

Investigating the impact of effective risk management on the performance of Malaysian publicly listed companies

Masrina Md Saad¹, Rina Fadhilah Ismail^{2*}, Zuraidah Mohd Zam², Suhaily Hasnan²

¹Malaysian Maritime Academy Sdn Bhd, 78200 Kuala Sungai Baru, Melaka, Malaysia; masrina.mdsaad@alam.edu.my (M.M.S.).

²Faculty of Accountancy, Universiti Teknologi MARA, Cawangan Selangor, Bandar Puncak Alam 42300 Puncak Alam, Selangor, Malaysia; rinafadhliah@uitm.edu.my (R.F.I.); zuraidahzam@uitm.edu.my (Z.M.Z.); suhailyhasnan@uitm.edu.my (S.H.).

Abstract: Risk management functions as a communication tool, conveying a company's proactive strategies to investors for addressing potential threats. Emphasizing the management of risk and uncertainty proves beneficial for maximizing shareholder value by achieving robust financial performance. Financial performance, employed to discern superior and relevant information, plays a pivotal role in assessing the current financial situation and forecasting future performance. This research explores the intricate relationship between effective risk management and the performance of publicly listed companies in Malaysia. As a quantitative investigation, it involves a robust dataset of 1,216 year-observations spanning four years, from 2018 to 2021, with a specific focus on publicly listed entities. Tobin's Q assesses firm performance, while the effectiveness of risk management is scrutinized by evaluating key risk objectives, including strategy risk, operational risk, reporting risk, and compliance risk. Control variables, such as company size and leverage, are integrated into the research framework. The findings indicate that all key risks, representing effective risk management, significantly influence the firm performance of Malaysian publicly listed companies. This study not only contributes empirical substance to the ongoing discourse on risk management but also offers valuable insights into how the effectiveness of risk management practices impacts the performance of publicly listed companies within the Malaysian context. The research is a significant source of knowledge for investors, executives, and scholars who want to understand the complex relationship between risk management effectiveness and corporate success in the Malaysian public-listed sector.

Keywords: *Compliance risk, financial performance, Operational risk, Reporting risk, Risk management, Strategy risk.*

1. Introduction

In a dynamic economic context, business operations are exposed to fluctuating and uncertain conditions. Due to the global crisis, failure to recognize and identify forthcoming significant events has resulted in corporate failure. The dynamic business environment, quick changes in commercial transactions, technological advancements, globalization, and extraordinary outbreaks have pushed businesses worldwide to establish efficient risk management techniques. Risk management stands as a vital procedure for every organization aiming to diminish potential losses while optimizing the prospects for success. Engaging in risk management entails the identification, evaluation, and prioritization of potential risks, along with the formulation of strategies to either reduce or entirely mitigate those risks. The growing interconnectedness of global markets and economies, which has led to increased levels of volatility and uncertainty, has increased the importance of risk management in recent years. In response, many organizations have adopted risk management frameworks and methodologies to help them identify and manage risks within their operations.

Many academicians have emphasized the importance of risk and uncertainty management in the corporate world. This is a beneficial approach for corporations to maximize shareholder value for investors. As a result, when such unavoidable risks are managed, good financial performance and increased shareholder value can be achieved. Financial performance has been used to distinguish superior and relevant information in assessing the current financial situation and forecasting future performance. It is a crucial metric for assessing a company's financial health. It may also gauge operational efficiency, brand reputation, and organizational longevity.

On the other hand, financial performance has proven to be a valuable indication for assessing a company's response to risk strategies. Corporate financial performance is important for capital market efficiency because it influences market participants' decisions, such as shareholders and potential investors. Apart from maintaining market efficiency, developing an atmosphere encouraging firms to grow sustainably is essential. This can be achieved through effective corporate governance, focusing on producing the best results for shareholders. As a result, managing financial and non-financial risks and uncertainties is critical to evaluating investment portfolios. To improve corporate performance, companies must effectively manage non-financial risks related to their competitive advantages, technology advances, product design and marketing, and economic and political developments [1]. The final outcome of satisfying shareholders' information investment needs would represent the company's financial performance. Even with this, good performance is easier to accomplish when the total risk around the organization is poorly managed [2].

In recent years, numerous studies have explored risk management practices and the financial performance of businesses within the Association of Southeast Asian Nations (ASEAN) countries, focusing on the perspective of good governance [3, 4]. Because the majority of early risk management research was undertaken in developed countries, empirical risk-related research has also been conducted in developed countries such as the United Kingdom [5-7]. However, research on the adoption of risk management strategies for managing potential risks and risk exposure in developing countries is still lacking and requires further investigation [3, 8, 9]. The evolution of the business environment due to complexity and rapid change has rendered traditional risk management approaches ineffective [10]. In developing countries, where exposure to natural catastrophes and unstable political and economic conditions is prevalent, the volume and complexity of risks pose significant challenges for entities in meeting stakeholders' expectations [11].

Thus, this study aims to investigate how effectively the adoption of risk management could influence the firm performance of publicly listed companies in Malaysia. In particular, effective risk management is assessed through the achievement of four key risk fulfilments among publicly listed companies based on *Coso* [11]. This study sheds light on the knowledge and understanding of risk management practices among publicly listed companies in Malaysia.

2. Literature Review

2.1. *Effective Risk Management and Firm Performance*

The issue of risk management has sparked much debate among professionals and authorities in Malaysia and other countries. Given the attention from various researchers, *Linsley and Shrivies* [5] identified three types of risks: strategic risk related to the external business environment, financial risk associated with the company's financial position, and operational risk linked to internal business functions. Effective risk management reduces risks, thereby expectedly enhancing performance and the organization's value [12, 13]. In response to the escalating demand for corporate transparency amid global crises, corporations in emerging nations have been steadily increasing their awareness of the severe consequences of inefficient risk and uncertainty management [8, 14, 15]. The fundamental premise of the concept of strategic risk is that long-term change processes impact the strategic performance of businesses. Numerous intricately interacting variables may influence this process. Not achieving a strategic outcome constitutes a strategic risk, which develops when pursuing strategic goals and alludes to a strategy's risk. *Światowiec-Szczepańska and Stępień* [16]. *Gordon, et al.* [12] suggest

that the organization can evaluate the effectiveness of risk management by assessing various risks, including strategy, operational, reporting, and compliance risks. Details about these four risks are provided in [Table 1](#) to facilitate a comprehensive understanding.

Table 1.
Type of risks according to the [Coso \[11\]](#) objectives.

Risk type	Description
Strategy risk	The potential for a company's strategic decisions or direction to fail or underperform, resulting in financial losses or reputational damage. It may involve issues such as market changes, competition, or shifts in consumer trends. Strategy risk refers to the potential for a company's strategic decisions to fail or for the company to be unable to adapt to changes in its operating environment. This can result in wasted resources, missed opportunities, and a lack of profitability.
Operational risk	The possibility of disruptions or failures within a company's day-to-day operations, systems, or processes. This could include IT failures, supply chain disruptions, or human error, and can impact efficiency and profitability. Operational risk refers to potential failures in operational processes, systems, or human error. This can lead to a disruption in business processes, lost revenue, and reputational damage.
Reporting risk	The potential for inaccurate or incomplete reporting of financial and non-financial information can impede decision-making and result in regulatory or legal penalties. Risk reporting and disclosures have emerged as a central focus for numerous international accounting standard-setters and regulators. Reporting risk pertains to the possibility of errors or inaccuracies in financial reporting, carrying the potential for legal and regulatory consequences, fines, and harm to reputation.
Compliance risk	The danger of failing to adhere to applicable laws, regulations, and policies that govern a business's activities. This can include risks related to data privacy, anti-money laundering measures, or environmental regulations, among others. Compliance risk refers to the potential for a company to violate laws and regulations governing its industry, resulting in fines and other penalties. It can also lead to reputational damage and a loss of market share.

Regarding firm performance, this can be considered meaningful when adequately measured to assess the efficient utilisation of the firm's resources, considering the potential risks associated with it, as indicated by [Orlitzky, et al. \[17\]](#) and [Mohammad, et al. \[8\]](#). Determining a measurement for the company's performance also enables the comparison of results over time, and various approaches have been proposed, i.e., accounting returns and investor returns [\[17\]](#). Accounting-based measurement is used by businesses to evaluate their financial position in the industry regarding sustainability, liquidity, and solvency in facilitating short- or long-term decisions. Businesses should internally assess their financial positions against different business management and decision-making processes rather than depending on external sources. Some well-known accounting ratios are return on asset (ROA), return on equity (ROE), earnings per share (EPS), and return on investment (ROI) [\[18, 19\]](#).

On the other hand, a market-based assessment from the perspective of shareholders considers the stock's past, present, and future performance, as well as a risk assessment to estimate the company's share price and market value [\[17\]](#). Market-based indicators include share price, dividend income, and Tobin's Q, whereby Tobin's Q is the most commonly employed in corporate governance research [\[20, 21\]](#). According to [Al-Matari, et al. \[21\]](#), Tobin's Q was used in 78% of research that examining the impact of corporate governance on business performance due to its forward-looking nature in capturing

investors' expectations. A high "Q" reflects the company's future potential and ability to leverage its financial resources.

2.2. Strategy, Risk, and Financial Performance

The risk of adopting the plan will be strategic if an enterprise's behaviour entails doing so [22]. However, businesses may enhance performance and lower their exposure to strategic risk through competent management, with risks related to securing the necessary resources [23]. According to Singh and Hong [24], risk drivers are discovered to be negatively correlated with the financial success of firms, which is a significant concrete effect of strategic practices across the supply chain network. This supports other research findings suggesting similar relationships [25, 26]. Thus, the following hypothesis is developed:

H₁: The fulfilment of strategic risk objectives positively influences financial performance among publicly listed companies in Malaysia.

2.3. Operational Risk and Financial Performance

Operational risk is regarded as a fundamental component of guaranteeing the effectiveness and efficiency of business management and activities [27, 28]. Threats related to operational risk encompass safety and health risks, operational issues within the company, as well as litigation and legal suits. Numerous studies have explored the correlation between operational risk management and financial performance, with a predominant focus on banking institutions. For example, Muriithi and Waweru [29] and Fadun and Oye [30] delved into the impact of risk management, specifically operational risks, on financial performance, revealing positive and significant outcomes in terms of bank profitability. Based on the arguments, the hypothesis is constructed as follows:

H₂: The fulfilment of the operational risk objective positively influences financial performance among publicly listed companies in Malaysia.

2.4. Reporting Risk and Financial Performance

Past studies revealed that most managers believe that improved quality of financial reporting resulting in better internal control will subsequently improve the efficiency of firms' operations [31, 32]. Numerous studies have documented that the negative consequences of maintaining ineffective financial reporting will diminish the reliability of such reporting, affecting operational decisions and resulting in lower firm performance [32-34]. According to Halim, et al. [33], financial reporting risk possesses significant potential to influence earnings retention, wherein management strives to uphold a consistent level for the company, intending to demonstrate effective management performance. Given the aforementioned assertions, the hypothesis is formulated as follows:

H₃: The fulfilment of the reporting risk objective positively influences financial performance among publicly listed companies in Malaysia.

2.5. Compliance Risk and Financial Performance

Presently, compliance management is acknowledged as the cornerstone for effective corporate governance and company prosperity. Compliance entails adhering to legal provisions but is also viewed as the proactive management of non-compliance risks. Within financial organizations, compliance serves a regulatory role and is characterized as a process aimed at enhancing the efficiency and effectiveness of financial operations, ensuring the credibility of financial reporting, and guaranteeing compliance with legal requirements [35]. Regarding compliance with accounting and reporting guidelines, according to the study by Atan, et al. [9], Malaysian public businesses only revealed 44.24% of the risk information to those who read their annual reports. This amount of disclosure is minimal in light of the significance of risk information in economic decision-making. The greatest disclosure rate is 66.67%, or around two-thirds of all the risk information categories. Although businesses are anticipated to reveal a higher degree of the required information, the median disclosure level (58.62%) and mean disclosure level

(59.9%) do not support this expectation. This indicates that many businesses are still not operating at the required level of compliance. Although still in the early stages, most corporations supplied a small amount of voluntary risk information.

H₁: The fulfilment of the compliance risk objective negatively influences financial performance among publicly listed companies in Malaysia.

3. Research Methodology

3.1. Sample Selection

This study comprises a sample of 304 companies listed on Bursa Malaysia as of December 31, 2021. The research spans four years, from 2018 to 2021, resulting in a total of 1,216 year-observations. The sample selection employs a stratified random sampling technique, considering the percentage representation of companies across various industries on the Main Board. Excluded from this selection are companies in the finance, real estate investment trusts (REITs), and closed-end funds industries. Data pertaining to financial performance, strategy risk, operational risk, reporting risk, compliance risk, company size, and leverage will be gathered from the Thomson Reuters Eikon Datastream, as well as annual reports or reference documents available on the online website. Table 2 provides a summary of the total number of samples utilized in this study.

Table 2.

Summary of total sample.

Initial sample (Companies listed in main board market Bursa Malaysia)	782
Excluding REITs and unavailable annual reports or incomplete data (2018-2021)	(478)
Total sample	304
Final sample for 4 years (2018 - 2021)	1,216

3.2. Variables Measurement

To fulfill the study's objective, Tobin's Q is utilized as the proxy for firm performance, serving as the dependent variable. Meanwhile, strategy, operational, reporting, and compliance risks serve as independent variables of effective risk management. The control variables are firm size and leverage. Table 3 shows the measurement of this study's variables.

Table 3.

A summary of variables measurements.

No.	Variables	Acronym	Measurement	References
1.	Dependent (DV) financial performance	FP	Tobin's Q = Natural logarithm of the market value of firm/Total assets	Mohammad, et al. [8]
Independent variable				
2.	Strategy risk	SR	(i) Sales opportunities where sales _i = Sales of firm <i>i</i> in a year, Usales = Average industry sales, and std Dev sales = Standard deviation of sales of all firms in the same industry. (ii) Successful strategy or not where $\Delta\beta_i = -(\beta_i \text{ in current year } - \beta_i \text{ in previous year})$; β_i = firm <i>i</i> 's beta; $\mu\Delta\beta$ = average industry $\Delta\beta_i$ in the current year; and $\sigma\Delta\beta$ = standard deviation of $\Delta\beta_i$ of all firms in the same industry.	Gordon, et al. [12] and Światowiec-Szczepańska and Stępień [16]

No.	Variables	Acronym	Measurement	References
3.	Operational risk	OR	(i) Operating efficiency Operation1 = Sales/Total assets (ii) Input-output ratio Operation2 = Log of sales/Number of employees	Gordon, et al. [12] and Walker [36]
4.	Reporting risk	RR	(i) Poor reporting reliability Reporting1 = Auditor opinion + Restatement * If a company receives unqualified opinions in the auditor's report for its financial reporting, the auditor opinion is assigned a value of 0; otherwise, it is assigned a value of -1. Restatement is also treated as a decrease in a firm's reporting reliability. If a company declares a restatement, the restatement is assigned a value of -1; otherwise, it is assigned a value of 0. Consequently, the reporting range is from -2 to 0. (ii) The absolute value of normal accruals. Reporting2 = Absolute values of *normal accruals divided by the sum of the absolute value of normal and **abnormal accruals (estimated using the cross-sectional Jones [37] accruals estimation model). * Normal accruals = Total accruals – Abnormal accruals #total accrual = Income before extraordinary items – operating cash flow	Gordon, et al. [12] and Atan, et al. [9]
5.	Compliance risk	CR	(i) The proportion of auditor's fees to net sales revenue. Compliance1 = Auditor fees / Total assets (ii) Settlement net gain (Loss) Compliance2 = Settlement net gain (Loss) / Total assets	Gordon, et al. [12] and Parker and Nielsen [38]
Control variable				
6.	Company size	SIZE	The natural logarithm of the company's total assets	Rimin, et al. [39]
7.	Leverage	LVG	The proportion of total long-term liabilities to total assets	Rimin, et al. [39]

4. Data Analysis and Discussion

4.1. Descriptive Analysis

Table 4 presents eleven industries selected from Bursa Malaysia websites as the samples for this study. The findings reveal that the top three industries were Industrial Products and Services, comprising 29.3%, followed by Consumer Products and Services at 24.0%, with property accounting for 14.1%. In contrast, the least sampled industry was Telecommunication and Media, representing only 1.6%.

Table 4.
Frequency of sample of study.

No.	Types of business industry	Frequency	Percentage (%)
1	Construction	20	6.6
2	Consumer products and services	73	24.0
3	Energy	11	3.6
4	Health care	6	2.0
5	Industrial products and services	89	29.3
6	Plantation	19	6.3
7	Property	43	14.1
8	Technology	18	5.9
9	Telecommunication and media	5	1.6
10	Transportation and logistics	14	4.6
11	Utilities	6	2.0
Total		304	100

Table 5 presents descriptive statistics for additional variables. The Tobin's Q within the sample ranges from a minimum of -5.69% to a maximum of 40.79%. A score exceeding 1.0255% suggests company growth based on the market value of the company's stock.

In terms of strategy risk, the range spans from -1.77 to 5.29, with a mean of 0.0069 and a standard deviation of 0.707. Operational risk ranges from 0.00 to 19326.78, exhibiting a mean of 547.0184 and a standard deviation of 1370.261. Meanwhile, concerning reporting risk, the data ranges from -0.50 to 0.51, exhibiting a mean of 0.4794 and a standard deviation of 0.10341. In the case of compliance risk, the span extends from -0.10 to 0.40, with a mean of 0.0008 and a standard deviation of 0.013. Regarding the independent variables, operational risk demonstrates the highest mean value among the four risk variables. The mean value for operational risk is 547.0184, signifying a notable exposure to operational loss. Consequently, Table 5 illustrates that the mean value for reporting risk stands at 48% (0.4794). Conversely, the average value of strategy risk is notably lower than the two variables, standing at 0.69% (0.0069), while compliance risk exhibits the lowest mean of 0.0008. Furthermore, the leverage, as shown in Table 5, ranges from a minimum of 0% to a maximum of 129.62%. The reported firm size has a mean value of RM3,668,825.039, with a minimum value of RM434 and a maximum value of RM182,228,000.

Table 5.
Descriptive statistics for all variables.

Variables	N	Mean	Standard deviation	Min.	Max.
Tobins Q	1216	1.0255	2.511	-5.69	40.79
Strategy risk	1216	0.0069	0.707	-1.77	5.29
Operational risk	1216	547.0184	1370.261	0.00	19326.78
Reporting risk	1216	0.4794	0.103	-0.50	0.51
Compliance risk	1216	0.0008	0.013	-0.10	0.40
Leverage	1216	2.0819	5.708	0.000	129.62
Firm size	1216	3668825.039	14084077.44	434	182228000

4.2. Multiple Regression

Table 6 presents multiple regression results for the model. R-square is reported at 44.5%, indicating that the model is explained by all independent variables ($R^2 = 0.445$, $F = 161.701$, $p\text{-value} = 0.000 < 0.05$). The model is significant as the F-value = 161.701 and the p-value = 0.000, which is less than 0.05 ($p < 0.05$).

The outcome concerning strategic risk indicates a positively significant impact on financial performance, with a coefficient of 0.263, $t = 10.567$, and $p = 0.000$. Strategic risk is notably linked to financial performance at a significance level of $p < 0.05$. This finding aligns with the findings of Lim and McCann [40], demonstrating that the previous values of director stock option grants would elevate the intensity of strategic risk-taking. On the other hand, this is not consistent with the finding by Singh and Hong [24], which showed that the risk drivers are discovered to be negatively correlated with the financial success of firms, which is a significant concrete effect of strategic practices across the supply chain network. Based on agency theory, this can also reduce asymmetry in information and agency costs in organizations, as strategic risk also significantly influences financial performance. Thus, H1 is supported.

The analysis of operational risk reveals a significant and positive relationship with financial performance, with a coefficient of $7.118E-5$, $t = 6.194$, $p < 0.05$. This finding aligns with the findings of Fadun and Oye [30], who demonstrated a positive and significant correlation between operational risk and firm performance, measured by return on equity (ROE) and return on assets (ROA). The results suggest that higher operational risk is associated with better bank performance, supporting H2.

Moving on to reporting risk's impact on financial performance, the results show a significant and positive relationship, with a coefficient of 0.407, $t = 2.709$, $p < 0.05$. This outcome is in line with the findings of Halim, et al. [33], indicating a positive correlation between the quality of reporting and financial performance. Therefore, H3 is supported.

In contrast, the analysis of compliance risk in relation to financial performance yields a negatively significant result, with a coefficient of -6.014, $t = -5.106$, $p < 0.05$. This outcome is consistent with the findings of Atan, et al. [9], suggesting that adherence to standards and guidelines has an impact on firm performance. Consequently, H4 is also supported.

Table 6.
Multiple regression.

Model	DV: Firm performance		
R	0.667		
R ²	0.445		
Adjusted R ²	0.442		
F-statistic (P-value)	161.701		
Model sig.	0.001***		
Independent variables	β	t	Sig.
Constant	5.486	72.823	0.000
Strategy	0.263	10.567	0.000***
Operation	$7.118E-5$	6.194	0.000***
Reporting	0.407	2.709	0.007**
Compliance	-6.014	-5.106	0.000***
Leverage	0.005	1.803	0.072*
Company size	$2.225E-8$	18.496	0.000***

Note: t statistics in parentheses, * $p < 0.10$, ** $p < 0.05$, *** $p < 0.001$.

5. Conclusion

This study seeks to assess the impact of effective risk management on the financial performance of publicly listed companies in Malaysia. Utilizing panel data analysis, financial information is extracted

from the Thomson Reuters Datastream over a four-year period (2018–2021) for 304 companies listed on Bursa Malaysia, resulting in 1216 year-observations. The effectiveness of risk management is gauged by achieving the objectives associated with the four risk categories outlined by Coso [11], namely strategy, operational, reporting, and compliance risks. The findings of this study illustrate that effective risk management, particularly in terms of addressing risks and adverse events, has a discernible influence on firm performance. Such insights can prove valuable for shareholders in their investment decision-making. This aligns with the requirements of the Financial Reporting Act of 1997 and Bursa Malaysia listing regulations, which mandate companies to disclose their financial status, management, and operations. This disclosure enables shareholders and investors to assess the company's performance during the financial period.

This study offers valuable empirical insights into the impact of risk management on the financial performance of publicly listed companies in Malaysia across eleven industries, including construction, consumer products and services, energy, healthcare, industrial products and services, plantations, property, technology, telecommunication and media, transportation and logistics, and utilities. The research contributes to enhancing knowledge and comprehension of risk management practices among publicly listed companies on the Main Board Market of Bursa Malaysia for stakeholders and users of accounting information. Additionally, it highlights critical risks that many companies may not effectively manage in a timely manner.

However, certain limitations exist in this study. Firstly, the focus is exclusively on publicly listed companies in Malaysia on the Main Board of Bursa Malaysia. Future research could broaden its scope to include all listed companies across ASEAN countries, providing a clearer depiction of the impact of risk management practices on firm performance. Furthermore, the study solely examines selected risks based on Coso [11]. To delve deeper, other types of risks, such as financial risk, reputational risk, and health and safety risk, could be explored to understand their influence on firm performance in developing countries. This broader investigation aims to uncover and comprehend significant risks influencing firm performance in emerging countries.

Funding:

This research is supported by the Fundamental Research Grant Scheme by the Ministry of Higher Education of Malaysia (Grant number: FRGS/1/2021/SS01/UITM/01/1).

Institutional Review Board Statement:

The Ethical Committee of the Universiti Teknologi MARA, Malaysia has granted approval for this study on 2 November 2022 (Ref. No. FEBRC/AC/56/2022).

Transparency:

The authors confirm that the manuscript is an honest, accurate, and transparent account of the study; that no vital features of the study have been omitted; and that any discrepancies from the study as planned have been explained. This study followed all ethical practices during writing.

Competing Interests:

The authors declare that they have no competing interests.

Authors' Contributions:

All authors contributed equally to the conception and design of the study. All authors have read and agreed to the published version of the manuscript.

Copyright:

© 2024 by the authors. This article is an open access article distributed under the terms and conditions of the Creative Commons Attribution (CC BY) license <https://creativecommons.org/licenses/by/4.0/>.

References

- [1] J. E. Spillan, J. A. Parnell, M. A. Koseoglu, and E. Akdeve, "Strategic capabilities, niche strategy orientation and performance: A four-nation assessment," *International Journal of Business Performance Management*, vol. 19, no. 4, pp. 427-449, 2018. <https://doi.org/10.1504/ijbpm.2018.10013735>
- [2] C. Florio and G. Leoni, "Enterprise risk management and firm performance: The Italian case," *The British Accounting Review*, vol. 49, no. 1, pp. 56-74, 2017.
- [3] E. Karyani, S. A. Dewo, B. Frensidy, and W. Santoso, "Role of risk governance in promoting operational risk disclosure and performance: An Asean-5 banking perspective," *International Journal of Business and Society*, vol. 20, no. 3, pp. 1218-1235, 2019.
- [4] F. Rimin, I. Bujang, A. Wong Su Chu, and J. Said, "The effect of a separate risk management committee (RMC) towards firms' performances on consumer goods sector in Malaysia," *Business Process Management Journal* vol. 27, no. 4, pp. 1200-1216, 2021. <https://doi.org/10.1108/bpmj-06-2020-0265>
- [5] P. Linsley and P. Shrivess, "Risk management and reporting risk in the UK," *Journal of Risk*, vol. 3, pp. 115-129, 2006. <https://doi.org/10.21314/jor.2000.034>
- [6] M. McAleer, "Prevention is better than the cure: Risk management of COVID-19," *Journal of Risk and Financial Management*, vol. 13, no. 3, pp. 46-50, 2020.
- [7] O. Rodríguez-Espíndola, S. Chowdhury, P. K. Dey, P. Albores, and A. Emrouznejad, "Analysis of the adoption of emergent technologies for risk management in the era of digital manufacturing," *Technological Forecasting and Social Change*, vol. 178, p. 121562, 2022. <https://doi.org/10.1016/j.techfore.2022.121562>
- [8] N. Mohammad, R. F. Ismail, S. Zainon, and J. Mohd Abdul Kadir, "Corporate governance and operational risk disclosure: Evidence from Shariah-compliant companies in Malaysia," *Asia-Pacific Management Accounting Journal*, vol. 16, no. 3, pp. 31-53, 2021.
- [9] R. Atan, E. N. S. Maruhun, W. H. W. Abdul, and K. Jusoff, "Annual risk reporting of listed companies in Malaysia," *Journal of Modern Accounting and Auditing*, vol. 6, no. 8, p. 26, 2010. <https://doi.org/10.22164/isea.v4i2.50>
- [10] B. W. Nocco and R. M. Stulz, "Enterprise risk management: Theory and practice," *Journal of Applied Corporate Finance*, vol. 18, no. 4, pp. 8-20, 2006. <https://doi.org/10.1079/9781780648798.0203>
- [11] I. Coso, "Enterprise risk management-integrated framework," *Committee of Sponsoring Organizations of the Treadway Commission*, vol. 2, 2004.
- [12] L. A. Gordon, M. P. Loeb, and C. Y. Tseng, "Enterprise risk management and firm performance: A contingency perspective," *Journal of Accounting and Public Policy*, vol. 28, no. 4, pp. 301-327, 2009. <https://doi.org/10.1016/j.jaccpubpol.2009.06.006>
- [13] L. Syrová and J. Špička, "Exploring the indirect links between enterprise risk management and the financial performance of SMEs," *Risk Management*, vol. 25, no. 1, p. 1, 2023. <https://doi.org/10.1057/s41283-022-00107-9>
- [14] T. T. Y. Alabdullah, "Management accounting insight via a new perspective on risk management companies' profitability relationship," *International Journal of Intelligent Enterprise*, vol. 9, no. 2, pp. 244-257, 2022. <https://doi.org/10.1504/ijie.2022.121752>
- [15] S. Moudud-Ul-Huq, C. Zheng, A. D. Gupta, S. A. Hossain, and T. Biswas, "Risk and performance in emerging economies: Do bank diversification and financial crisis matter?," *Global Business Review*, vol. 24, no. 4, pp. 663-689, 2023. <https://doi.org/10.1016/j.ememar.2015.04.004>
- [16] J. Światowiec-Szczepańska and B. Stępień, "Drivers of digitalisation in the energy sector—The managerial perspective from the catching up economy," *Energies*, vol. 15, no. 4, p. 1437, 2022. <https://doi.org/10.3390/en15041437>
- [17] M. Orlitzky, F. L. Schmidt, and S. L. Rynes, "Corporate social and financial performance: A meta-analysis," *Organisation Studies*, vol. 24, no. 3, pp. 403-441, 2003.
- [18] R. M. Dicu, I.-B. Robu, G.-M. Aevoae, and D.-N. Mardiros, "Rethinking the role of m&as in promoting sustainable development: Empirical evidence regarding the relation between the audit opinion and the sustainable performance of the Romanian target companies," *Sustainability*, vol. 12, no. 20, p. 8622, 2020. <https://doi.org/10.3390/su12208622>
- [19] A. Galant and S. Cadez, "Corporate social responsibility and financial performance relationship: A review of measurement approaches," *Economic Research-Ekonomska Istraživanja*, vol. 30, no. 1, pp. 676-693, 2017. <https://doi.org/10.1080/1331677x.2017.1313122>
- [20] T. Phan, T. Dang, T. Nguyen, T. Ngo, and T. Hoang, "The effect of enterprise risk management on firm value: Evidence from Vietnam industry listed enterprises," *Accounting*, vol. 6, no. 4, pp. 473-480, 2020. <https://doi.org/10.5267/j.ac.2020.4.0011>
- [21] E. M. Al-Matari, A. K. Al-Swidi, and F. H. B. Fadzil, "The measurements of firm performance's dimensions," *Asian Journal of Finance & Accounting*, vol. 6, no. 1, p. 24, 2014.

- [22] M. L. Markus and C. Tanis, "The enterprise systems experience—from adoption to success," *Framing the Domains of IT Research: Glimpsing the Future Through the Past*, vol. 173, no. 2000, pp. 207–173, 2000.
- [23] R. E. Spekman and E. W. Davis, "Risky business: Expanding the discussion on risk and the extended enterprise," *International Journal of Physical Distribution & Logistics Management*, vol. 34, no. 5, pp. 414–433, 2004.
- [24] N. P. Singh and P. C. Hong, "Impact of strategic and operational risk management practices on firm performance: An empirical investigation," *European Management Journal*, vol. 38, no. 5, pp. 723–735, 2020. <https://doi.org/10.1016/j.emj.2020.03.003>
- [25] J. Gualandris, H. Legenvre, and M. Kalchschmidt, "Exploration and exploitation within supply networks: Examining purchasing ambidexterity and its multiple performance implications," *International Journal of Operations & Production Management*, vol. 38, no. 3, pp. 667–689, 2018. <https://doi.org/10.1108/ijopm-03-2017-0162>
- [26] N. Alsaadi and N. Norhayatizakuan, "The impact of risk management practices on the performance of construction projects," *Estudios de Economía Aplicada*, vol. 39, no. 4, pp. 1–10, 2021. <https://doi.org/10.25115/eea.v39i4.4164>
- [27] P. P. Biancone, M. Z. Shakhathreh, and M. Radwan, "Operational risk management disclosure in Islamic banks in risk management: Perspectives and open issues. A multi-disciplinary approach," McGraw-Hill Education, 2016, pp. 62–78.
- [28] J. Ruiz-Canela López, "How can enterprise risk management help in evaluating the operational risks of a telecommunications company?," *Journal of Risk and Financial Management*, vol. 14, no. 3, p. 139, 2021. <https://doi.org/10.3390/jrfm14030139>
- [29] J. G. Muriithi and K. M. Waweru, "Operational risk, bank size and the financial performance of commercial banks in Kenya," *Journal of Finance & Banking Studies*, vol. 6, no. 3, pp. 39–50, 2017. <https://doi.org/10.20525/ijfbs.v6i3.691>
- [30] O. S. Fadun and D. Oye, "Impacts of operational risk management on financial performance: A case of commercial banks in Nigeria," *International Journal of Finance & Banking Studies*, vol. 9, no. 1, pp. 22–35, 2020. <https://doi.org/10.20525/ijfbs.v9i1.634>
- [31] S. Roychowdhury, N. Shroff, and R. S. Verdi, "The effects of financial reporting and disclosure on corporate investment: A review," *Journal of Accounting and Economics*, vol. 68, no. 2–3, p. 101246, 2019.
- [32] M. Feng, C. Li, S. E. McVay, and H. Skaife, "Does ineffective internal control over financial reporting affect a firm's operations? Evidence from firms' inventory management," *The Accounting Review*, vol. 90, no. 2, pp. 529–557, 2015. <https://doi.org/10.2308/accr-50909>
- [33] E. H. Halim, G. Mustika, R. N. Sari, R. Anugerah, and Z. Mohd-Sanus, "Corporate governance practices and financial performance: The mediating effect of risk management committee at manufacturing firms," *Journal of International Studies*, vol. 10, no. 4, 2017. <https://doi.org/10.14254/2071-8330.2017/10-4/21>
- [34] G. F. Sambera and W. Meiranto, "Analysis of board characteristics and firm characteristics on the establishment of risk management committee," *Diponegoro Journal of Accounting*, vol. 2, no. 3, pp. 1–14, 2013.
- [35] A. Shamsaei, A. Pourshahid, and D. Amyot, "Business process compliance tracking using key performance indicators," presented at the In Business Process Management Workshops: BPM 2010 International Workshops and Education Track, Hoboken, NJ, USA, September 13–15, 2010, Revised Selected Papers 8 (pp. 73–84). Springer Berlin Heidelberg, 2011.
- [36] R. Walker, "The increasing importance of operational risk in enterprise risk management," *The Journal of Enterprise Risk Management*, vol. 1, no. 1, pp. 82–96, 2015.
- [37] J. J. Jones, "Earnings management during import relief investigations," *Journal of Accounting Research*, vol. 29, no. 2, pp. 193–228, 1992.
- [38] C. Parker and L. V. Nielsen, "Corporate Compliance systems: Could they make any difference," *Journal of Administration & Society*, vol. 41, no. 1, pp. 3–37, 2009. <https://doi.org/10.1177/0095399708328869>
- [39] F. Rimin, I. Bujang, A. Wong Su Chu, and J. Said, "The effect of a separate risk management committee (RMC) towards firms' performances on consumer goods sector in Malaysia," *Business Process Management Journal*, vol. 27, no. 4, pp. 1200–1216, 2021. <https://doi.org/10.1108/bpmj-06-2020-0265>
- [40] E. N. Lim and B. T. McCann, "Performance feedback and firm risk taking: The moderating effects of CEO and outside director stock options," *Organization Science*, vol. 25, no. 1, pp. 262–282, 2014.