

## Risk Communication and Financial Performance in Higher Education: The Mediating Role of Enterprise Risk Management

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### Abstract

This study investigates the effect of risk communication on the financial performance of Malaysian public higher education institutions, with the implementation of enterprise risk management (ERM) serving as a mediating variable. Drawing on social exchange theory, a conceptual framework was developed in this study. Primary data were collected through an online cross-sectional survey of risk committee members, internal auditors, and top management (n = 212) across 20 institutions, selected using a multistage sampling approach. Covariance-based structural equation modeling (CB-SEM) confirmed that effective risk communication significantly enhances financial outcomes, both directly and through ERM implementation. Findings underscore ERM's pivotal mediating role in translating communication into financial resilience. The study furnishes higher-education leaders with actionable strategies for sustaining institutional financial stability through integrated risk communication and ERM frameworks.

**Keywords** *risk communication, financial performance, enterprise risk management, higher education, Malaysia*

### INTRODUCTION

The modern landscape of Malaysian public higher education (PHE) is characterized by ongoing transformation, marked by significant growth and increasing international recognition in recent years (Ahmad et al., 2023; Tham & Chong, 2023). Although improvements in teaching quality and research output have been noted, universities continue to face financial challenges, including dependence on government funding, revenue fluctuations, and inadequate income generation (Da Wan et al., 2022; Said et al., 2023). These financial obstacles are partly linked to insufficient communication frameworks that impair institutional adaptability and performance (Mustaffa et al., 2022; Syihabuddin et al., 2025).

Effective risk communication at all administrative levels is crucial for timely information sharing and proactive responses to financial uncertainties, which in turn fosters competitive resilience (Nachkebia, 2022; Olugbo et al., 2023). In this context, Enterprise Risk Management (ERM) has become increasingly significant as a strategic framework that bolsters financial sustainability, specifically within Malaysian public higher education (PHE). Empirical research has consistently demonstrated a positive link between the adoption of ERM and the financial performance of higher education institutions (Setapa et al., 2020; Yin et al., 2023). However, the incorporation of risk communication into ERM frameworks in Malaysian public higher education (PHE) remains underexplored.

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To address this gap, this study investigates the impact of structured risk communication on financial outcomes in Malaysian public higher education (PHE), using ERM implementation as a mediating factor. This study contributes to the literature on risk communication by elucidating its practical role in promoting the implementation of Enterprise Risk Management (ERM) and bolstering institutional financial resilience. To guide this investigation, several research questions are posed. Therefore, this study aims to examine how risk communication impacts the financial performance of Malaysian PHE and how it influences the implementation of enterprise risk management (ERM) within these institutions. It also assesses the extent to which ERM contributes to improved financial outcomes. Ultimately, this study investigates whether ERM mediates the relationship between risk communication and financial performance, providing insights into its strategic role in enhancing financial resilience.

## LITERATURE REVIEW

### Risk Communication (RC)

Risk communication (RC) involves the organized and intentional sharing of risk-related information among stakeholders, forming the basis for successful Enterprise Risk Management (ERM) in higher education. In higher education institutions, RC must facilitate dialogue between risk experts, internal auditors, and governance bodies to create a mutual understanding of emerging threats and countermeasures (Liu et al., 2021; Schwarz et al., 2024). Recent empirical research suggests that when risk communication (RC) is clear, consistent, and timely, in alignment with the ISO 31000 and COSO ERM frameworks, universities exhibit stronger risk identification and management processes, resulting in improved financial resilience (Gleißner & Berger, 2024; Liu et al., 2021).

Effective risk communication encompasses more than just transferring data; it requires converting complex risk information into simple language and ensuring that key details are conveyed across all levels of the organization, from executives to frontline personnel. According to Schwarz et al. (2024), organizations that utilize dashboards, regular briefings, and online platforms can minimize misunderstandings and enhance the speed of risk management responses. This improved clarity enables stakeholders to recognize and respond to risks promptly, thereby enhancing the effectiveness of enterprise risk management (ERM) (Bamber & Elezi, 2024). Additionally, interactive risk communication (RC) frameworks, including workshops, town halls, and cross-functional committees, encourage collaborative learning and shared accountability, aligning with the social exchange theory that emphasizes how open risk communication nurtures a collective commitment to risk management (Maddah et al., 2022).

RC's function as a facilitator of ERM is notably supported in the context of Malaysian higher education. Research by Setapa et al. (2020) found that institutions employing multilevel risk communication strategies exhibited greater ERM maturity and better self-generated revenue outcomes. This finding aligns with global research that shows risk communication feedback loops significantly improve risk management, support adaptive decision-making in crises, and foster financial stability (Bamber & Elezi, 2024; Gleißner & Berger, 2024). These results emphasize that RC is not supplementary but essential for the success of ERM in resource-limited environments susceptible to uncertainties and volatility.

In conclusion, risk communication serves as the independent variable in this study, facilitating the proper flow and understanding of risk knowledge. When effectively implemented through clarity, timeliness, stakeholder involvement, and knowledge integration, risk communication turns static risk registers into dynamic systems of awareness and accountability. This change supports ERM implementation and ultimately enhances financial performance in Malaysian public higher education institutions.

### **Enterprise Risk Management (ERM)**

Enterprise Risk Management (ERM) extends beyond the mere provision of tools; it serves as a comprehensive framework that supports institutions in their processes of identifying, assessing, mitigating, monitoring, and communicating risks. Contemporary ERM frameworks, like COSO (2004) and ISO 31000:2018, recommend iterative cycles of risk governance, integrating risk practices into strategic, operational, and financial management (International Organization for Standardization, 2018; Bamber & Elezi, 2024). Empirical research has demonstrated that when universities implement ERM frameworks tailored to their unique contexts, they improve decision-making agility and institutional resilience (Setapa et al., 2020; Yin et al., 2023). In Malaysian higher education, characterized by significant revenue fluctuations and regulatory challenges, the adoption of Enterprise Risk Management (ERM) has been correlated with improved financial metrics, including income diversification and lower capital costs (Shad et al., 2022; Yin et al., 2023).

The strengths of ERM frameworks become clear through their practical implementation. COSO presents a comprehensive, multidimensional strategy suitable for intricate institutional frameworks, but its complexity can be a challenge for public institutions with limited resources (Barreto et al., 2023; COSO, 2004). On the other hand, ISO 31000:2018 focuses on principles-based guidance that is more adaptable and preferred by over 60% of educational institutions globally due to its flexibility and alignment with strategic goals (International Organization for Standardization, 2018; Febiyanti et al., 2024). Case studies from Indonesia and Australia suggest that adopting an ISO-based Enterprise Risk Management (ERM) enhances operational transparency and reinforces risk governance without imposing unnecessary procedural burdens (Barreto et al., 2023; Febiyanti et al., 2024; Setapa et al., 2020).

The successful implementation of Enterprise Risk Management (ERM) relies not only on selecting a robust framework but also on developing internal capacity and establishing effective governance structures. University boards and risk committees must take an active role in risk oversight, ensuring that Enterprise Risk Management (ERM) outputs are aligned with strategic performance metrics, such as budgets and key risk indicators (Bamber & Elezi, 2024; Gleißner & Berger, 2024). Research indicates that institutions with robust governance practices, regular risk reporting, well-established escalation procedures, and alignment with internal audits tend to achieve higher levels of Enterprise Risk Management (ERM) maturity and improved financial performance (Abdullah et al., 2024; Shad et al., 2022; Siwaromaya et al., 2024). Additionally, increased ERM maturity is linked to organizational value creation, as demonstrated by lowered costs of equity, greater stakeholder confidence, and improved sustainability outcomes (Shad et al., 2022; Rauf et al., 2020).

In summary, the implementation of ERM plays a crucial role as a mediator between risk and performance. When Malaysian public higher education institutions adopt structured Enterprise Risk Management (ERM) frameworks, ideally ISO 31000, and align them with governance, reporting, and capacity frameworks, they can convert risk into a strategic asset, leading to enhanced financial results and institutional effectiveness resilience.

### **Financial Performance (FP)**

In public higher education, financial performance signifies an institution's ability to generate reliable and sustainable income that meets its academic and operational goals. This metric has increasingly drawn the attention of policymakers as a crucial measure of institutional success and independence (Kuzmina et al., 2021; Kadir, 2020). To excel and improve their competitive edge, universities need to secure solid financial resources through tuition, research grants, consulting, endowments, and commercialization (Mathieson, 2021; Shad et al., 2022; Yu et al., 2022). As a result, institutions with strong financial performance can reinvest in teaching, research, student

services, and community contributions, thus strengthening their mission and long-term sustainability.

In assessing financial outcomes, researchers often emphasize financial indicators such as research income, program fees, grants, endowments, and revenues from intellectual property as more relevant to PHE than traditional non-financial metrics (Jaafar et al., 2021; Kimathi & Irungu, 2024; Rahman, 2025). These indicators provide clear insights into an institution's ability to leverage various revenue streams, which is crucial given the decline in government funding and increased competition for external resources (Mathieson, 2021; Kadir, 2020). A longitudinal study of ASEAN universities found a strong correlation between greater diversification of revenue sources and enhanced financial resilience and institutional risk tolerance (Bamber & Elezi, 2024).

Additionally, measuring financial performance acts as a strategic guide for making risk and crisis decisions. For instance, changes in grant awards or consultancy income can serve as early warning signs, prompting institutional actions such as budget adjustments or enhanced Enterprise Risk Management (ERM) processes (Shad et al., 2022). These proactive strategies align with social exchange theory: transparent financial reporting fosters trust among stakeholders, including external funders, accreditation agencies, and internal groups, ultimately strengthening the institutional reputation and support (Gleißner & Berger, 2024).

Nevertheless, the literature warns against depending exclusively on financial metrics. Variables such as institutional mission, academic composition, and regulatory environment can make direct comparisons challenging (Kuzmina et al., 2021; Bamber & Elezi, 2024). Consequently, scholars advocate for a balanced approach that complements financial metrics with qualitative indicators, including student achievement, faculty research excellence, and stakeholder involvement (Mathieson, 2021; Kimathi & Irungu, 2024). Nonetheless, we continue to emphasize financial indicators, as they are critical for understanding the direct benefits of ERM implementation and enhancing risk transparency.

In conclusion, the financial performance of PHE serves as a crucial dependent variable, indicating the institution's financial health and resilience. Transparent and varied revenue metrics provide vital insights into how risk-informed choices, primarily through Enterprise Risk Management (ERM), foster sustainable financial outcomes, thereby strengthening the study's emphasis on connecting risk communication, ERM execution, and institutional effectiveness in finance.

### **Relationship Between Risk Communication, Enterprise Risk Management, And Financial Performance**

Multiple studies indicate that effective risk communication (RC), defined by clarity, timeliness, and two-way engagement, is essential for successful enterprise risk management (ERM) in higher education institutions.

Firstly, efficient risk communication (RC) develops a common understanding of risk information among stakeholders within the organization. Research by Liu et al. (2021) revealed that universities with structured communication methods, such as regular briefings, dashboards, and feedback mechanisms, exhibited significantly enhanced ERM maturity and higher levels of risk awareness. Likewise, Setapa et al. (2020) demonstrated that inclusive, multilevel research communication has a positive impact on both the implementation of ERM and revenue diversification in higher education. This finding supports social exchange theory, which posits that open communication fosters mutual engagement and shared responsibility for risk management (Maddah et al., 2022).

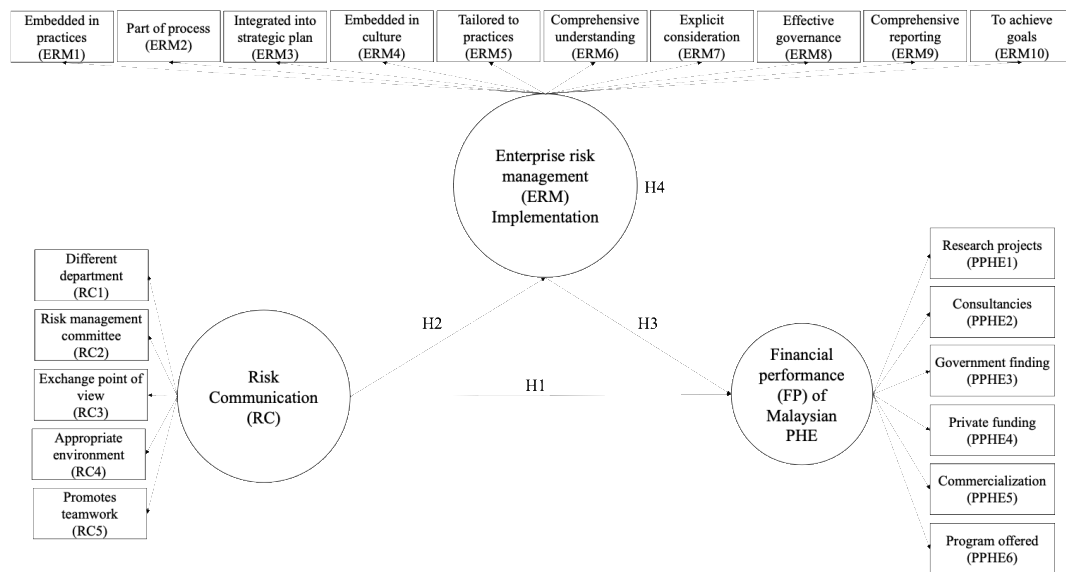
Second, the clarity and accessibility of risk messages influence the effectiveness of Enterprise Risk Management (ERM). [Schwarz et al. \(2024\)](#) found that simplifying complex risk science into straightforward language facilitated swift mitigation actions, enhancing ERM performance. [Gleißner and Berger \(2024\)](#) further contend that effectively communicated risk data enables leadership to incorporate ERM data into strategic planning, resulting in tighter budget controls and improved operational efficiency and resilience.

Ultimately, the implementation of Enterprise Risk Management (ERM) is closely linked to improved financial outcomes, particularly in financially constrained public institutions. [Shad et al. \(2022\)](#) demonstrated that adopting ERM significantly lowers the cost of capital. In contrast, [Anton et al. \(2025\)](#), [Shah et al. \(2024\)](#), and [Yin et al. \(2023\)](#) indicated that institutions employing ERM experience increased research revenue and a more diverse funding base. This implies that viewing ERM as a mediator between risk communication (RC) and financial performance not only fosters effective RC but also promotes ERM adoption, ultimately leading to better financial performance in higher education institutions.

### **Enterprise Risk Management as a Mediator**

While previous research has thoroughly explored the direct impact of risk communication on financial performance and the effects of enterprise risk management (ERM) on organizational outcomes, a significant gap remains regarding ERM's mediating function between risk communication and financial performance within public higher education. Recent empirical studies suggest that this relationship is indeed valuable. [Gleißner and Berger \(2024\)](#) discovered that effective and structured risk communication is a strong predictor of ERM maturity in universities, which in turn improves the integration of risks into strategic planning and financial management. Likewise, [Liu et al. \(2021\)](#) found that institutions that actively engage in comprehensive risk discussions achieve more success in implementing ERM. The contribution of ERM to financial performance is well-established, as noted by [Shad et al. \(2022\)](#), who indicated that the adoption of ERM in public universities resulted in lower capital costs. [Anton et al. \(2025\)](#), [Shah et al. \(2024\)](#), and [Yin et al. \(2023\)](#) further confirmed that institutions with integrated ERM experience greater levels of diverse and sustainable income. Based on social exchange theory, transparent and timely risk communication fosters mutual trust and organizational coherence, enabling ERM systems to operate effectively and generate financial benefits. Thus, this study aims to fill these gaps by providing empirical evidence on the link between risk communication and financial performance, particularly highlighting the mediating role of Enterprise Risk Management (ERM) within Malaysian public higher education (PHE).

## Conceptual Framework



**Figure 1.** Conceptual Framework

Drawing from the examined literature, this study proposes the following hypothesis:

1. Risk communication is positively associated with financial performance in Malaysian PHE. (H1)
2. Risk communication is positively associated with enterprise risk management in Malaysian PHE. (H2)
3. Enterprise risk management is positively associated with financial performance in Malaysian PHE. (H3)
4. Enterprise risk management mediates the relationship between risk communication and financial performance in Malaysian PHE. (H4)

## RESEARCH METHOD

### Research Design

This study employs a quantitative research design to examine the proposed hypotheses and explore the connections between risk communication, enterprise risk management, and financial performance. This quantitative approach is appropriate for this study because it facilitates the collection of numerical data and the use of statistical methods to analyze the relationships among the variables. The multistage sampling method will also be employed, utilizing both probability and non-probability sampling. The use of multistage sampling methods has been recommended by [Abowitz and Toole \(2009\)](#) as it can help to overcome some of the inherent limitations of the single-stage sampling method, thus contributing to more reliable findings ([Shan et al., 2014](#)).

### Population and Sampling

The population for this study comprises risk committees (RCs), internal auditors (IAs), and top management (TMs) from all Malaysian Public Health Education (PHE). Initially, utilizing the database and resources available on the websites of the 20 Malaysian PHEs accessed from 2025, this study estimates a population size of approximately 350 key informants. Then, to gather a range of perspectives from parts of Malaysian PHE, the stratified sampling was used based on the three groups mentioned earlier, which consist of 60 risk committees, 94 internal auditors, and 196 top management. This method allows for the creation of a sample that accurately represents Malaysian

PHE. Of the 94 internal auditors from a population of 350 at the university, they are responsible for ensuring accountability in financial management, reviewing the accuracy and reliability of financial information, and identifying ways to measure and report that financial information, especially in terms of income generation. For the risk committees, the probability census sampling method was used since the population (N) is small and manageable in terms of accessibility during data collection (Kothari, 2004). Therefore, this study will target all the risk committees from all Malaysian PHEs (n = 60).

Meanwhile, the total population (N) for internal auditors and top management consists of 94 and 196, respectively. The sample size for this study has been determined using the sample size table established by Krejcie and Morgan (1970) and Saunders et al. (2019), which recommends sample sizes of 75 and 130 for internal auditors and top management, respectively. Below is Table 1, which shows the distribution of respondents by university, providing sufficient data for the analyses.

**Table 1. Distribution of respondents by university**

No.	University Name	Target Respondents			Total	Sample Size			Total
		RCs	IAs	TMs		RCs	IAs	TMs	
1.	Universiti Teknologi Malaysia	3	6	15	24	3	5	10	18
2.	Universiti Malaya	3	8	7	18	3	6	5	14
3.	Universiti Kebangsaan Malaysia	3	5	13	21	3	4	9	16
4.	Universiti Sains Malaysia	3	6	12	21	3	5	8	16
5.	Universiti Putra Malaysia	3	7	9	19	3	6	6	15
6.	Univeristi Utara Malaysia	3	4	14	21	3	3	9	15
7.	Univesiti Islam Antarabangsa Malaysia	3	4	11	18	3	3	7	13
8.	Universiti Malaysia Sarawak	3	3	9	15	3	2	6	11
9.	Universiti Sains Islam Malaysia	3	3	12	18	3	2	8	13
10.	Universiti Teknikal Malaysia Melaka	3	5	10	18	3	4	7	14
11.	Universiti Teknologi Mara	3	10	9	22	3	8	6	17
12.	Universiti Malaysia Terengganu	3	5	11	19	3	4	7	14
13.	Universiti Malaysia Pahang	3	3	7	13	3	2	5	10
14.	Universiti Tun Hussein Onn Malaysia	3	4	9	16	3	3	6	12
15.	Universiti Malaysia Perlis	3	3	8	14	3	2	5	11
16.	Universiti Sultan Zainal Abidin	3	4	10	17	3	3	7	13
17.	Universiti Malaysia Kelantan	3	2	7	12	3	2	5	9
18.	Universiti Pertahanan Nasional Malaysia	3	3	9	15	3	2	6	11
19.	Universiti Pendidikan Sultan Idris	3	4	9	16	3	3	6	12
20.	Universiti Malaysia Sabah	3	5	5	13	3	4	3	10
	Total	60	94	196	350	60	75	130	265

Note: RC = risk committees; IA = internal auditors; TM = top managements

Hence, the total sample size for this study was  $n = 265$ , comprising 60 risk committees, 75 internal auditors, and 130 top management from all Malaysian public health entities (PHEs).

### **Data Collection Methods**

Data for this study were gathered through a survey form that contained established measures to assess RC, FP, as well as ERM and FP levels. RC is evaluated through the Risk Communication Questionnaire (RCQ) established by [Rodriguez and Edwards \(2014\)](#) to gauge five well-known aspects. Enterprise Risk Management is assessed through the modified version of ERM ISO31000:2018, which was established by [Lundquist \(2015\)](#). Financial Performance is evaluated through the Financial Performance Scale (FPS) established by [Wang \(2010\)](#), [Ariff et al. \(2014\)](#) and [Asif and Searcy \(2014\)](#). All responses for Sections B and C were measured using a 5-point scale. In this study, the Likert scale in Section D adheres to the methods of [Carton \(2004\)](#), [Casillas et al. \(2009\)](#), [Zhu \(2010\)](#), and [Heng \(2012\)](#), which employed percentages to assess financial performance over the past three years. The scale is defined as follows: 1 – Decreased by more than 20%, 2 – Decreased by 1 to 20%, 3 – Unchanged, 4 – Increased by 1 to 20%, and 5 – Increased by more than 20%. [Carton \(2004\)](#) notes that financial measures are typically expressed as percentages to provide a more accurate representation of an organization's financial performance ([Cooper, 1993](#); [Shrader & Simon, 1997](#); [Zahra & Bogner, 2000](#)).

Researchers ensure that they follow Ethical guidelines, such as obtaining consent and maintaining confidentiality, at every step of the data collection process.

### **Data Analysis Techniques**

The initial evaluation involves cleaning the data, evaluating statistics, and conducting reliability tests for quality assurance purposes using SPSS before proceeding to a detailed study. Data cleaning involves checking for missing values and outliers, as well as ensuring the accuracy of data entry. In contrast, descriptive statistics provide an overview of the sample characteristics and distributions of key variables. Reliability Analysis, on the other hand, assesses the internal consistency of the measurement scales using Cronbach's alpha.

In research studies that involve hypothesis testing, researchers utilize Structural Equation Modeling (SEM) along with AMOS to analyze correlations concurrently and evaluate the impact of mediation effects. The Measurement Model ensures the reliability of measurement scales. Confirmatory Factor Analysis (CFA) is employed to ensure the measurement of constructs. The Structural Model examines the relationships between Risk Communication (RC), Enterprise Risk Management (ERM) implementation, and the financial performance (FP) of Malaysian public higher education (PHE). Path analysis is employed to study the impacts of these components; meanwhile, mediation analysis is utilized to explore how enterprise risk management serves as a mediator in the process.

### **Data Analysis and Findings**

#### **Data Cleaning**

During the data cleaning process, it was ensured that any missing values or outliers were identified and that all data entries in the currently working dataset were accurate. It was also confirmed with the help of SPSS that there were no missing values or significant outliers that might have impacted the results of our analysis.

Descriptive statistics provide an overview of the sample characteristics as well as the distribution of significant variables. Table 2 presents the mean and standard deviation for each construct. The mean value for all items is 3.5 and above. Since this study employed a 5-point scale, the results indicate that all items were at a reasonable level (3.5 and above), with a mean value

ranging from 3.51 to 3.89.

**Table 2. Descriptive Statistics**

Labels	Items	<i>M</i>	<i>SD</i>
<b>Risk communication</b>			
rc1	The communication between risk management committee of different department is good.	3.60	0.82
rc2	The communication within risk management committee is good.	3.62	0.89
rc3	The communication environment promotes the exchange of different points of view on risk management.	3.63	0.90
rc4	There is an appropriate environment to get conclusions easily during meetings.	3.68	0.87
rc5	The communication environment promotes teamwork.	3.58	0.92
<b>Enterprise risk management implementation</b>			
erm1	Risk management is embedded in organizations practices and processed in relevant, effective, and efficient way.	3.52	0.76
erm2	Risk management is part of, not separate from, organizational processes.	3.57	0.87
erm3	Risk management plan is integrated into other organizational plans (e.g.: strategic plan).	3.60	0.86
erm4	Risk management is embedded in the culture and practices of the organization.	3.51	0.84
erm5	Risk management is tailored to the business practices of the organization.	3.52	0.80
erm6	The organization has a current, correct, and comprehensive understanding of its risk.	3.51	0.83
erm7	All decision-making within the organization involves the explicit consideration of risks.	3.64	0.84
erm8	Risk management is seen within the organization as providing the basis for effective governance.	3.68	0.89
erm9	Comprehensive and frequent external and internal reporting on significant risks and risk management contributes substantially to effective governance.	3.74	0.86
erm10	Administrators regard effective risk management implementation as an important to achieve the organizational objectives.	3.74	0.90
<b>Financial performance of Malaysian public universities</b>			
fp1	Income generated from research projects.	3.66	0.82
fp2	Income generated from consultancies.	3.51	0.68
fp3	Income from public funding.	3.65	0.75
fp4	Income from private fundin215g.	3.65	0.76
fp5	Income from commercialization.	3.63	0.67
fp6	Income generated from program offered.	3.62	0.98

The internal consistency of the measurement scales was assessed using Cronbach's alpha. Table 3 presents the Cronbach's alpha values for each construct, indicating good reliability ( $\alpha > 0.7$ ).

**Table 3. Reliability Analysis**

Construct	Cronbach's Alpha
Risk communication (RC)	0.93
Enterprise risk management (ERM)	0.96
Financial performance (FP)	0.94

The measurement model was assessed using Confirmatory Factor Analysis (CFA) to ensure the validity and reliability of the constructs.

### Validity of the Model

The measurement model was presented by combining all constructs validated through confirmatory factor analysis (CFA) procedures, which consisted of exogenous, endogenous, and mediating variables. Risk communication represents the exogenous variables, while the endogenous variables pertain to the financial performance of Malaysian PHE, and the mediating variable is the implementation of ERM. The analysis results from the CFA, which used the complete data set, indicated that the data did not fit the model well (refer to Table 4). Despite the factor loading for all items exceeding 0.60, the goodness-of-fit index (GFI) remains low at 0.750, falling short of the required threshold ( $> 0.80$ ). This issue arises because some items in the measurement model are redundant. The redundancy can be assessed by reviewing the Modification Indexes (MI), which are outputs generated by the software. Items with an MI over 15.0 suggest redundancy between two items and should either be removed or correlated to ensure an appropriate fit of the measurement model (Awang, 2015). Therefore, after the MI has been performed, by deleting the items (erm5) based on their lower loading, the data fit the model well: GFI = 0.81, and other fit indices were RMSEA = 0.03, TLI = 0.98, CFI = 0.98, and Chisq/df = 1.171.

After Fitness Indexes were accepted, convergent validity and reliability were assessed by examining the Average Variance Extracted (AVE) and Composite Reliability (CR) for each construct. An AVE value above 0.5 indicates good convergent validity, while a CR value above 0.6 indicates that the construct is reliable for the study (Awang, 2015). Table 5 presents the AVE and CR values for each construct, all of which exceed the threshold; therefore, all items from the model were included for further analysis.

**Table 4. Fitness Indices**

Name of category	Fitness Indexes	Acceptance level	Result	Comments
Absolute fit	Goodness of fit index	GFI $> 0.80$	0.81	Achieved
	Root mean square error of approximation	RMSEA $< 0.08$	0.03	Achieved
Incremental fit	Tucker-Lewis indices	TLI $> 0.90$	0.98	Achieved
	Comparative-fit indices	CFI $> 0.90$	0.98	Achieved
Parsimonious fit	Chi Square/Degrees of Freedom	Chisq/df $< 3.0$	1.171	Achieved

**Table 5. Convergent validity and reliability**

<b>Construct</b>	<b>Composite reliability (CR)</b>	<b>Average Variance Extracted (AVE)</b>
Risk communication (RC)	0.93	0.74
Enterprise risk management (ERM)	0.95	0.72
Financial performance (FP)	0.94	0.72

The assessment of Discriminant Validity was conducted through the creation of the Discriminant Validity Index Summary, illustrated in Table 6. As indicated in Table 6, it can be concluded that Discriminant Validity is established for all constructs within this model, as the diagonal values exceed those in their respective rows and columns (Awang, 2015). This confirms the absence of multicollinearity issues in the model. Once all criteria for evaluating the Unidimensionality, Validity, and Reliability of the measurement model are satisfied, then the Confirmatory Factor Analysis will be conducted to develop the Structural Equation Modeling.

**Table 6. Discriminant validity**

<b>Construct</b>	<b>FP RC ERM</b>
Financial performance (FP)	.85
Risk communication (RC)	.31 .86
Enterprise risk management (ERM)	.45 .27 .85

Note: The bold numbers in the diagonal row are the square root AVE values

### Structural Model

The structural model was tested using Structural Equation Modeling (SEM) with AMOS to examine the hypothesized relationships. Table 5 presents the path coefficients and significance levels for the direct effects.

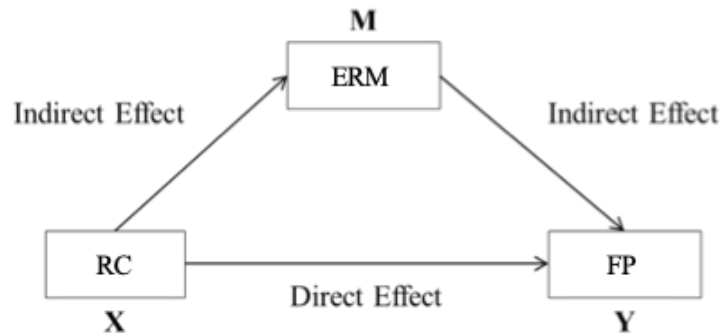
**Table 7. Direct Effect of Variables**

<b>Predictor Variables</b>	<b>Criterion Variables</b>	<b><math>\beta</math></b>	<b><math>t</math>-value</b>	<b><math>p</math>-value</b>	<b>Result</b>
Risk communication	Financial performance	.23	2.06	.039**	Significant
Risk communication	ERM implementation	.02	.22	.829	Not Significant
ERM implementation	Financial performance	.18	2.76	.006***	Significant

The results indicate that RC is not significant with FP (H1) but is positively significant with ERM (H2), while ERM is positively significant with FP. The mediating role of ERM was tested using the procedure outlined by Awang (2015), as shown in Table 8 and Figure 2.

**Table 8. Decision criteria for the mediation effect**

<b>Decision</b>	<b>X → M</b>	<b>M → Y</b>	<b>X → Y</b>
	<b><math>p</math></b>	<b><math>p</math></b>	<b><math>p</math></b>
Full Mediation	S	S	NS
Partial Mediation	S	S	S
No Mediation	NS*	NS*	



**Figure 2.** Indirect and direct effects between RC, ERM, and FP

Table 6 presents the decision criteria for mediating the effect of ERM based on the procedure outlined by [Awang \(2015\)](#). Based on the table, the type of mediation is “full mediation” since the direct effect of risk communication (RC) on the financial performance (FP) of Malaysian PHE is not significant. Still, the indirect effects ( $X \rightarrow M$ ,  $M \rightarrow Y$ ) are significant. Therefore, this shows that ERM significantly mediates the relationship between RC and FP (H3).

**Table 9.** Decision criteria for ERM

Path	Coefficient	<i>t</i> -value	<i>p</i> -value	Result	Type of mediation
Risk communication (RC) → ERM implementation	.02	.22	.829	Not Significant	Full mediation
ERM implementation → Financial performance (FP)	.18	2.76	.006***	Significant	
Risk communication (RC) → Financial performance of (FP)	.23	2.06	.039**	Significant	

## FINDINGS AND DISCUSSION

This study examined how risk communication influences the financial performance of Malaysian PHE, with the ERM implementation acting as a mediating variable. The findings revealed that while risk communication does not directly impact financial performance, it significantly influences ERM implementation, which in turn enhances financial performance. This confirms the full mediation role of ERM in this relationship.

Hypothesis 1 proposes that risk communication has a significant direct effect on the financial performance of Malaysian PHE. However, the results of the structural model analysis did not support this hypothesis, indicating that risk communication on its own does not have a statistically significant direct impact on financial performance. This finding highlights a key insight: while communication is essential for raising awareness and improving risk understanding, it cannot achieve substantial financial outcomes on its own without being coupled with proactive risk management systems.

This result is consistent with the findings of [Schwarz et al. \(2024\)](#), who emphasized that although risk communication enhances transparency and internal trust, its real impact on performance is only realized when it leads to concrete risk treatment strategies through enterprise-level systems. In other words, communication provides the necessary informational groundwork, but without an operational framework, such as Enterprise Risk Management (ERM), to act on that information, its value remains latent. Similarly, [Liu et al. \(2021\)](#) found that the benefits of effective communication are often indirect and emerge more prominently when embedded within larger

governance and risk frameworks.

The findings also reflect the notion that in complex institutions like public universities, financial performance is influenced by multiple interconnected systems. Risk communication may improve awareness, but unless it informs decision-making through structured channels, such as Enterprise Risk Management (ERM), it cannot alone influence income generation, cost optimization, or funding outcomes. Thus, while Hypothesis 1 lacked statistical support, it reinforces the conceptual significance of integrating communication with operational systems, such as ERM, to achieve financial success benefits.

The results validate Hypothesis 2, which posited a positive relationship between risk communication and ERM. This aligns with [Liu et al. \(2021\)](#), who emphasized that frequent and structured communication across organizational levels improves ERM maturity in universities. Similarly, [Gleißner and Berger \(2024\)](#) found that institutions with strong risk dialogue processes integrate risk insights more effectively into their governance mechanisms. These findings confirm that when risk-related information is communicated, it fosters a shared understanding and encourages collective commitment toward risk mitigation.

Hypothesis 3, which proposed a positive relationship between ERM and financial performance, was also supported. This discovery corresponds with [Shad et al. \(2022\)](#), who demonstrated that implementing ERM enhances financial sustainability by reducing capital costs and diversifying income. Likewise, [Anton et al. \(2025\)](#), [Shah et al. \(2024\)](#), and [Yin et al. \(2023\)](#) found that organizations employing integrated ERM practices attain superior revenue growth and budgeting results compared to those without such practices. These findings underscore the strategic importance of ERM in influencing financial results, particularly for resource-constrained institutions such as Malaysian PHEs.

Notably, Hypothesis 4, which suggests that ERM serves as a mediator, was validated through structural equation modeling, demonstrating that ERM completely mediates the relationship between risk communication and financial performance. This supports the proposition that risk communication alone is insufficient to improve financial performance unless it is translated into coordinated risk management actions through Enterprise Risk Management (ERM). As [Gleißner and Berger \(2024\)](#) suggest, ERM serves as the operational mechanism through which communicated risks are assessed, treated, and linked to financial planning processes. The findings underscore the importance of aligning communication systems with ERM implementation to achieve better financial performance in Malaysian public higher education (PHE).

## CONCLUSIONS

This study aimed to analyze how risk communication influences the financial performance of Malaysian public higher education institutions, with enterprise risk management (ERM) acting as a mediator. Four research questions guided the inquiry, yielding clear and detailed answers.

First, the study investigated whether risk communication has a direct impact on financial performance. Findings showed that, although communication is essential for raising awareness and understanding, it does not have a statistically significant direct impact on financial results. This indicates that communication alone, without structured systems, cannot significantly enhance financial resilience. Second, the research assessed how risk communication influences ERM implementation. The results were definitive: effective communication notably supports ERM by fostering a shared understanding of risks and aligning stakeholders towards collective governance. This demonstrates that communication strengthens the foundation needed for ERM. Third, the study explored the extent to which ERM improves financial performance. Evidence confirmed that ERM implementation has a positive and significant effect on financial outcomes, supporting its strategic importance for increasing income, diversifying funding, and maintaining financial stability

in resource-limited institutions. Ultimately, the research investigated whether ERM serves as a mediator between risk communication and financial performance. The findings confirmed full mediation, indicating that risk communication enhances financial performance only when translated into coordinated risk treatment and planning through ERM. This underscores ERM's role as the operational link that transforms communication's informational value into tangible financial gains.

Overall, these findings offer a comprehensive answer to all research questions, establishing that while risk communication is necessary, its impact depends on integration within enterprise risk management systems. The study highlights ERM's vital role as a governance tool and performance enhancer, offering higher education leaders practical strategies to transform communication into financial resilience.

The findings hold considerable importance for university leaders and policymakers. Firstly, institutions of higher education should invest in structured, multi-tiered frameworks for risk communication that facilitate the timely sharing of information and enhance organizational risk awareness. This involves utilizing tools such as risk dashboards, policy briefings, and town hall meetings to guarantee that all stakeholders receive information clearly and accessibly. Efficient and transparent risk communication not only alleviates uncertainty but also promotes the implementation of Enterprise Risk Management (ERM) by fostering a culture of accountability, responsibility, and responsiveness.

Secondly, higher education policy frameworks should focus on embedding ERM practices within institutions. Guidelines from ministries can require the incorporation of ERM into university strategic planning and performance evaluation processes. This approach would motivate institutions to connect risk intelligence with budgeting, resource distribution, and income generation strategies. Since ERM effectively mediates the impact of risk communication on financial results, its implementation must be regarded not as an option but as a crucial governance tool.

Furthermore, training initiatives must be implemented to strengthen the skills of internal auditors, risk committees, and senior management in understanding and applying risk communication results within Enterprise Risk Management (ERM) frameworks. Promoting collaboration across financial sectors and risk units is crucial for better data integration and performance tracking. These strategies will improve institutional agility and enhance financial resilience, enabling Malaysian Public Health Entities (PHEs) to thrive in the face of uncertainties and funding challenges.

## **LIMITATIONS & FURTHER RESEARCH**

While providing valuable insights, this study faces multiple limitations. Firstly, the cross-sectional design limits the capacity to establish causality between the variables. Longitudinal studies are recommended for future research to examine changes over time and validate the directionality of relationships among risk communication, ERM, and financial performance. Second, reliance on self-reported data through surveys may introduce social desirability and recall biases. Although the anonymity of responses was ensured, inherent bias in perception-based assessments remains a concern.

Third, the research concentrated exclusively on Malaysian public higher education institutions, potentially restricting the generalizability of the findings to private institutions or different national contexts. Future studies should investigate the conceptual framework in diverse educational and cultural contexts to enhance its applicability, effectiveness, and generalizability. Additionally, this study concentrated on ERM as the sole mediator. Future investigations could consider multiple mediating or moderating factors such as organizational culture, digital readiness, or leadership styles, which may also influence the risk-performance relationship.

Lastly, although the study employed established methods to assess the constructs, it overlooked qualitative insights that could have provided a more comprehensive view of how communication is practiced, as well as how ERM is perceived and implemented internally. Future research using mixed methods could enhance our understanding of the behavioral and contextual dynamics that shape these relationships.

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