




## DOES RISK CULTURE MATTER FOR SUSTAINING THE BUSINESS? EVIDENCE FROM MALAYSIAN ENVIRONMENTALLY SENSITIVE LISTED COMPANIES

 **Nazliatul Aniza Abdul Aziz<sup>1+</sup>**  
**Norlida Abdul Manab<sup>2</sup>**

<sup>1</sup>Senior Lecturer, Department of Banking and Risk Management, School of Economics, Finance and Banking, Universiti Utara Malaysia, Sintok, Kedah, Malaysia.

Email: [nazliatul@uum.edu.my](mailto:nazliatul@uum.edu.my) Tel: +6049286860

<sup>2</sup>Associate Professor, Department of Banking and Risk Management, School of Economics, Finance and Banking, Universiti Utara Malaysia, Sintok, Kedah, Malaysia.

Email: [norlida@uum.edu.my](mailto:norlida@uum.edu.my) Tel: +6049286801



(+ Corresponding author)

### ABSTRACT

#### Article History

Received: 21 February 2020

Revised: 25 March 2020

Accepted: 28 April 2020

Published: 18 May 2020

#### Keywords

Risk culture  
Sustainability risk management (SRM)  
Stakeholder theory  
Post-modern portfolio theory  
Company survival  
Environmentally sensitive Companies.

The aim of this paper is to examine how organisational risk culture and good risk management practices contribute to the sustainable business. Sustaining business requires a strong foundational of risk culture to address all types of risks. Having a sound risk culture is vital as it influences the way organisations respond to risks and hazards. A poor risk culture and weak risk management practices have triggered many business collapsed and lost with huge amounts. Drawing on the post-modern portfolio theory and stakeholder theory, the model in this study is empirically validated by means of the partial least squares approach to structural equation modelling (PLS-SEM) based on survey data from environmentally sensitive companies in Malaysia. Based on the analysis, the study revealed that risk culture moderates the relationship between the role of leadership and risk resilience of sustainability risk management (SRM) implementation and company survival. This result extend previous research by not only highlighting the importance of risk culture in driving effective SRM practices but also indicating the significance of risk resilience and leadership in sustaining the business.

**Contribution/Originality:** This study provides fresh insights on the importance of risk culture in driving successful SRM practices. It also sheds some light on the importance of leadership and risk resilience for risk culture in the company to be changed.

## 1. INTRODUCTION

The COVID-19 pandemic of 2020 revealed the major weaknesses in the existing guidelines of risk management whereby most organisations had not fully prepared to handle the unknown risks. Undoubtedly, a poor risk culture and lack of pre-emptive measures has resulted to weak risk management function which finally brought to terrible situations and tremendous losses to the businesses due to this pandemic. Risk culture is one of the most significant challenges faced by nearly every company from diverse industries. Sustainability risk management (SRM) is an approach that provides a medium of precaution in an organisation, and opportunities for accelerating business growth and company survival. Having a strong risk culture is vital to effective SRM implementation, as it influences the way an organisation makes sense of risks and hazards.

Organizational risk culture is recognised as the most important critical factor for effective risk management practices and strongly influenced by leadership factors (Manab, Kassim, & Hussin, 2010). According to Farrell and

Hoon (2012) the function and effectiveness of other factors such as commitment of top management, communication, and ethical conduct also depend on strong organisational culture. Indeed, poor risk culture was the reason of many bank collapses with billions of USD dollars of losses, especially during the financial crises (Abu & Al-Ajmi, 2012). This is due to a weak organizational risk culture at both levels, at top management as well as at employees' levels (Cooper, Speh, & Downey, 2011). This will effect the company performance and its long term survival. However, a survey by QBE European Operation in 2015 reported that only 30 percent of the decision-makers indicated that a positive risk management culture is promoted within their business.

Risk culture is a key indicator for a sustainable organisations. It highly depends on the ability of every staff to provide a consistent risk information to be shared and openly discussed across the organisation in order to achieve company survival (Deloitte, 2013). Yet, empirical studies related to risk culture and SRM implementation and their impacts on company survival are limited. In response, the aim of this paper is to evaluate the moderating effect of risk culture on the relationship between SRM critical factors namely corporate governance compliance, leadership and risk resilience and company survival. In particular, a research question is proposed to address the above research aim: Does the risk culture moderate the relationship between the SRM critical factors (risk resilience, corporate governance compliance and leadership) and company survival?

## 2. LITERATURE REVIEW

Institute of International Finance (IIF) (2009) defined risk culture as “the norms and traditions of behaviour of individuals and of groups within an organization that determine the way in which they identify, understand, discuss and act on the risks the organization confronts and the risks it takes”. This definition highlighted the thought of organisational culture as it reflects the way people perceive risks, attitudes and handle the risks to achieve the company objectives (Ashby, Power, & Palermo, 2013).

A strong risk culture depends on the capability of risk managers to have a mutual understanding of the organisational risk appetite, strengthening the vibrant governance structures, and merging with the ‘three lines of defence’ which interact with the business unit; thus, independent risk management functions as well as an internal audit (KPMG International, 2009). The three lines of defence cascade risks from top down and bottom up, where it defines the relations among the business operating units (the first line) and other divisions that provide risk oversight and infrastructure (the second line), and internal auditors which provide independent assurance (third line) (Anderson & Eubanks, 2015). Prior studies have shown that company decisions and activities are influenced to a significant degree by long-standing beliefs and norms that businesses have in their ethical responsibility to society (Chen, Newbury, & Park, 2009).

Corporate governance compliance, leadership and risk resilience play a pivotal role in determining the success of SRM implementation and affect the company survival. Effective compliance of corporate governance is an essential element for businesses, making it important to have management scrutiny to learn from past environmental scandals and corporate catastrophes which lead to major losses. Tanjung (2020) discovered that there is a strong connection between corporate governance compliance and company performance. Her study indicated that a company with a strong governance able to incorporate ethical values in the decision-making for its survival. Additionally, Kpodo and Agyekum (2015) confirmed that leadership is a driver of transformation in organisation to develop a strong risk culture. Assuredly, senior management play a critical role as they formed a strong tone to influence the employee's attitude towards managing risk in an organisation. Leadership refers to the ethical role and leadership commitment of the senior management to shape the behaviour of the employees towards risks (Banks, 2012). Similarly, to develop a strong risk culture also require a paradigm shift of an organisation through risk resilience (PricewaterhouseCoopers, 2013). In this context, resilience refers to the capability of the organisation and its employees to adapt with changes and challenges of any uncertainties in the future (Linkov, Trump, & Fox-Lent, 2016). Thus, risk resilience is considered as a key to the effective SRM practices.

Empirical studies related to the relationship between risk culture and SRM implementation is scant. Though, risk culture has also been part of several empirical ERM studies. For example, Richter (2014) studied the change of risk culture in 30 top financial companies in Germany between 2008 and 2011 found a clear trend towards the implementation of a sounder risk culture over the timeframe of four years in the financial market in Germany. This shows that risk culture has greatly improved year by year following the global financial crisis that impacted them. Likewise, Kimbrough and Compton (2009) opined that organisational culture is an essential component to support of effective ERM practice. A study by Manab, Othman, and Kassim (2012) on public listed companies in Malaysia also found that organisational culture has a critical effect on ERM effectiveness to enhance their shareholder value. According to Pan, Siegel, and Wang (2017) companies' risk-taking policies are significantly related to risk culture. Also, Coluccia, Fontana, Graziano, Rossi, and Solimene (2017) discovered that risk culture has a major impact to reducing a company's volatility and is considered as an important risk governance tool.

In today's global business environment, most of the risks that are currently faced by any organisation, involved reputational damages which arose from the stakeholders' dissatisfaction (Nigam & Ramos, 2011). For instance, the reputation of British Petroleum (2010 oil spill) and The Tokyo Electric Power Company (2011 Fukushima Daiichi, the largest nuclear power plant accident) had been badly tarnished due to irresponsible practices and failure of both organisations to sufficiently anticipate the risks of extreme natural hazards. According to Ortiz-de-Mandojana and Bansal (2016) companies that manifest environmental and social responsibilities have the ability to cope positively with unpredictable situations and have better chances of survival in the long run. A strong risk culture assists a company to proactively manage specific risks to the business affecting stakeholders (Gorzen-Mitka, 2018). The overwhelming focus on risk culture gives value and reputation enhancement (Deloitte, 2013). Hence, cultivating risk culture clearly assists in meeting stakeholder expectations to ensure company survival.

### 3. THEORETICAL FRAMEWORK AND HYPOTHESES DEVELOPMENT

Studies on sustainability and risk management have provided evidence for its significant impact on company survival (Schulte & Hallstedt, 2018). The theoretical model employed in this research is based on the post-modern portfolio (PMP) and stakeholder theories. The PMP theory pioneered by Rom and Ferguson (1993) and the stakeholder theory by Freeman (1984) were used to explain the SRM approach in managing emerging risks for company survival.

Over the years, investors are increasingly aware of the importance of sustainability (environmental, social and financial) in their investment decision making due to the growing crises (Lydenberg, 2016). Few researchers have recommended the alteration of MPT with more realistic assumptions to adapt to the systemic crises and disastrous events (Curtis, 2004; Lydenberg, 2016). The PMP theory is better suited to explain the investment decision process in the true world and was established to answer the limitation in the MPT (Sumnicht, 2008). He further argued that PMPT take into account the behavioural aspects of the investment decision compared to MPT. PMPT is an extension of modern portfolio theory (MPT) that focused on downside risk and asymmetrical return distributions (Rom & Ferguson, 1994). PMPT accommodates both upside and downside volatility (Todoni, 2015). Besides that, PMPT can help an investor to achieve optimal investment result through a better measurement of risks in the portfolio level management and meet future return through long investment horizons (Cooper, Evnine, Finkelman, Huntington, & Lynch, 2016). Further, PMPT considers investment risk to be tangled with an investor's specific goal in which the outcomes do not signify economic risk entirely (Reilly & Brown, 1997).

A number of studies have started to bridge the gap between traditional investment practices and sustainability imperatives (Cerin & Scholtens, 2011; Choi, 2016; Peylo, 2012). Orlitzky, Schmidt, and Rynes (2003) for instance, found that there is a positive effect between sustainability undertakings and company performance. Furthermore, the findings by Guenster, Bauer, Derwall, and Koedijk (2011) showed that the company's valuation enhances over time with the integration of environmental factors in the investment portfolio. Similarly, Mănescu (2011) revealed

that a company could reduce its cost of capital by investing in the environmental and social concerns. In this regards, SRM provides the sustainable management of a portfolio of risks which includes the behavioural aspects of the investor’s decision-making. It is a strategy that helps a company to benefit from more risk reduction gained in addressing the environmental and social factors (Spedding & Rose, 2008).

Stakeholder theory is one of the main theories that are used in numerous sustainability research (Frynas & Yamahaki, 2016; Montiel & Delgado-Ceballos, 2014). Stakeholder theory draws upon the leveraging of interest of the stakeholders in the business decisions through a matter of common sense and good business practices. The objective of stakeholder theory is to create value to all stakeholders to ensure the continued success and survival (Freeman, 2010). Stakeholder is referred to an individual or group that can either affect or be affected by organisation’s activities and decision making (Freeman, 1984).

Stakeholder theory is commonly used by many researchers to investigate how stakeholders affect the business operation (e.g., (Agle, Mitchell, & Sonnenfeld, 1999; Jawahar & McLaughlin, 2001; Sangle & Ram Babu, 2007; Wallis, 2006)). It explains how a company improves business relations with the stakeholders (Lozano, 2011). A company’s value depends on its efforts to satisfy the needs of both stakeholders and shareholders (Lankoski, Smith, & Van Wassenhove, 2016). According to Jensen (2002) shareholder value maximisation is not the only company’s objectives because a company has a wider social role to the stakeholders. A company can achieve long-term value when it is able to satisfy the needs of the stakeholders. Therefore, securing a stakeholder value as well as protecting the environment helps an organisation to increase its financial worth. This way of thinking has led businesses to focus on long-term value maximisation (Hörisch, Freeman, & Schaltegger, 2014).

Likewise, Lim and Wang (2007) were in viewed that a risk management process that includes the stakeholder judgement help to reduce a company's systematic risks through financial hedging and boosting the investments outcomes. Whilst, Ahn (2015) stressed the importance of sustainability in relation to the stakeholder theory to have a strategic focus on environmental, social, and economic issues. As such, a company can maintain a good relationship with the stakeholders while addressing the sustainability risk. In most instances, company should take on responsibility in reducing the damaging effects of its business operation on the environment while maintaining a good relationships with the stakeholders (Slack, 2012). Certainly, the ability to maintain a good relationship with the stakeholders through good business practices would assist companies to be sustainable due to most of the risks are initiated by inconsistency between the stakeholders and the company’s objectives (Purdy & Lark, 2012).

Specifically, the model proposed in this study is presented in Figure 1 below with the research hypotheses are organised into four groups.

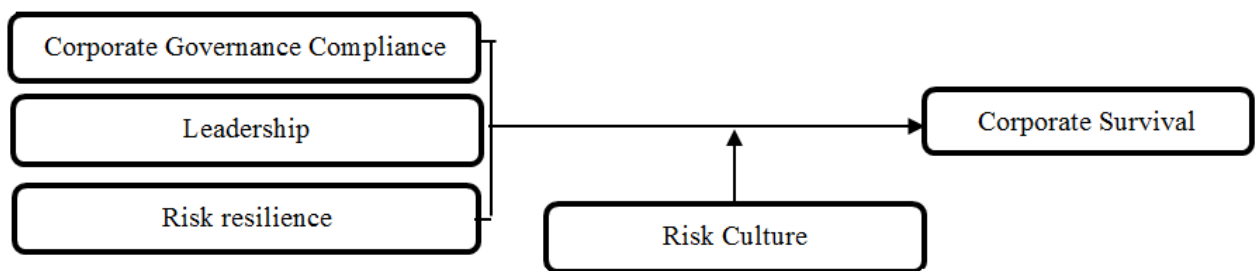


Figure-1. Theoretical framework.

Based on the theoretical argument presented, the study delineated the following hypotheses:

- H1: Corporate governance compliance has a positive impact on company survival.
- H2: Leadership has a positive impact on company survival.
- H3: Risk resilience has a positive impact on company survival.
- H4: Risk culture has a positive impact on company survival.

*H5a. The relationship between corporate governance compliance and company survival is positively moderated by risk culture.*

*H5b. The relationship between leadership and company survival is positively moderated by risk culture.*

*H5c. The relationship between risk resilience and company survival is positively moderated by risk culture.*

#### 4. METHODOLOGY

The data collected through questionnaire were using a stratified random sample of environmental sensitive companies in Malaysia. Environmentally sensitive companies were selected as a sample for this study due to the increasing pollution and wastes of their business operations to the natural environment (Bakar, Abdullah, Ibrahim, & Jali, 2017). Although, the environmental sensitive companies sector are the major contributor to the growth domestic products (GDP), these sectors are also considered as one of the main contributors to ecological problems (Mokhtsim & Salleh, 2014; Sakundarini & Ghazila, 2018). The questionnaires were responded by the managers of the risk management and internal audit division. Out of 105 distributed questionnaires, 53 companies responded to the questionnaire, yielding a 50.5 per cent response rate for study. The study used partial least squares structural equation modelling (PLS-SEM) to analyse the research data using the SmartPLS 3.0. The PLS consists of two models which are measurement model that examines the relationship between latent variables and associated manifest variables and structural model that examines the relationships between latent variables (Chin, 1998).

#### 5. RESULTS AND DISCUSSION

##### 5.1. Assessment of Measurement Model

Table 1 shows the factor loadings: composite reliability (CR) and average variance extracted (AVE) to assess convergence validity. The loadings for all the constructs are in a satisfactory range above the recommended threshold of 0.6 as suggested by (Chin, 1998). The Cronbach's alpha and CR indices of all the constructs are above the threshold of 0.7 (Hair, Black, Babin, & Anderson, 2009). Additionally, the average variance extracted (AVE) values of the constructs range between 0.648 and 0.744, exceeding the recommended value of 0.5 (Hair, Black, Babin, & Anderson, 2010). Hence, the study confirm the convergent validity and reliability of the measurement model.

##### 5.2. Assessment of Structural Model

Prior to assessing the structural model, a bootstrapping technique was utilized to predict the significant of path coefficients. This study performed a non-parametric bootstrapping procedure with evaluated 5000 bootstrap samples as suggested by Henseler, Hubona, and Ray (2016). The results are presented in Table 2 and shows that the relationship between corporate governance compliance is significant ( $\beta=0.424$ ;  $t=2.038$ ) for company survival. Similarly, the relationship between leadership and company survival is significant ( $\beta=0.271$ ;  $t=1.945$ ). As such, the results provided evidence to support the hypotheses H1 and H2. However, the relationship between risk resilience and company survival is not significant ( $\beta=0.275$ ;  $t=1.607$ ), hence the hypothesis (H3) is not supported.

The study used the product-indicator approach (Henseler & Fassott, 2010) to test the moderating effect of risk culture, and mean-centred the predictor and the moderator variables to reduce multi-collinearity (Cohen, 1988). The results of the moderation test revealed a positive interaction between leadership and company survival; as such, H5b is supported. Similarly, the results also found a positive interaction between risk resilience and company survival; as such, H5c is supported. However, the interaction term between corporate governance compliance and risk culture is not significant; hence the hypothesis (H5a) is not supported.

Table-1. Internal consistency and convergent validity.

Constructs	Items	Loadings	AVE	CR	Validity
Company Survival (Cs)	Fs1	0.814	0.744	0.963	Yes
	FS2	0.861			
	FS3	0.89			
	FS4	0.878			
	FS5	0.871			
	FS6	0.818			
CG 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
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-2. Path coefficient assessment.

Hypothesis	Relationship	Direct Effect ( $\beta$ )	St. Dev	T-Statistics	P Value	Decision
	Main Path					
H1	CG compliance -> Company Survival	0.316	0.215	2.038	0.042	Supported
H2	Leadership -> Company Survival	0.702	0.244	1.945	0.052	Supported
H3	Risk resilience -> Company Survival	-0.053	0.171	1.607	0.108	Not Supported
H4	Risk culture -> Company Survival	-0.401	0.146	2.755	0.006	Supported
	Moderating Effect					
H5a	CG compliance*risk culture -> Company Survival	0.291	0.315	1.468	0.143	Not Supported
H5b	Leadership*risk culture -> Company Survival	-0.694	0.393	1.766	0.078	Supported
H5c	Risk resilience*risk culture -> Company Survival	1.321	0.697	1.896	0.059	Supported

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

The results show that risk culture significantly moderates the relationship between leadership, risk resilience and company survival. More specifically, organisations with effective SRM implementation tend to integrate a strong risk culture. This finding indicates that risk culture is recognised as a key component of effective risk management whereby company has greater ability to proactively manage wide-ranging of risks. Risk culture is the backbone of risk management programme and becomes the responsibility of the top management to promote healthy risk culture across the organisation. In this regard, [Gandz and Seijts \(2013\)](#) emphasised the important of effective tone-at-the-top and risk communication as key elements vital for a strong risk culture. The growing

concern of a significant impact of risk culture on risk management implementation is also indicated in a study by Selamat and Ibrahim (2018). Their study also found that risk culture played the moderating role in the relationship between risk management committees and ERM implementation.

## 6. CONCLUSION

This study aims to examine the moderating impacts of risk culture on the relationship between sustainability risk management (SRM) critical factors, namely corporate governance compliance, leadership, risk resilience and company survival. The study draws on the post-modern portfolio theory and stakeholder theory, to support the arguments underlying the research phenomenon. The results revealed that risk culture moderates the positive relationship between SRM critical factors (leadership and risk resilience) and company survival. The study shows that a strong risk culture that embeds risk management in daily business operations is important for company survival. Building a risk culture is not an easy task without support from the boards and commitment by the employees at all levels. Companies need to continue to create a sound risk culture within the organisation because it is a continuous process and integral elements of effective risk management practices underpin the company survival. Therefore, risk culture needs to be developed early as the risk management programme starts to circumvent its implementation turns compliance-oriented and risk identification remained lacking. Definitely, it takes time for an organisation to strengthen risk culture. A continuous risk management workshops and risk literacy programme is crucial to enhance understanding of our employees at all levels in managing a wide-ranging risks to our employees.

**Funding:** This study received no specific financial support.

**Competing Interests:** The authors declare that they have no competing interests.

**Acknowledgement:** Both authors contributed equally to the conception and design of the study.

## REFERENCES

- Abu, H., Hameeda, & Al-Ajmi, J. (2012). Risk management practices of conventional and Islamic banks in Bahrain. *The Journal of Risk Finance Incorporating Balance Sheet*, 13(3), 215-239. Available at: <https://doi.org/10.1108/15265941211229244>.
- Agle, B. R., Mitchell, R. K., & Sonnenfeld, J. A. (1999). Who matters to Ceos? An investigation of stakeholder attributes and salience, corporate performance, and Ceo values. *Academy of Management Journal*, 42(5), 507-525. Available at: <https://doi.org/10.5465/256973>.
- Ahn, N. (2015). Corporate sustainability and enterprise risk management: Implementation effects on performance. Retrieved from [https://www2.aahq.org/AM/display.cfm?Filename=SubID\\_800.pdf&MIMETType=application/pdf](https://www2.aahq.org/AM/display.cfm?Filename=SubID_800.pdf&MIMETType=application/pdf).
- Anderson, D. G., & Eubanks, G. (2015). Leveraging COSO across the three lines of defense. Retrieved from <http://goo.gl/SMIYYD>. [Accessed 12 October 2015].
- Ashby, S., Power, M., & Palermo, T. (2013). Risk culture in financial organisations: An interim report. Retrieved from: <http://www.lse.ac.uk/researchAndExpertise/units/CARR/pdf/Risk-culture-interim-report.pdf>.
- Bakar, N. A. A., Abdullah, H., Ibrahim, F. W., & Jali, M. R. M. (2017). Green economy: Evaluation of Malaysian company environmental sustainability. *International Journal of Energy Economics and Policy*, 7(2), 139-143.
- Banks, E. (2012). *Risk culture: A practical guide to building and strengthening the fabric of risk management*. London: Palgrave Macmillan.
- Cerin, P., & Scholtens, B. (2011). Linking responsible investments to societal influence: Motives, assessments and risks. *Sustainable Development*, 19(2), 71-76. Available at: <https://doi.org/10.1002/sd.508>.
- Chen, D., Newbury, W., & Park, S. H. (2009). Improving sustainability: An international evolutionary framework. *Journal of International Management*, 15(3), 317-327. Available at: <https://doi.org/10.1016/j.intman.2008.08.003>.
- Chin, W. W. (1998). The partial least squares approach to structural equation modeling. In G. A. Marcoulides (Ed.), *Modern Methods for Business Research* (pp. 295-336). Mahwah, New Jersey: Laurence Erlbaum Associates.

- Chin, W. W. (1998). The partial least squares approach to structural equation modeling. *Modern methods for business research*, 295(2), 295-336.
- Choi, A. (2016). Morgan stanley perspectives on sustainable investing: Acceleration and integration. *Journal of Applied Corporate Finance*, 28(2), 62-65.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences*. Hillsdale, NJ: L Erlbaum Associates.
- Coluccia, D., Fontana, S., Graziano, E. A., Rossi, M., & Solimene, S. (2017). Does risk culture affect banks' volatility? The case of the G-SIBs. *Corporate Ownership and Control*, 15(1), 33-43. Available at: <https://doi.org/10.22495/cocv15i1art3>.
- Cooper, T., Speh, C., & Downey, A. (2011). *Creating a culture of risk management*. Waltham, MA: Wolters Kluwer Financial Services.
- Cooper, L., Evnine, J., Finkelman, J., Huntington, K., & Lynch, D. (2016). Social finance and the postmodern portfolio: Theory and practice. *The Journal of Wealth Management*, 18(4), 9-21. Available at: <https://doi.org/10.3905/jwm.2016.18.4.009>.
- Curtis, G. (2004). Modern portfolio theory and behavioral finance. *The Journal of Wealth Management*, 7(2), 16-22. Available at: <https://doi.org/10.3905/jwm.2004.434562>.
- Deloitte. (2013). Creating a risk intelligent infrastructure: Getting risk intelligence done. Retrieved from <https://www2.deloitte.com/content/dam/Deloitte/global/Documents/Governance-Risk-Compliance/dttl-grc-creatingriskintelligentinfrastructure-gettingriskintelligencedone.pdf>
- Farrell, J. M., & Hoon, A. (2012). What's your company's risk culture? NACD directorship. 1-3.
- Freeman, R. E. (1984). *Stakeholder management: Framework and philosophy*. Mansfield, MA: Pitman.
- Freeman, R. E. (2010). *Strategic management: A stakeholder approach*. New York: Cambridge University Press.
- Freeman, R. E. (1984). *Strategic management: A stakeholder perspective*. Englewood Cliffs, NJ: Prentice Hall.
- Frynas, J. G., & Yamahaki, C. (2016). Corporate social responsibility: Review and roadmap of theoretical perspectives. *Business Ethics: A European Review*, 25(3), 258-285. Available at: <https://doi.org/10.1111/beer.12115>.
- Gandz, J., & Seijts, G. (2013). Leadership and risk culture. *Ivey Business Journal Online*, Mar/Apr.
- Gorzen-Mitka, I. (2018). Leading markers of risk culture in organization. *European Journal of Sustainable Development*, 7(1), 425-425. Available at: <https://doi.org/10.14207/ejsd.2018.v7n1p425>.
- Guenster, N., Bauer, R., Derwall, J., & Koedijk, K. (2011). The economic value of corporate eco-efficiency. *European Financial Management*, 17(4), 679-704. Available at: <https://doi.org/10.1111/j.1468-036x.2009.00532.x>.
- Hair, J. F., Black, B., Babin, B., & Anderson, R. E. (2010). *Multivariate data analysis*. Upper Saddle River, NJ: Prentice Hall.
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2009). *Multivariate data analysis*. Upper Saddle River, NJ: Prentice Hall.
- Henseler, J., & Fassott, G. (2010). Testing moderating effects in PLS path models: An illustration of available procedures. In *Handbook of partial least squares* (pp. 713-735). Berlin, Heidelberg: Springer.
- Henseler, J., Hubona, G., & Ray, P. A. (2016). Using PLS path modelling in new technology research: updated guidelines. *Industrial Management & Data Systems*, 116(1), 2-20.
- Hörisch, J., Freeman, R. E., & Schaltegger, S. (2014). Applying stakeholder theory in sustainability management: Links, similarities, dissimilarities, and a conceptual framework. *Organization & Environment*, 27(4), 328-346. Available at: <https://doi.org/10.1177/1086026614535786>.
- Institute of International Finance (IIF). (2009). Reform in the financial services industry: Strengthening practices for a more stable system. Retrieved from: [www.iif.com/publication/regulatory-report/iif-releases-reportreforms-financial-services-industry](http://www.iif.com/publication/regulatory-report/iif-releases-reportreforms-financial-services-industry).
- Jawahar, I., & McLaughlin, G. L. (2001). Toward a descriptive stakeholder theory: An organizational life cycle approach. *Academy of Management Review*, 26(3), 397-414. Available at: <https://doi.org/10.2307/259184>.
- Jensen, M. C. (2002). Value maximization, stakeholder theory, and the corporate objective function. *Business Ethics Quarterly*, 12(2), 235-235. Available at: <https://doi.org/10.2307/3857812>.



- Kimbrough, R. L., & Compton, P. J. (2009). The relationship between organizational culture and enterprise risk management. *Engineering Management Journal*, 21(2), 18-26. Available at: <https://doi.org/10.1080/10429247.2009.11431803>.
- KPMG International. (2009). Never again? Risk management in banking beyond the credit crisis. Retrieved from <http://www.kpmg.com/Ca/fr/IssuesAndInsights/ArticlesPublications/Documents/Risk-management-in-banking-beyond-the-credit-crisis.pdf>.
- Kpodo, B., & Agyekum, K. (2015). The effects of risk culture on organisational performance - the cases of some selected financial institutions in Ghana. *International Journal of Science and Research*, 4(12), 681-689. Available at: <https://doi.org/10.21275/v4i12.nov152020>.
- Lankoski, L., Smith, N. C., & Van Wassenhove, L. (2016). Stakeholder judgments of value. *Business Ethics Quarterly*, 26(2), 227-256. Available at: <https://doi.org/10.1017/beq.2016.28>.
- Lim, S. S., & Wang, H. (2007). The effect of financial hedging on the incentives for corporate diversification: The role of stakeholder firm-specific investments. *Journal of Economic Behavior & Organization*, 62(4), 640-656. Available at: <https://doi.org/10.1016/j.jebo.2005.04.012>.
- Linkov, I., Trump, B. D., & Fox-Lent, C. (2016). Resilience: Approaches to risk analysis and governance. An Edited Collection of Authored Pieces Comparing, Contrasting, and Integrating Risk and Resilience with an Emphasis on Ways to Measure Resilience. Retrieved from: [https://infoscience.epfl.ch/record/228206/files/IRGC%20\(2016\)%20IRGC%20Resilience%20Resource%20Guide%20\(Volume%201\).pdf#page=6](https://infoscience.epfl.ch/record/228206/files/IRGC%20(2016)%20IRGC%20Resilience%20Resource%20Guide%20(Volume%201).pdf#page=6).
- Lozano, R. (2011). Addressing stakeholders and better contributing to sustainability through game theory. *Journal of Corporate Citizenship*, 2011(43), 45-62. Available at: <https://doi.org/10.9774/gleaf.4700.2011.au.00004>.
- Lydenberg, S. (2016). Integrating systemic risk into modern portfolio theory and practice. *Journal of Applied Corporate Finance*, 28(2), 56-61.
- Manab, N. A., Kassim, I., & Hussin, M. R. (2010). Enterprise-wide risk management (EWRM) practices: Between corporate governance compliance and value. *International Review of Business Research Papers*, 6(2), 239-252.
- Manab, N., Othman, S., & Kassim, I. (2012). Enterprise-wide risk management best practices: The critical success factors. *OIDA International Journal of Sustainable Development*, 4(03), 87-96.
- Mănescu, C. (2011). Stock returns in relation to environmental, social and governance performance: Mispricing or compensation for risk? *Sustainable Development*, 19(2), 95-118. Available at: <https://doi.org/10.1002/sd.510>.
- Mokhtsim, N., & Salleh, K. O. (2014). Malaysia's efforts toward achieving a sustainable development: Issues, challenges and prospects. *Procedia-Social and Behavioral Sciences*, 120, 299-307. Available at: <https://doi.org/10.1016/j.sbspro.2014.02.107>.
- Montiel, I., & Delgado-Ceballos, J. (2014). Defining and measuring corporate sustainability: Are we there yet? *Organization & Environment*, 27(2), 113-139. Available at: <https://doi.org/10.1177/1086026614526413>.
- Nigam, P., & Ramos, M. (2011). *Sustainability risk management*. In Reuvid, J. Ed. (2011) *Managing Business Risk – a practical guide to protecting your business* (3rd ed.). London (UK) and Philadelphia (USA): Kogan Page.
- Orlitzky, M., Schmidt, F. L., & Rynes, S. L. (2003). Corporate social and financial performance: A meta-analysis. *Organization Studies*, 24(3), 403-441.
- Ortiz-de-Mandojana, N., & Bansal, P. (2016). The long-term benefits of organizational resilience through sustainable business practices. *Strategic Management Journal*, 37(8), 1615-1631. Available at: <https://doi.org/10.1002/smj.2410>.
- Pan, Y., Siegel, S., & Wang, T. Y. (2017). Corporate risk culture. *Journal of Financial and Quantitative Analysis*, 52(6), 2327-2367.
- Peylo, B. T. (2012). A synthesis of modern portfolio theory and sustainable investment. *The Journal of Investing*, 21(4), 33-46. Available at: <https://doi.org/10.3905/joi.2012.21.4.033>.

- PricewaterhouseCoopers. (2013). Black swans turn grey: The transformation of risk. Retrieved from: <https://www.pwc.co.uk/assets/pdf/risk-practices-black-swans-turn-grey-the-transformation-of-the-risk-landscape.pdf>.
- Purdy, G., & Lark, J. (2012). Enhance your risk management and create value. Retrieved from [http://www.trm.ca/media\\_lib/TRM\\_Perspectives/Risk\\_Watch\\_May\\_2012\\_Lark\\_Purdy.pdf](http://www.trm.ca/media_lib/TRM_Perspectives/Risk_Watch_May_2012_Lark_Purdy.pdf).
- Reilly, F. K., & Brown, K. C. (1997). *Investment analysis and portfolio management* (5th ed.). Orlando, Florida: Dryden.
- Richter, C. (2014). *Development of a risk culture intensity index to evaluate the financial market in Germany*. Paper presented at the Proceedings of FIKuSZ Γ14 Symposium for Young Researchers.
- Rom, B. M., & Ferguson, K. W. (1993). Post-modern portfolio theory comes of age. *The Journal of Investing*, 2(4), 27-33. Available at: <https://doi.org/10.3905/joi.2.4.27>.
- Rom, B. M., & Ferguson, K. W. (1994). Post-modern portfolio theory comes of age. *Journal of Investing*, 3(3), 11-17. Available at: <https://doi.org/10.3905/joi.3.3.11>.
- Sakundarini, N., & Ghazila, R. (2018). Malaysia's pursuit of sustainable design. The Asia dialogue. Retrieved from: <https://theasiadialogue.com/>.
- Sangle, S., & Ram Babu, P. (2007). Evaluating sustainability practices in terms of stakeholders' satisfaction. *International Journal of Business Governance and Ethics*, 3(1), 56-76. Available at: <https://doi.org/10.1504/ijbge.2007.011934>.
- Schulte, J., & Hallstedt, S. I. (2018). Company risk management in light of the sustainability transition. *Sustainability*, 10(11), 1-25. Available at: <https://doi.org/10.3390/su10114137>.
- Selamat, M. H., & Ibrahim, O. (2018). The moderating effect of risk culture on enterprise risk management implementation In Malaysia. *European Journal of Business and Social Sciences*, 6(10), 1-23.
- Slack, K. (2012). Mission impossible?: Adopting a CSR-based business model for extractive industries in developing countries. *Resources Policy*, 37(2), 179-184. Available at: <https://doi.org/10.1016/j.resourpol.2011.02.003>.
- Spedding, L., & Rose, A. (2008). *Business risk management handbook: A sustainable approach*. Burlington USA: CIMA Publishing.
- Sumnicht, V. (2008). *Practical applications of post-modern portfolio theory*. Appleton Wisconsin: Sumnicht & Associates, LLC.
- Tanjung, M. (2020). A cross-firm analysis of corporate governance compliance and performance in Indonesia. *Managerial Auditing Journal*, 35(5), 621-643. Available at: <https://doi.org/10.1108/maj-06-2019-2328>.
- Todoni, M.-D. (2015). A post-modern portfolio management approach on CEE markets. *Procedia Economics and Finance*, 32, 1362-1376. Available at: [https://doi.org/10.1016/s2212-5671\(15\)01513-0](https://doi.org/10.1016/s2212-5671(15)01513-0).
- Wallis, J. (2006). Evaluating economic theories of NPOs: A survey, a case study and some new directions for socio-economics. *The Journal of Socio-Economics*, 35(6), 959-979. Available at: <https://doi.org/10.1016/j.socec.2005.11.018>.

*Views and opinions expressed in this article are the views and opinions of the author(s), International Journal of Management and Sustainability shall not be responsible or answerable for any loss, damage or liability, etc. caused in relation to/arising out of the use of the content.*