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Systematic Literature Review the Development of Enterprise Risk Management

Mona Nur Adhillah[1*], Mutiara Syalwa[2], Putri Meilanda[3], Rela Sari[4]
Universitas Sriwijaya
Corresponding Author: Mona Nur Adhillah nuradhillah.mona@gmail.com

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A B S T R A C T

Enterprise Risk Management (ERM) strengthens governance and organizational resilience amid business uncertainty. The complex, collective decision-making process, influenced by many internal and external factors, demands an ERM approach that is more than just technical or economic. A Systematic Literature Review (SLR) of 25 articles (2016–2025) from Emerald, Taylor & Francis, MDPI, and Google Scholar shows ERM positively influences firm performance and value, especially when integrated with ESG, good governance, and organizational knowledge. The research spans several Asian and European countries, including Malaysia and Indonesia, and covers diverse sectors. ERM effectiveness depends on firm size, ownership, and industry. Today, ERM is seen as a dynamic strategic capability, although implementation challenges remain, particularly for SMEs and family businesses. The study also highlights conceptual trends, methodological diversity, and future research directions.

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INTRODUCTION

Enterprise Risk Management (ERM) has developed rapidly and is now seen as one of the key approaches in implementing effective corporate governance (Anton & Nucu, 2020). This development is inseparable from the increasing dynamics of uncertainty and complexity of risks faced by the business world today (Klein Jr. & Reilley, 2024). Responding to these challenges, the Committee of Sponsoring Organizations of the Treadway Commission (COSO) has updated the ERM framework by releasing practical guidance to help organizations manage various types of contemporary risks, such as environmental, social, and governance (ESG) risks, cyber risks, risks arising from the use of cloud computing technology, to risks resulting from the use of artificial intelligence (AI) (Eling et al., 2021).

However, this update also creates a gap between expectations and practices, because the implementation of ERM principles in the field often faces various obstacles and is not as easy as anticipated (Eling et al., 2021). This difficulty mainly arises because the implementation of ERM requires integration between technical and social aspects, while most previous studies have focused more on the technical side alone (Mikes et al., 2017). In addition, some academics still question the effectiveness of ERM in recognizing and understanding risks comprehensively, and in integrating them into strategies and achieving organizational performance (Anton & Nucu, 2020) . In fact, the main essence of ERM is to support management in facing and managing uncertainty in a more structured and comprehensive manner (Bromiley et al., 2015).

In response to the increasing complexity of risk in the modern business world, this article presents a literature review on *Enterprise Risk Management* (ERM) to summarize and integrate existing understanding, especially regarding the relevance of ERM in the managerial decision-making process. In practice, organizations are required to continuously evaluate the potential risks that accompany decisions at both the strategic and operational levels (Crovini et al., 2021). In certain contexts, the existence of information and risk management tools can contribute to decision-making, but their effectiveness is greatly influenced by the quality of the data available, how the data is perceived by users, and the openness of risk experts to share and utilize information widely within the organization (Crawford & Nilsson, 2021).

ERM is closely related to the way managers view uncertainty and make decisions. The instruments and procedures used not only act as analytical tools, but also facilitate cross-functional communication, strengthen learning processes, and encourage knowledge accumulation in the organization (Hall et al., 2015). However, managers often adapt these tools according to the context and perceived benefits in certain strategic decision situations (Nasteckienė, 2021). Crucial strategic decisions often face new risks that have not been historically documented, making them difficult to analyze using conventional technical methods. Such risks are categorized as *wicked problems* or complex problems that require a more flexible approach and are not merely analytical (Rittel, 1972) . In such situations, organizational leaders are expected to rely on intuitive reasoning and a deep understanding of the situation, especially when decisions must be

made within a limited time (Adam & Dempsey, 2020) . Therefore, individual autonomy in assessing and acting becomes an important element in the strategic decision-making process (Butler et al., 2016).

The complex, collective decision-making process, influenced by many internal and external factors, demands an ERM approach that is more than just technical or economic. Researchers need to broaden their focus to also include the social and psychological aspects that shape the dynamics of decision-making in organizations (Mikes et al., 2017). Perceptions of risk and uncertainty are shaped not only by formal instruments, but also through social processes, individual experiences, and managerial intuition (Nasteckienė, 2021). Therefore, future studies on ERM need to consider the importance of cognitive and psychological aspects in understanding risk (Hardy et al., 2020) , and adopt a cognition-based approach that has developed in the management, strategy, and accounting literature (Butler et al., 2016).

Although ERM has been widely accepted as a strategic framework in risk management, the understanding of its evolution in academic studies is still not fully comprehensive. To address this gap, this study applies the *Systematic Literature Review* (SLR) method with five systematic stages as proposed by Briner and Denyer (2012). This approach is useful in identifying contributions to existing literature, strengthening existing risk management practices (Tranfield et al., 2003) , and supporting the development of deeper and more relevant theories in the contemporary context (Breslin et al., 2020).

In this study, literature search was conducted through five databases, namely, Emerald, Taylor & Francis, MDPI and Google Scholar. Through the process of analysis and synthesis of relevant research, an assessment of the development of ERM from an academic perspective was conducted, especially those reported in accounting and management journals. This study aims to critically evaluate how research on ERM has developed in the last two decades, as well as identify key trends, conceptual contributions, and research gaps that still need to be explored.

LITERATURE REVIEW

The implementation of Enterprise Risk Management (ERM) has received significant support from regulators and rating agencies, as this approach requires alignment between traditional risk management (TRM), risk governance structures, and overall corporate strategy. Although there is no single definition that is agreed upon internationally, various empirical studies show that the implementation of ERM in practice tends to vary and does not follow a standard format (Mikes & Kaplan, 2015). However, the results of an extensive literature review by Bromiley et al (2015) indicate that there is a beginning understanding of the three main characteristics of ERM, namely: (1) the ERM approach emphasizes that integrated risk management at the corporate level is more effective than separate management in each unit or function; (2) ERM includes not only operational risks such as accidents or legal liability, but also strategic risks that impact the direction of the company; and (3) ERM is seen as a tool to create competitive advantage through the organization's ability to deal with

certain risks, not just to reduce risk (Bromiley et al., 2015). In general, ERM provides flexibility for companies to review and adjust the internal resources and capabilities needed to respond to the dynamics of an increasingly complex, uncertain and rapidly changing business environment (Nair et al., 2014).

R1: How is the development of systematic reviews of Enterprise Risk Management reported in the accounting and management literature, and what contribution does it make to the understanding and practice of risk management in organizations?

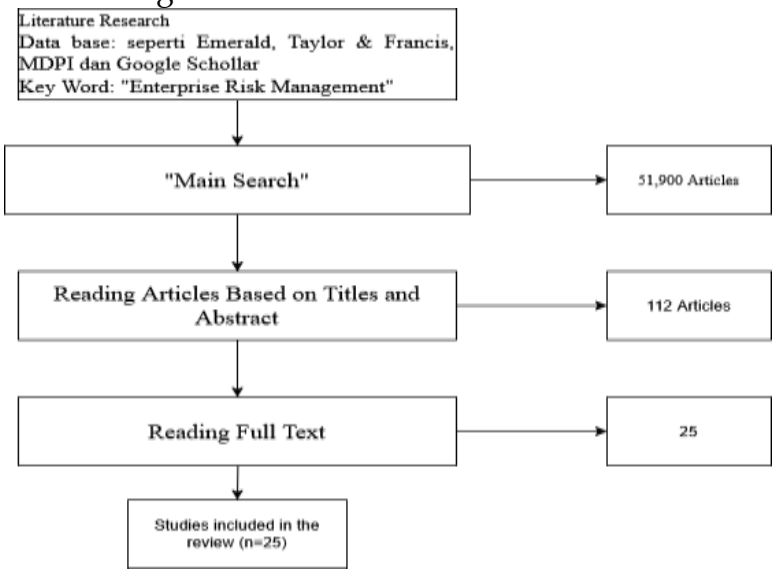

Figure 1. Flow Diagram of Literature Selection

METHODOLOGY

This study applies the *Systematic Literature Review* (SLR) method, which is a systematic approach designed to explore comprehensive understanding, present critical analysis, and reveal opportunities for further research in the future. Although the SLR method is often associated with fields of science that tend to use a quantitative approach, its use is also very appropriate in studies related to risk management, especially in the context of *Enterprise Risk Management* (ERM), because this field widely accepts both quantitative and qualitative approaches (Massaro et al., 2016) . As a method in scientific research, *the Systematic Literature Review* (SLR) requires the compilation of literature that is structured logically and methodologically. This approach functions to trace and evaluate in depth the development of scientific discourse, emphasizing critical analysis of previously published works (Silverman, 2017).

In its implementation, this study uses international databases to search for relevant articles. Data sources are obtained from well-known platforms such as Emerald, Taylor & Francis, MDPI and Google Scholar, with a focus on articles from international journals. The search process is carried out using the keyword "Enterprise Risk Management". Given the limited number of literature that specifically matches the keyword, this study includes all relevant articles from various journal rankings as long as the article is available in international databases. Only English-language articles containing the keyword "Enterprise Risk Management" are included.

To assess the relevance of the articles to the context of risk management in organizations, three authors independently reviewed the abstracts of each article. The search focus was limited to studies published between 2016 and 2025, to ensure the recency and relevance of the findings to contemporary ERM developments.

RESEARCH RESULT AND

Research Title and Author Name

Table.1 Research Title and Author Name

Title	*Author Name*
Enterprise risk management, intellectual capital, and investment opportunity set on firm value through financial performance as an intervening variable	*(Hermawan et al., 2025)*
Enterprise risk management and firm performance: Empirical evidence from Ghana equity market	*(Horvey & Ankamah, 2020)*
The effect of Enterprise Risk Management on the risk and the performance of Spanish listed companies	*(Otero González et al., 2020)*
Enterprise Risk Management in Small and Medium Family Enterprises: The Role of Family Involvement and CEO Tenure	*(Glowka et al., 2021)*
Decentralized Enterprise Risk Management Issues under Rapidly Changing Environments	*(Bakos & Dumitra ş cu, 2021)*
Implementation of Enterprise Risk Management (ERM) Framework in Enhancing Business Performances in the Oil and Gas Sector	*(Annamalah et al., 2018)*
Enterprise Risk Management: How Do Firms Integrate Cyber Risk?	*(Romanosky & Petrun Sayers, 2024)*
Risk of regulatory failure of "risk-based regulation" while using enterprise risk management as a meta-regulatory toolkit	*(Moniruzzaman, 2022)*
Enterprise risk management: a capability-based perspective	*(Bogodistov & Wohlgemuth, 2017)*
A theory of enterprise risk management	*(Jankensgard, 2019)*
Enterprise risk management literature: emerging themes and future directions	*(Ahmad Jaber & Mohammed Shah, 2024)*

Why do firms adopt enterprise risk management (ERM)? Empirical evidence from France	*(Khan et al., 2016)*
The effect of enterprise risk management (ERM) on firm value in manufacturing companies listed on Indonesian Stock Exchange year 2010-2013	*(Iswajuni et al., 2018)*
Adoption of enterprise risk management (ERM) in small and medium-sized enterprises: evidence from Malaysia	*(Tan & Lee, 2022)*
Exploring the effect of enterprise risk management for ESG risks towards green growth	*(Shah et al., 2024)*
Modeling firm resources–enterprise risk management relationships An empirical finding using PLS-SEM	*(Abd Razak et al., 2016)*
Enterprise risk management and sustainability of bank performance	*(Oyewo, 2022)*
Is ESG performance associated with firm risk and firm value? Evidence from emerging markets	*(Farooq et al., 2024)*
The effect of enterprise risk management on financial performance and firm value: the role of environmental, social and governance performance	*(Chairani & Siregar, 2021)*
The influence of enterprise risk management on firm performance with the moderating effect of intellectual capital dimensions	*(Saeidi et al., 2021)*
A conceptual model for enterprise risk management	*(Almeida et al., 2019)*
An enterprise risk management knowledge-based decision support system for construction firms	*(Leung et al., 2016)*
Management accounting systems effectiveness, perceived environmental uncertainty and enterprise risk management: evidence from Jordan	*(Abu Afifa & Saleh, 2021)*
Enterprise risk management in family firms: evidence from Austria and Germany	*(Hiebl et al., 2019)*

Usefulness of enterprise risk management in two banks	*(Liff & Wahlstrom, 2018)*

Place of Publication

Table.2 Place of Publication

Journal Name	**Count**
Journal of Accounting & Organizational Change	3
The Journal of Risk Finance	2
Journal of Islamic Accounting and Business Research	1
Asian Journal of Accounting Research	1
Engineering	1
Journal of Enterprise Information Management	1
Economic Research – Ekonomska Istraživanja	1
Meditari Accountancy Research	1
Environmental Science and Pollution Research	1
Journal of Accounting in Emerging Economies	1
World Journal of Entrepreneurship	1
International Journal of Productivity and Performance Management	1
Management Decision	1
Cogent Economics & Finance	1
Corporate Governance	1
Asian Journal of Economics and Banking	1
Management Research Review	1
Economy	1
Risks	1
International Entrepreneurship and Management Journal	1
European Research on Management and Business Economics	1
Qualitative Research in Accounting & Management	1
Total	25

Research Year

Table 3. Research Year

Year	**Count**
2016	2
2017	1
2018	4
2019	3
2020	4
2021	6
2023	2
2024	2
2025	1

Total	**25**

Journal Index

Table 4. Journal Index

Index	***Count***
Q1	*15*
Q2	*9*
Q3	*1*
Total	***25***

Research Topics

Table.5 Research Topics

Topic Title	**Count**
ERM, Intellectual Capital, and IOS on company value	1
ERM on company performance	1
ERM on financial performance and stability	1
ERM in SMEs and family businesses	1
ERM in regulated automotive and pharmaceutical industries	1
ERM in the oil and gas sector	1
Cyber risks in the ERM framework	1
ERM as a risk-based regulatory tool	1
ERM from a dynamic capabilities perspective	1
Development of ERM theory related to agency and information asymmetry	1
ERM bibliometrics in facing the VUCA environment	1
ERM adoption and internal-external determinants	1
ERM on manufacturing company value	1
ERM Adoption in SMEs in Malaysia	1
ERM on Green Growth with a focus on ESG risks	1
Firm resources on ERM effectiveness	1
ERM on the sustainability of banking performance	1
ESG performance on corporate risk and value in emerging markets	1
ERM on corporate performance and value with ESG moderation	1
ERM on company performance with Intellectual Capital moderation	1
ISO 31000 based ERM conceptual model with EA approach	1
Decision support system for ERM in the construction sector	1
MASE, PEU, and ERM effectiveness	1
ERM adoption in family vs non-family firms	1
ERM in management control systems before and after the financial crisis	1
Total	25

The table presented represents the distribution of research topics in the systematic literature review (SLR) study related to Enterprise Risk Management (ERM), which consists of 25 research titles with diverse thematic coverage. Each topic has a single frequency of occurrence, indicating no duplication of titles or research focus in the analyzed corpus. This reflects a high level of heterogeneity in the approaches, variables used, and empirical contexts used as the object of study.

This diversity shows that research on ERM has developed widely, not only limited to the relationship between ERM and company performance and value, but also includes strategic issues such as ERM adoption in small and medium enterprises, family businesses, and regulated industrial sectors such as automotive, pharmaceuticals, banking, and energy. In addition, a number of studies raise conceptual and theoretical dimensions, such as the development of an ERM model based on the ISO 31000 standard, the integration of the Enterprise Architecture approach, and the exploration of ERM from the perspective of agency, information asymmetry, and dynamic capabilities. There are also studies that highlight the integration of ESG and cyber risks into the ERM framework, as well as the use of bibliometric methods to map the direction of literature development in the context of a volatile, uncertain, complex, and ambiguous (VUCA) business environment.

Thus, these findings confirm that ERM is a multidisciplinary and trans-sectoral domain of study, with significant contributions to strengthening risk governance, strategic decision-making, and organizational sustainability. The wide variety of topics in this table reflects the complexity and academic depth of the research that makes up the contemporary literature on corporate risk management.

Research Country

Table 6. Research Country

Research Country	Amount
Malaysia	4
Sweden	2
Indonesia and Malaysia	1
Indonesia	1
Jordan	1
China	1
Portugal	1
Iran	1
ASEAN-5	1
Pakistan	1
Nigeria	1
international	1
France	1
Ghana	1
Germany	1
Bangladesh	1

USA	1
Romania	1
Austria	1
Spain	1
Austria and Germany	1

Research Theory

Table 7. Research Theory

Theory	**Amount**
Agency Theory	9
Stakeholder Theory	4
Signaling Theory	3
Resource Based View (Rbv)	3
ISO 31000	2
Resource Based View	2
Legitimacy Theory	2
Cos	2
Contingency Theory	1
Enterprise Risk Management Maturity Model	1
Fuzzy Set Theory (Fst)	1
Design Science Research (DSR)	1
Agency Theory	1
Enterprise Architecture (Ea)	1
Resource-Based View (Rbv) Theory	1
Resource Based Theory (RBT)	1
Ecological Modernization Theory	1
Risk Maturity Model (RMM)	1
Pecking Order Theory	1
Modern Portfolio Theory	1
Information Asymmetry	1
Institutional Theory	1
Resource Based Theory	1
Agency Theory	1
Dynamic Capabilities Theory	1
Risk-Based Regulation Theory	1
Meta-Regulation	1
Risk Governance Theory	1
Eva (Economic Value Added)	1
Brmp (Arthur Andersen)	1
ISO 9001	1
Coso Erm Framework	1
Socio-Emotional Wealth	1
Coso II	1
Portfolio Theory	1
Contingency Theory	1

The results of the classification of theories used in Enterprise Risk Management (ERM) studies show a significant diversity of theoretical approaches. Of all the studies analyzed, Agency Theory occupies a dominant position as the most frequently used conceptual framework, reflecting the importance of agency relationships in understanding risk management mechanisms, conflicts of interest, and the effectiveness of corporate governance. In addition to Agency Theory, Resource-Based View (RBV) and Signaling Theory also play an important role in explaining how internal resources and external signals affect the implementation and success of ERM.

Other theories that also emerged, although with lower frequency, such as Stakeholder Theory, Legitimacy Theory, Contingency Theory, and standards-based approaches such as COSO and ISO 31000, indicate an effort to broaden the analytical perspective on ERM towards a more contextual and systemic direction. Several studies also combine more than one theory to build a more comprehensive framework, including integrating institutional, dynamic, risk-based regulation, and organizational architecture design approaches. This reflects that ERM is not only seen as a technical instrument, but as a managerial practice rooted in a complex and multidisciplinary conceptual framework. Thus, the selection of theories in these studies is not only instrumental, but also reflects epistemological tendencies and the need to address ERM challenges in various organizational and industrial contexts.

Research Theory

Table 8. Research Theory

Theory Group	Theory
Risk Management & Framework	COSO II, ISO 31000, COSO ERM Framework, ISO 9001, Risk Governance Theory, BRMP (Arthur Andersen), EVA (Economic Value Added), Risk Maturity Model (RMM), ERM Maturity Model (ERMMM)
Agency and Information	Agency Theory, Portfolio Theory, Information Asymmetry, Institutional Theory, Modern Portfolio Theory
Resource Based View (RBV/RBT)	Resource-Based View (RBV), Resource-Based Theory (RBT), Socio-Emotional Wealth
Signaling & Finance	Signaling Theory, Pecking Order Theory
Stakeholders & Legitimacy	Stakeholder Theory, Legitimacy Theory, Ecological Modernization Theory
Adaptive and Regulatory Theory	Dynamic Capabilities Theory, Meta-regulation, Risk-Based Regulation Theory, Contingency Theory
Systems and Technologies	Enterprise Architecture (EA) & Design Science Research (DSR), Fuzzy Set Theory (FST)

The theories used in Enterprise Risk Management (ERM) reflect a multidisciplinary approach to managing organizational risk. Risk management theories and frameworks such as COSO and ISO provide a structural framework for building an integrated risk control system. Meanwhile, agency, information, and stakeholder theories help explain the motivations and relationships between parties in the organization that influence risk. RBV/RBT theory provides a strategic perspective, viewing risk management as a valuable resource. Signaling and pecking order theories from finance explain how companies manage risk signals to the market and how risk affects financing structures. On the other hand, legitimacy and sustainability theories emphasize the need for risk management that considers social acceptance and environmental sustainability. Adaptive theories such as Dynamic Capabilities and Contingency Theory explain how organizations need to be flexible in the face of uncertainty. Finally, systems and technology theories provide a modern, technology-based approach to support ERM effectiveness.

Research Object

Table 9. Research Object

Classification	**Research Object**
Public Companies & Stock Exchange Issuers	1. 30 companies listed on the Ghana Stock Exchange (2010–2016) 2. 162 non-financial public companies in Spain (2012–2015) 3. 22 companies in the CAC 40 index (France) 4. Manufacturing companies listed on the Indonesia Stock Exchange (IDX) (2010–2013) 5. 30 oil and gas (O&G) companies listed on Bursa Malaysia (2012–2021) 6. Public companies listed on Bursa Malaysia (223 respondents from various industries) 7. Companies listed on the Amman Stock Exchange (ASE) 8. Pakistan Stock Exchange (PSX) 9. ASEAN-5 (Indonesia, Malaysia, Singapore, Thailand, and the Philippines) during 2014–2018.
Private Companies / Certain Industries	1. Halal-labeled industrial companies in the consumer goods sector

	2. 5 manufacturing companies in the automotive and pharmaceutical industries 3. 15 oil and gas sector companies in Malaysia 4. Chinese Construction Firms (CCFs)
Micro, Small and Medium Enterprises (MSMEs)	1. 116 small-medium family businesses in the Austrian tourism sector 2. Small and medium-sized enterprises (SMEs) in Germany 3. SMEs in various industrial sectors in Malaysia (51 respondents)
Financial Institutions & Banks	1. Banks regulated by Bangladesh Bank 2. 14 commercial banks in Nigeria (2008–2017) 3. Financial institutions in Iran 4. Two major banks in Sweden
Literature Study / Documentation	The main objects are literature and scientific articles that discuss ERM.
Public Infrastructure System	Potable water network system in the city of Barreiro, Portugal
Mixed / Unspecified	1. 20 companies with varying sectors and sizes (senior risk manager interviews) 2. Companies in Austria and Germany (not sector specific) 3. Not specific (not explicitly stated)

Analysis Method

Table 10. Analysis Method

Method Category	Analysis Method
Quantitative Methods	Multiple Linear Regression, Logistic Regression (Logit), Panel Data Regression (Fixed, Random, GLS, Quantile), System-GMM, Cox Proportional Hazards Model, Structural Equation Modeling (SEM), Partial Least Squares SEM (PLS-SEM), Hierarchical Regression, Fuzzy Set Theory (FST), Regression with

	Moderation, Logistic Regression Analysis
Qualitative Methods	Semi-Structured Interviews (top managers, risk managers, regulators), Thematic Analysis, Qualitative Longitudinal Study
Mixed-Methods Method	Combination of Content Analysis, Trends, and Quantitative Statistics
Theoretical Approach	Theoretical / Deductive Approach
Specific Method / Model	COSO/ISO Model, CRO, Risk Hedging, Enterprise Risk Management Maturity Model (ERMMM), Design Science Research Methodology (DSRM)
Bibliometric Analysis	Bibliometric Analysis using Biblioshiny software from the bibliometrix package in R

The table shows that studies in various fields use diverse analytical approaches according to the objectives and characteristics of the data. Quantitative methods dominate, especially with the use of regression (linear, logistic, panel), SEM, and advanced statistical methods such as System-GMM and Fuzzy Set Theory. Qualitative approaches are also used, especially through semi-structured interviews and longitudinal studies to gain in-depth understanding. Some studies apply mixed methods to obtain a more comprehensive picture. On the other hand, theoretical approaches and specific models such as COSO/ISO and ERMMM are used for the development of conceptual frameworks and implementation of risk management. In addition, there are studies that use bibliometric analysis to map literature trends and scientific contributions in a particular field. This reflects the diversity of methodologies that support the richness of analysis in research.

Research Result

Table 11. Research Result

Writer	Main Theme	Key Findings
1	ERM and Company Value	ERM significantly increases company value; investors have more confidence in companies that implement ERM.
2	ERM and Company Performance	The relationship between ERM and performance is non-linear (inverted U-shape/ROE, U-shape/ROA & Tobin's Q).
3	ERM Standards and Performance	COSO & ISO are not significant; CRO actually decreases performance; only exchange rate risk hedging is effective.

4	CEO Moderation	ERM does not have a significant direct effect on financial performance, but is positively moderated by CEO tenure.
5	Risk Assessment	The risk assessment approach is still too rigid and centralized; an adaptive and collaborative approach is needed.
6	ERM & Business Risk	ERM reduces risks and improves performance, although not through risk reduction alone.
7	Cyber Risk	Cyber risk is responded to in various ways; some consider it part of ERM, others consider it a separate issue.
8	Self-Regulation Bank	Big challenges from external & internal; high risk of regulatory failure without effectiveness evaluation.
9	ERM as Dynamic Capability	ERM increases organizational resilience in facing environmental uncertainty.
10	ERM & Agency Issues	ERM addresses conflicts of interest & information asymmetry through Risk Governance and Aggregation.
11	ERM Research Themes	Main focus: ERM & performance, risk management, adoption determinants, risk frameworks.
12	Determinants of ERM Adoption	Affected by high leverage, volatility, poor performance, regulatory & governance pressures.
13	ERM, ROA, and Value	ERM, ROA, company size have positive effect; managerial ownership has negative effect.
14	SMEs and ERM	Low adoption; major operational & economic risks; barriers: resources & knowledge
15	ERM & Green Growth	Positive impact especially in large companies with sustainability committees.
16	Resources & ERM	Intangible resources are significant; tangible & capabilities remain important in the combination.
17	Banking & ERM	Large banks with strong ERM showed better performance post-2012 reforms.
18	ESG, ERM, and CG	ESG → corporate value mediated by ERM & moderated by Corporate Governance.
19	ESG & Sensitive Industries	ERM and ESG strengthen company value especially in sensitive industries.

20	Intellectual Capital	IC moderates the ERM-performance relationship; IT & knowledge is the most significant.
21	Enterprise Architecture	Enterprise Architecture reduces ISO 31000 complexity, improves communication.
22	KBDSS-ERM	The system supports maturity assessment & decision making of ERM implementation.
23	MASE & PEU	Management accounting system (MASE) enhances ERM; environmental uncertainty (PEU) moderates.
24	Family Business	Family firms are less likely to adopt ERM, especially if the CEO is a family member.
25	Control System	Internal controls affect ERM effectiveness, differ across banks & pre-post crisis

The results of mapping 25 research articles on Enterprise Risk Management (ERM) show that in general, ERM has a significant influence on company value and performance. Several studies (Abu Afifa & Saleh, 2021; Almeida et al., 2019; Bogodistov & Wohlgemuth, 2017; Hermawan et al., 2025; Jankensgård, 2019; Tan & Lee, 2022) found that ERM implementation has a positive impact on company value and financial performance such as ROA and Tobin's Q, although in some cases this relationship is non-linear. This indicates that ERM not only functions as a risk control tool but also as a strategic tool that increases market perception of company stability, especially if implemented comprehensively.

However, the effectiveness of ERM does not stand alone. Research shows that various internal company factors, such as CEO tenure (Khan et al., 2016) , corporate governance quality (Hermawan et al., 2025) , and managerial ownership (Almeida et al., 2019) , moderate the effect of ERM on performance. In fact, the existence of knowledge and technology-based resources, such as intellectual capital and IT (Otero González et al., 2020) , has been shown to strengthen the impact of ERM on organizational performance. On the other hand, an unprofessional ownership structure actually weakens the positive effect of ERM. This shows that ERM requires support from a strong managerial and governance structure for its implementation to be effective.

Interestingly, several recent studies have begun to position ERM as a dynamic capability that helps companies adapt to the uncertainty and complexity of the business environment (Oyewo, 2022). ERM is now no longer seen as merely an administrative instrument, but also as an integral part of a company's strategy that supports innovation and sustainability. This is further emphasized in findings that show the integration of ERM with environmental and social issues (ESG), which strengthens the company's long-term value (Abu Afifa & Saleh, 2021; Hermawan et al., 2025; Horvey & Ankamah, 2020). This approach encourages a paradigm shift in ERM towards a more strategic and sustainability-oriented direction (sustainability-driven ERM).

However, ERM implementation still faces various challenges. Article 5 reveals that the risk assessment approach is still rigid and bureaucratic, making it less adaptive to environmental changes. In the small and medium enterprise (SME) sector, resource constraints are a major obstacle to ERM implementation (Leung et al., 2016). Likewise, in family businesses, resistance to ERM implementation is found, especially when the CEO comes from the family itself (Romanosky & Petrun Sayers, 2024). These challenges underscore the importance of adapting ERM to the organizational context and the need for strong risk culture support.

As technology advances, several studies also highlight the importance of integrating ERM with decision support systems and organizational architecture. The use of models such as Knowledge-Based Decision Support System (KBDSS) and Enterprise Architecture approaches (Glowka et al., 2021; Otero González et al., 2020) help companies overcome the complexity of standards such as ISO 31000. In fact, in the banking context, internal control systems have proven crucial to maintaining stability during and after the financial crisis (Article 25). This shows that technology and organizational structure play a significant role in enhancing ERM implementation.

Overall, recent trends in ERM research indicate that the approach to risk management has undergone a significant transformation. From an administrative tool, ERM has now evolved into a strategic instrument that supports the achievement of a company's long-term goals, enhances value through ESG integration, and contributes to organizational resilience in the face of crises and uncertainty. Future research should pay more attention to contextual dynamics such as industry type, company scale, and ownership orientation, to ensure that the ERM framework can continue to be relevant and adaptive in a changing business environment.

CONCLUSIONS AND RECOMMENDATIONS

Based on the results of a systematic review of 25 international scientific articles, it can be concluded that Enterprise Risk Management (ERM) has experienced significant development in the last two decades. ERM is no longer seen only as an administrative tool for risk management, but has been transformed into a strategic instrument that plays an important role in supporting organizational resilience, creating corporate value, and long-term business sustainability. ERM implementation is proven to be able to improve financial performance and corporate value, especially when combined with supporting factors such as good corporate governance, managerial capabilities, intellectual capital, and integration of environmental, social, and governance (ESG) aspects.

ERM effectiveness is strongly influenced by the internal context of the organization, ownership structure, quality of human resources, and the readiness of supporting technologies and systems. Key challenges include limited resources in SMEs, resistance in family companies, and bureaucratic approaches in certain sectors. Therefore, an adaptive, collaborative, and dynamic capability-based ERM approach is important in dealing with the complexity of modern business. Going forward, ERM research needs to adopt a multidisciplinary approach-involving psychological, social, and technological aspects-and adapt its practices to the character of the industry, the scale of the organization, and global dynamics to remain relevant and effective.

ADVANCED RESEARCH

This research has limitations in the number of articles reviewed and the uneven geographical focus across global regions. In addition, variations in methodological approaches and organizational context limit the generalizability of the findings. Therefore, future research is recommended to expand data coverage across countries and sectors, as well as develop contextualized ERM models by considering industry dynamics, organizational culture, and multidisciplinary approaches. Longitudinal studies can also help understand the impact of ERM on organizational performance and resilience in the long run.

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