledge*, Network for Business Sustainability, Simon Fraser University, Vancouver.

Boultwood, B.B. (2016), “Risk Management Black Swans and Risk Management : Prepare Now for the Unthinkable”, Risk Management, available at: https://www.soa.org/library/newsletters/risk-management-newsletter/2016/january/jrm-iss-34-boultwood.aspx (accessed 5 May 2015).

Chin, W.W., Gopal, A. and Salisbury, W.D. (1997), “Advancing the theory of adaptive structuration: The development of a scale to measure faithfulness of appropriation”, *Information Systems Research*, Vol.8 No.4, pp. 342-367.

COSO. (2013), “Demystifying Sustainability Risk: Integrating the triple bottom line into an enterprise risk management program”, available at: http://www.ey.com/Publication/vwLUAssets/Demystifying_sustainability_risk/$FILE/Demystifying-Sustainability-Risk.pdf (accessed 5 May 2015).

Crouhy, M., Galai, D. and Mark, R, (2006), *The Essentials of Risk Management*, McGraw-Hill, New York, NY.

Cuomo, F., Mallin, C. and Zattoni, A. (2015), “Corporate Governance Codes: A Review and Research Agenda”, *Corporate Governance: An International Review*, Vol. 24 No.3, pp. 171-386.

Deegan, C., Rankin, M. and Tobin, J. (2002), “An examination of the corporate social and environmental disclosures of BHP from 1983-1997: A test of legitimacy theory”, *Accounting, Auditing & Accountability Journal*, Vol. 15 No. 3, pp. 312-343.

Farrell, M. and Gallagher, R. (2015), “The valuation implications of enterprise risk management maturity”, *Journal of Risk and Insurance*, Vol. 82 No. 3, pp. 625-657.

Fiksel, J. (2015), “From Risk to Resilience”, in Resilient by Design, Island Press/Center for Resource Economics, pp. 19-34.

Florio, C. and Leoni, G. (2016), "Enterprise risk management and firm performance: The Italian case", *The British Accounting Review*, Vol. 3 No. 1, pp. 56-74.

Freeman, R.E., Harrison, J.S. and Wicks, A.C. (2007), *Managing for stakeholders: Survival*, reputation, and success, Yale University Press, New Haven & London.

Gorzeń-Mitka, I. (2015), "Complexity in Management: Opportunity or Threat", *Problems of Management in the 21st Century*, Vol. 10 No. 1, pp. 4-5.

Hair, J. F., Sarstedt, M., Pieper, T.M. and Ringle, C.M. (2012), "The use of partial least squares structural equation modeling in strategic management research: a review of past practices and recommendations for future applications", *Long Range Planning*, Vol. 45 No. 5, pp. 320-340.

Henseler, J., Ringle, C.M. and Sinkovics, R.R. (2009), "The use of partial least squares path modeling in international marketing", *Advances in International Marketing*, Vol. 20 No. 1, pp. 277-319.

Ittner, C. D. and Keusch, T. (2015), "The Influence of Board of Directors' Risk Oversight on Risk Management Maturity and Firm Risk-Taking", available at: http://care-mendoza.nd.edu/assets/212083/ittner_paper.pdf (accessed 2 November 2016).

Jondle, D., Maines, T.D., Burke, M.R. and Young, P. (2013), "Modern risk management through the lens of the ethical organizational culture", *Risk Management*, Vol. 15 No. 1, pp. 32-49.

Kline, R.B. (2011), *Principles and Practice of Structural Equation Modeling*, The Guilford Press, New York, NY.

Knight, K.W.(2006), "Risk management a journey not a destination", paper presented at the Executive Meeting 2006, 20th May 2006, Hotel Do Frade & Golf Resort, Angra Dos Reis, Brazil, available at: https://fermlab.hse.ru/data/2010/12/16/1208283693/A%20Journey%20Not%20A%20Destination%20-%20HO.pdf (accessed 21 May 2017).

Lam, J. (2014), *Enterprise risk management: from incentives to controls*, John Wiley & Sons, Hoboken, New Jersey, Canada.

Lam, J. (2017), *Implementing Enterprise Risk Management: From Methods to Applications*, John Wiley & Sons, Hoboken, New Jersey, Canada.

Laszlo, C., (2008), *Sustainable value: How the world's leading companies are doing well by doing good*, Stanford University Press, Stanford, California.

Lipworth, S. (1997), "Risk management at the heart of good corporate governance", *Management Accounting*, Vol. 75 No. 1, pp. 24-25.

Manab, N., and Kassim, I. (2012), "A moderating effect of leadership on a success of enterprise–wide risk management practices". in Proceedings of the 3rd International Conference on Business and Economic Research (3rd ICBER 2012), Bandung, Indonesia, pp. 1727-1741.

Manab, N.A., Kassim, I. and Hussin, M.R. (2010), "Enterprise-wide risk management (EWRM) practices: between corporate governance compliance and value", *International Review of Business Research Papers*, Vol. 6 No. 2, pp. 239-252.

Manaf, N.A.A., Atan, R., and Mohamed, N. (2006). “Environmentally sensitive companies social responsibility and reporting: a study of Malaysian companies”, paper presented at the 5th Australasian Conference on Social and Environmental Accounting Research, Victoria University of Wellington, New Zealand, available at: https://www.victoria.ac.nz/sacl/about/events/past-events2/past-conferences/csear2006/documents/manaf-atan-mohamed.pdf (accessed 1 May 2017).

Mateescu, R.M., Olaru, M., Sârbu, A. and Surugiu, I.F. (2016), “Research on Increasing Risk Management Efficiency as Support for Corporate Sustainable Development”, paper presented at the 4th International Conference on Management, Leadership and Governance: ICMLG2016, available at: http://www.academia.edu/29639357/Research_on_Increasing_Risk_Management_Efficiency_as_Support_for_Corporate_Sustainable_Development (accessed 11 June 2017).

Mitchell, T. and Harris, K. (2012), *Resilience: A risk management approach. ODI Background Note*, Overseas Development Institute: London.

Moeller, R.R. (2011), *COSO Enterprise Risk Management: Establishing Effective Governance, Risk, and Compliance (GRC) Processes*, John Wiley & Sons, Hoboken, New Jersey, Canada.

Nanto, D.K., Cooper, W.H., Donnelly, J.M. and Johnson, R. (2011), “Japan’s 2011 earthquake and tsunami: Economic effects and implications for the United States”, Congressional Research Service, available at: https://fas.org/sgp/crs/row/R41702.pdf (accessed 2 March 2016).

Nigam, P., and Ramos, M., (2011), “Sustainability Risk Management”, in Reuvid, J. (Ed.), *Managing Business Risk – a practical guide to protecting your business*, Kogan Page, London, pp. 5-12.

Omolade, O.O. and Tony, O.A. (2014), “Entrepreneurship and management practice in Nigeria: One and two sides of a coin?”, *International Journal in Management & Social Science*, Vol.2 No.2, pp. 56-73.

Orlitzky, M. (2013), “Corporate social responsibility, noise, and stock market volatility”, *The Academy of Management Perspectives*, Vol. 27 No. 3, pp. 238-254.

PriceWaterHouseCoopers. (2001), “Board of directors: A survey on remuneration & practices 2001 in Malaysia”, available at: http//:www.pwcglobal.com (accessed 21 May 2004).

Pricewaterhousecoopers. (2014), “Resilience: A journal of strategy and risk”, available at: https://www.pwc.com/gx/en/governance-risk-compliance-consulting-services/resilience/publications/pdfs/resilience-social.pdf (accessed 2 March 2016).

Rahardjo, H., Idrus, M.S., Hadiwidjojo, D. and Aisjah, S., (2013), “Factors that determines the success of corporate sustainability management”, *Journal of Management Research*, Vol. 5 No. 2, pp. 1-16.

Rezaee, Z. (2015), *Business sustainability: Performance, compliance, accountability and integrated reporting*, Routledge, New York, NY.

Saardchom, N. (2013), “Enterprise Risk Management under Sustainability Platform”, *Journal of Business and Economics*, Vol. 4 No. 1, pp. 32-41.

Securities Commission. (2012), "Malaysian Code on Corporate Governance 2012", available at: https://www.sc.com.my/wp-content/uploads/eng/html/cg/mccg2017_presso.pdf. (accessed 8 January 2013).

Securities Commission. (2016), "Public Consultation Paper No. 2/2016: Proposed Draft of the Malaysian Code on Corporate Governance 2016", Vol. 2010, available at: https://www.icgn.org/sites/default/files/ICGN comments on Malaysian CG code 2016.pdf (accessed 25 April 2016).

Slack, K. (2012), "Mission impossible?: Adopting a CSR-based business model for extractive industries in developing countries", *Resources Policy*, Vol. 37 No. 2, pp. 179-184.

Soleimani, A., Schneper, W.D. and Newburry, W. (2014), "The impact of stakeholder power on corporate reputation: A cross-country corporate governance perspective". *Organization Science*, Vol.25 No.4, pp. 991-1008.

Spedding, L.S. and Rose, A. (2008), *Business Risk Management Handbook: A Sustainable Approach*, Butterworth-Heinemann, Oxford.

Tan, W. L., and T. M. Tan. (2004), "The impact of corporate governance on value creation in entrepreneurial firms", in Proceedings of Rencontres de St. Gallen Conference in Appenzell, Switzerland, 2004, pp. 24-36.

Wieland, J. (2005), "Corporate governance, values management, and standards: a European perspective", *Business and Society*, Vol. 44 No.1, pp. 74-93.