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Leadership in risk management – a scoping literature review

Abstract

Research background and purpose: Leadership in risk management can influence the way individuals think about risk, the decisions they make and the skills and methods they use to identify, understand and manage risk. The purpose of this text is to demonstrate the importance of leadership in risk management and to conduct a scoping literature review aimed at identifying the main research topics in this area with particular emphasis on the thematic scope, dominant theoretical and practical aspects, and identification of research gaps/future research directions.

Design/methodology/approach: The research methodology was based on a qualitative-quantitative approach. It was adapted to the rigour of scoping review studies. The study followed the recommendations of PRISMA-ScR. Elements of bibliometric analysis, keyword analysis and visual analysis were also used. Texts indexed in the EBSCO and Scopus databases were included in the review.

Findings: The scoping review carried out allowed the identification and categorisation of academic texts on leadership in risk management. A total of 887 texts were identified in the databases, of which 84 met the inclusion criteria and were qualified for further analysis. The identified texts were divided under seven categories. A fragmented, episodic pattern has been identified, with publications tending to surge around major crises rather than contributing to a continuous accumulation of knowledge. The review found the literature on leadership in risk management is dominated by leader-centric psychological approaches, with most studies focusing on individual leaders' attitudes and behaviours and few adopting broader organizational, institutional or systemic perspectives.

Value added and limitations: The study fills a research gap regarding the lack of review studies integrating texts dedicated to relationships between leadership and risk management. This study is among the first structured reviews to synthesize the fragmented leadership-and-risk literature, mapping prevailing themes and gaps. The study shows theoretical and cognitive, as well as applicative implications for management practitioners related to the awareness of the strong correlation between leadership styles and attitudes towards risk. Limitations include reliance on only two management databases, English-only sources, and exclusion of grey literature.

Keywords: *risk, risk management, leadership, scoping review*

JEL

Classification: D81, H12

Received: 2025-08-08; **Revised:** 2025-10-25; **Accepted:** 2026-02-11

1. Introduction

The increasing complexity, volatility and pace of change in the business environment require new ways for organisations to respond to and implement change, taking into account the need for greater agility and adaptability (Kotter & Gupta, 2021). The evolving global risk landscape has introduced numerous challenges for management, underscoring the need for more flexible, risk-informed approaches to strategy (Jedynak & Bąk, 2018). Risk management allows an organisation to be better prepared for and more resilient to change, as well as to minimise risks and exploit opportunities with greater flexibility (Crawley & McAneny, 2023). In practice, each organisation engages in risk management activities to varying degrees, consciously or not, comprehensively or selectively, integratively or separatively (Ardilo, 2022).

The ability to manage risk can be seen as one of the key factors in achieving and enhancing competitive advantage. Competitive advantage is enhanced when risk management is used to proactively identify and exploit opportunities, which enables organisations to innovate and adapt more effectively, as well as to generate additional benefits and greater value (Hillson, 2023). Ardilo (2022) stresses that the implementation of risk management is one of the fastest growing areas in business and has become a key element in various industries and sectors around the world. Many major failures in business and the public sector have occurred, and continue to occur, due to a lack of commitment from senior management and boards to effective risk management (Crawley & McAneny, 2023). This demonstrates the importance of leadership in risk management, particularly in the context of contemporary challenges such as economic changes, technological advances and global crises, for example, during the COVID-19 pandemic, traditional hierarchical leadership often proved insufficient. Koźmiński (2022) observes that formal leaders frequently lost the ability to fulfil their agendas, while spontaneous, networked leaders emerged to take on responsibility – highlighting the need for adaptive leadership in times of extreme uncertainty. Risk management has been the theme of many studies and academic publications, particularly on the technical aspects of risk management, such as procedures, models or techniques. In contrast, the issue of leadership in the context of risk management has received relatively less attention. Research conducted by Fourie (2022) indicates that leadership and risk receive considerable attention in psychology, unlike in management science, where the issue of leadership in risk management is little explored. The results of this study also show that leadership and risk are treated in a binary way, i.e. successful leaders are seen as those who use risk to drive innovation, and leaders who misjudge risk and fail are no longer regarded as good leaders. In contrast, the growing importance of the position of chief risk officers (CRO), those responsible for managing risk in organisations, most often senior executives, points to the need for research on leadership and risk in the context of enterprise management (Fourie, 2022).

Although the relationship between leadership and risk management has been addressed in several conceptual and empirical studies, existing research in the field of management remains limited and fragmented. Publications on this topic tend to appear in waves, often in response to crises, and are dominated by analyses of “positive” leadership styles. No systematic or scoping review has been conducted in the field of management that would summarize existing research, identify prevailing themes, and highlight areas requiring further exploration. This lack of integrative review research creates a gap in understanding the relationship between leadership and risk management.

The purpose of this text is to demonstrate the importance of leadership in risk management and to conduct a scoping literature review aimed at identifying the main research topics in this area with particular emphasis on the thematic scope, dominant theoretical and practical aspects, and identification of research gaps/future research directions. In connection with this research objective, we posed the following research questions:

- What is the role and importance of leadership in the context of risk management?
- What is the thematic structure of the scientific literature addressing the relationship between leadership and risk management?
- What theoretical and practical perspectives dominate in this research area, and which aspects remain underexplored or indicate directions for future research?

2. Theoretical background

2.1. The nature and evolution of leadership

Interest in leadership has been ongoing for decades; the phenomenon has evolved with the changing world and remains under-explored. Leadership is a complex and multidimensional issue, often conceived in different ways, reflected in numerous definitions, theories and concepts. The most common ways in which leadership is perceived include portraying leadership as a trait, as an ability, as a skill, as a behaviour, as a relationship, and as a process (Northouse, 2018). This reflects an explanation of the essence of leadership through the prism of a leader, of what it means to be a leader. A common element of leadership theories proposed to date is that they focus directly on the leader and the qualities that give rise to leadership (Hunt & Fedynich, 2019). Dinh et al. (2014) indicate that, while leadership research has grown enormously and diversified, the field faces the challenge of integrating its extensive knowledge. There is a need for more dynamic and multi-level research methodologies to move beyond simplistic, leader-centred views and capture the true complexity of how leadership unfolds in organisational systems.

Over the past century, approaches to understanding and explaining leadership have evolved, changing their aims and directions and complementing each other (Northouse, 2018). The exploration of leadership has evolved from the single figure of the leader, through the complex and continuous interactions and interconnections between the leader, their followers and the situation, to the characteristics and principles of a holistic concept of leadership (Benmira & Agboola, 2021; Hunt & Fedynich, 2019). A summary of the approaches illustrating the historical evolution of leadership is presented in Table 1.

Table 1. The evolution of leadership approaches

Approaches	Exploring and explaining the nature of leadership
Trait approach	Early trait approach theories were called “Great Man” theories because they focused on identifying the innate traits and characteristics of great social, political and military leaders. Research on leadership qualities was particularly intense from 1900 to the early 1940s. Interest in leadership issues was revived in the 1970s when researchers began to study visionary and charismatic leadership.
Behavioural approach	In the late 1930s, leadership research began to focus on behaviour, on what leaders do and how they act. Groundbreaking research conducted in the 1940s and 1950s analysed the behaviour of leaders in small groups. Behavioural approach theories experienced their heyday in the early 1960s as a result of research into how managers use task-based and relational behaviours in organisational settings.
Situational approach	The premise of the situational approach is that different situations require different forms of leadership. Introduced into research practices in the late 1960s, situational theories were subsequently being refined and revised from the 1970s to the 1990s. For example, dependency theory focuses on matching a leader’s style to specific situational variables.
Relational approach	In the 1990s, researchers began to investigate the nature of the relationship between leaders and subordinates. This research eventually evolved into leader-member exchange (LMX) theory. Research on the relational approach to leadership continues to receive moderate attention.
„New Leadership” approach	This approach started to emerge in the mid-1980s when research on leadership generated visionary or charismatic leadership theories. They eventually developed into transformational leadership theory, which describes leadership as a process that changes people and organisations.
Emerging leadership approaches	A variety of approaches to leadership have been proposed in the 21st century: <ul style="list-style-type: none"> – adaptive leadership, which explores how leaders help people solve problems, face challenges and adapt to change; – authentic leadership, which analyses the authenticity of leaders and their leadership; – spiritual leadership, which looks at how leaders use values, a sense of “vocation” and group membership to motivate their subordinates; – servant leadership, which emphasises caring for others, leaders’ focus on the needs of their subordinates to help them become more autonomous and competent; – shared leadership, which distributes leadership influence among several team members to increase team performance; – complex leadership, which recognises the complexity of today’s organisations and its challenges for leaders who operate in dynamic environments, promoting collaboration, creativity and systems thinking.

Source: based on: Dickson (2023); Dinh et al. (2014); Hunt & Fedynich (2019); Khan et al. (2016); Northouse, (2018).

Khan et al. (2016) indicate that many researchers and practitioners have developed a consensus that leadership is a flexible developmental process, with each new study building on what has been established previously and rarely ignoring such conclusions altogether. Given the complexity of the modern world, traditional hierarchical views of leadership are considered increasingly irrelevant. This involves a shift in focus from the characteristics and behaviours of leaders to a more systemic perspective focusing on leadership as a collective social process resulting from the interaction of multiple factors (Benmira & Agboola, 2021). Leadership should not be considered solely as a position in an organisational hierarchy, but as a resource of an organisation's social potential, with greater emphasis on the need for more people across organisations to exhibit leadership qualities to meet the challenges of rapid change. This perspective encourages the creation of an environment that fosters autonomy, participation and shared leadership (Kotter & Gupta 2021).

2.2. The role of leadership in risk management

Risk management in the organisation should be a priority, not just a bottom-up operational risk management system. Senior management must be skilled in risk management and receive support from risk professionals who are closely involved in strategic decision-making and planning, provide advice on the risks and opportunities faced by the organisation and alert senior management when an individual or combined business area approaches or exceeds the pre-determined level of risk (Crawley & McAneny, 2023). Risk management has become an indispensable component of managerial duties, which warrants an explicit definition of risk-related responsibilities and competencies among organizational leadership (Jedynak & Bąk, 2020).

Contemporary approaches to risk management, including those relating to leadership in risk management, are shaped by guidelines and standards developed by recognised international organisations. The International Organisation for Standardisation (ISO), in its ISO 31000:2018 standard, indicates a framework for effective risk management, emphasising the role of leadership. Top management should demonstrate leadership and commitment by setting risk management policies, integrating risk management into decision-making processes, ensuring adequate resources, assigning responsibilities, as well as shaping a risk culture within the organisation (ISO, 2018). In its Enterprise Risk Management model, the Committee of Sponsoring Organisations of the Treadway Commission (COSO) promotes an integrated approach to risk in the context of strategic objectives and organisational values. The model indicates that senior management, in particular the board of directors and CEO, play a key role in shaping the so-called "tone at the top", i.e. the values and attitudes that determine organisational culture in the context of risk. Leaders should also take an active role in determining risk appetite, support its

integration with the organisation's strategy and ensure that activities are consistent with business objectives (COSO, 2017). The Risk and Insurance Management Society (RIMS) in its Risk Maturity Model adopts leadership as one of the main factors determining the level of development of a risk management system. Leaders should support the development of a risk culture, promote accountability and actively seek to improve risk management processes by implementing measures based on analysis and evaluation of system effectiveness (RIMS, n.d.). The Federation of European Risk Management Associations (FERMA) promotes the concept of "risk leaders" and the integration of risk management into strategic decisions. It assumes that the effectiveness of risk management increases when it is seen as a value-creating function rather than solely as a control tool. Risk leaders are actively involved in building organisations' resilience, innovation and competitive advantage (FERMA, n.d.).

Risk leadership is defined as "the elements of leadership work and behaviours necessary for complex organisations to be able to thrive when dealing with uncertainty" (Barber, 2023). Leadership in risk management can influence the way individuals think about risk, the decisions they make and the skills and methods they use to identify, understand and manage risk. In Barber's (2023) model for risk leadership in complexity, all managers and employees should exhibit certain common risk leadership behaviours and attributes (Table 2). In addition, the model enumerates behaviours and attributes required of senior executives and risk management professionals.

Table 2. **Common, shared behaviours and attributes for effective risk leadership**

Circumstance	Attributes and behaviours
In daily work and personal work relationships	<ul style="list-style-type: none"> Never ignores or hides risks. Networks widely, seeking out new ideas and views. Listens to and respects the views of others. Seeks out factors, positive or negative, that could influence success. Proactively engages in risk identification, management and reporting processes. Proactively collaborates with colleagues to help them understand and deal with risks/uncertainties. Accepts help and acknowledges own limitations.
When making decisions	<ul style="list-style-type: none"> Seeks to maximize future success, not just meet targets. Identifies and deals with flow-on risks from own decisions.
When faced with uncertainties that are unclear or complex	<ul style="list-style-type: none"> Uses complexity-capable tools and methods to help to understand risk factors and how best to respond. Avoids oversimplification and untested assumptions. Involves stakeholders and seeks new perspectives. Seeks outcomes that optimize risk as a whole. Uses adaptive approaches. Learn, do, learn again, adapt.

When faced with sensitive issues and/or risks	Never ignores or covers over difficult or sensitive issues or risks. Shows courage when that is needed. Identifies accountable individuals with the obligation and the ability to safely deal with sensitive risks. Demonstrates respectful and trustworthy behaviour to people involved. Does not blame or take sides.
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Source: Barber (2023, pp. 335-336)

The behaviours and attributes required of executives (Table 3) result from the nature of their risk management roles, which include: formulating a risk management policy; shaping the risk culture within the organisation; leading the work required to deal with complex, systemic and strategically important risks; providing modern education and training across the organisation; and ensuring employees' access to modern risk management advice, methods and tools to deal effectively with complex risks.

Table 3. **Executive: Attributes and behaviours for effective risk leadership**

Risk leadership role	Attributes and effective behaviours
Set risk management policy	Ensures shared purpose, vision, strategies and goals. Provides clear direction on risk appetite and tolerance. Communicates policies relating to risk and to risk management. Promotes adaptation and innovation as business-as-usual. Defines risk management and risk culture lead indicators, and associated monitoring and reporting requirements. Oversights the effectiveness of the risk management framework.
Lead organizational risk culture	Communicates the desired risk and risk management culture. Demonstrates the required risk culture, by: <ul style="list-style-type: none"> – leading work to manage complex systemic risks; – inviting escalation of risks without first demanding solutions; – dealing with the risk consequences of their own decisions; – openness to diverse perspectives on risks and responses; – requiring appropriate use of complexity-capable tools; – openness to new risk management thinking and practice; – seeking optimized responses to risk as a whole. Leads work to monitor and improve risk culture. Monitors and influences the risk leadership behaviours of others. Recruits and promotes self-aware, open-minded individuals.

Lead the development of risk-effective business systems	Builds contemporary skills for organizational system design. Leads proactive, ongoing work to ensure that business systems have the capabilities needed for future success.
Lead systemic and strategic risk work	Accepts accountability to lead strategic and systemic risk work. Personally leads systemic risk inquiry, analysis and response. Uses systemic risk analysis methods and tools to identify hidden complexities such as feedback loops. Accepts accountability for the risk implications of internal policy.
Enable effective risk management capabilities in people	Ensures appropriate risk management education and training for leaders, decision makers, managers and staff. Provides complexity-capable processes, methods and tools. Provides opportunities for individuals to develop their skills for dealing with sensitive or difficult conversations and issues.

Source: Barber (2023, pp. 337-338)

Risk management professionals perform expert, advisory and support functions (Table 4), in particular advising executives on risk management policies, providing leaders and decision-makers with access to contemporary risk management concepts and practices in complex organisational environments, supporting other leaders, managers and risk management staff and overseeing day-to-day operations of the risk management function.

Table 4. Risk professionals: Attributes and behaviours for effective risk leadership

Risk leadership role	Attributes and effective behaviours
Support executive leaders and executive team	Provide expert, holistic advice to executives on contemporary risk management. Provide frank advice to the executive on strategic and systemic risks and associated decisions. Proactively support executives doing risk work.
Enable contemporary risk management thinking and practice	Personally engage with contemporary risk management thinking and practice. Engage organizational leaders and decision makers in improving risk management practice. Advise the executive on risk management policy.

Support other leaders, managers and staff doing risk leadership and risk management work	Network internally to build collaborative working relationships and risk dialogue. Mentor and support those struggling to understand or deal well with risk.
Supervise the application of the organization's risk management framework	Liaise with the executive to ensure a shared view on how risk management is intended to be done. Monitor the risk management framework as a complex whole system, to ensure it can and does operate as intended. Report the effectiveness (or otherwise) of risk management.

Source: Barber (2023, p. 339)

Effective risk management is, in essence, a leadership issue that requires management commitment, a coherent vision, and the ability to foster employee alignment with desired attitudes. Leaders play a dual role in this area: on the one hand, they initiate and implement risk management systems, and on the other, they shape employees' attitudes toward risk.

Studies have shown that effective leadership and committed managerial support are critical success factors for implementing enterprise risk management systems (Przetacznik, 2022). Moreover, in today's complex, dynamic and globalised world, organisations are constantly grappling with change and uncertainty and should therefore mobilise all employees to actively contribute insights, develop solutions and take up leadership roles (Kotter & Gupta 2021). The risk management leadership behaviours and attributes outlined above reflect this assumption and can be seen as good practices for leadership in risk management.

3. Methodology

3.1. Research methods

This study was carried out using a qualitative-quantitative approach. The leading method used in the research procedure was a scoping literature review (Arkasey & O'Malley, 2005; Levac, 2010). The review of scientific literature was performed in full compliance with the methodological rigour of this method with additional alignment to the Preferred Reporting Items for Systematic Reviews and Meta-Analyses Extension for Scoping Reviews (PRISMA-ScR) Checklist (Tricco et al., 2018). The triangulation research approach ensured the reliability of the literature review and the results, allowing the systematisation of the state of knowledge in the research field related to the role of leadership in risk management. An immanent part of scoping reviews is the presentation of the results of the review using elements

of bibliometric analysis and graphical visualisations (Jadil et al., 2021), both of which were also used ancillary to this study.

3.2. Search strategy and article selection

The scientific literature for the planned scoping review was searched in two leading databases integrating texts from the management science discipline. These databases were EBSCO and Scopus. The decision to choose these two databases was made based on their versatility, interdisciplinarity and the fact that they are databases integrating texts from the discipline of management sciences. Based on the technical requirements of the databases, search queries were established in each database with regard to the required keywords, namely “risk” or “risks” or “risk management” AND “leadership” or “leader”. Established search queries were applied when searching the databases at the level of the titles of individual texts. A search of the databases was carried out on 19 June 2025. The text inclusion criteria at the first stage of selection were the following:

- only peer reviewed articles or conference proceedings,
- texts in English only (it was decided to search for literature only in English due to the intention to conduct international analyses and due to the widespread publications in the field of management in this language),
- only texts available in Open Access (a criterion adopted due to the nature of scoping reviews).

3.3. Data extraction and analysis

Subsequently, the scientific texts retrieved from both databases on the basis of search queries and inclusion criteria were integrated into a single text pool and cleared of duplicate texts. The remaining texts were subjected to a content analysis on the basis of their abstracts with the aim of excluding texts on topics unrelated to organisational/business/economic/state management.

The resulting set of texts was approved for the further stages of analysis, namely a keyword analysis and the establishment of a scope of literature. VosViewer software tools were used in the performance of the keyword analysis. The list of keywords created by collecting the keywords from all the texts included in the analyses was cleared of words unrelated to the study objective. The reduced number of the keywords were in turn subjected to two types of quantitative and visual analyses: occurrence analysis and chronology analysis.

Establishing the scope of literature, the authors became familiar with the full texts of the selected publications in order to correctly categorise each of them into the appropriate scope category. Scope categories were created on the basis of logical classification.

The search strategy and study selection process are shown in detail in Figure 1.

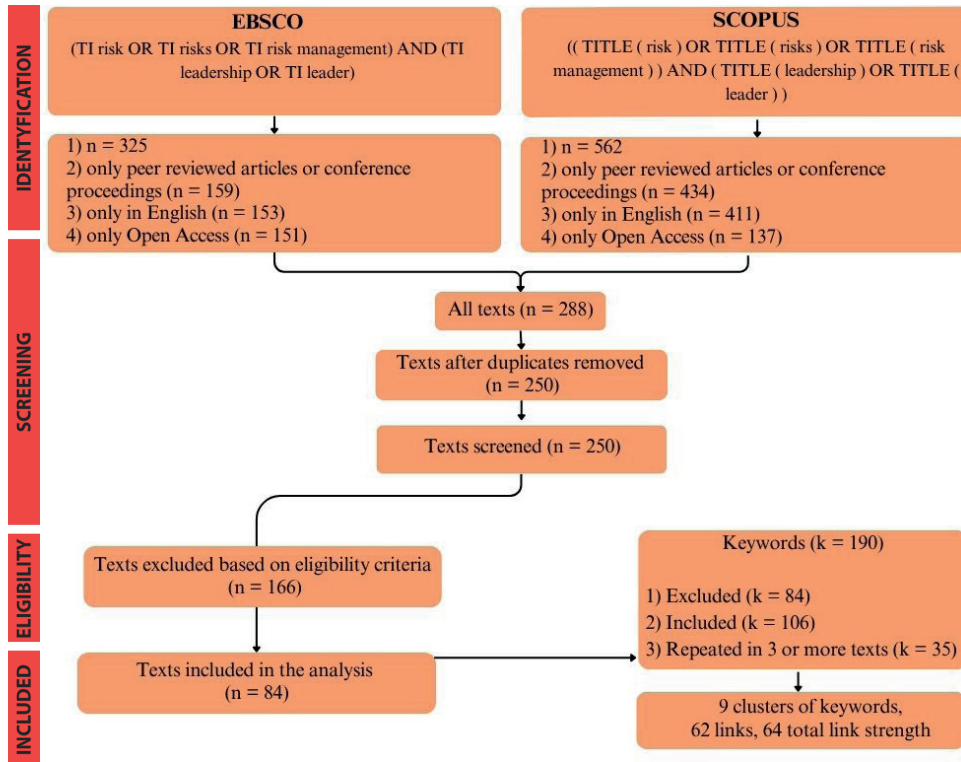


Figure 1. Search strategy and study selection process based on PRISMA guidelines

Source: own study

4. Results

4.1. Search results

The search queries applied in both databases yielded the following quantitative results: EBSCO database – 325 texts, Scopus database – 562 texts (searches were carried out

without publication date restrictions, so that a full scoping review of the texts on the required topic was possible). After applying the inclusion criteria, the number of texts was reduced to 151 in EBSCO database and 137 in Scopus database. A total of 288 texts were qualified for further analysis. This number was reduced to 250 after the removal of duplicate items.

The next step was to analyse the substantive content of the 250 texts retrieved and to eliminate those that fulfilled the exclusion criterion. A total of 166 texts were excluded from the further procedure. These were mainly texts in the fields of medicine (mainly cardiology, angiology, psychiatry) and environmental protection. Eventually, 84 scientific texts were accepted for the bibliometric analysis, keyword analysis and scoping review. Their chronological distribution (in terms of publication dates) is presented in Figure 2.

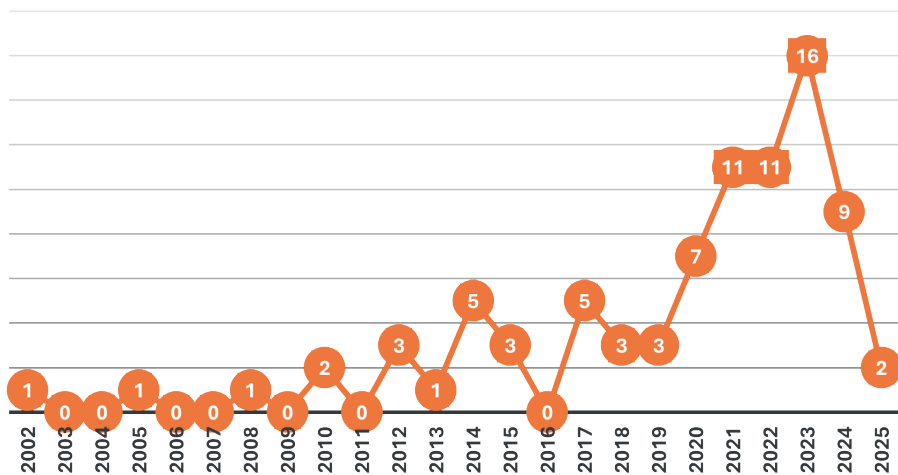


Figure 2. Chronological distribution of the texts analysed

Source: own study

As the chronological analysis of the texts shown in Figure 2 indicates, texts on leadership in risk management are not common. Before 2020, they had appeared in scientific literature incidentally. A clear shift towards increased publication in this research area

can be seen after 2020, i.e. with the start of the global COVID-19 pandemic. Indeed, the period of crisis caused by the pandemic, with both social and economic impacts, caused an increase in demand for leadership in managing new or escalating risks. The increased need to develop new or revise existing leadership strategies, at the level of both individual enterprises and whole countries, economies or societies, began to become apparent in risk management procedures.

4.2. Keywords analysis

A total of 190 keywords were identified in all 84 texts selected for substantive content analysis. This list was cleared of items that were not directly relevant to the issue under analysis, such as abbreviations, names of countries, names of research methods and techniques, etc. (a total of 84 keywords were removed based on this criterion). After this elimination, 106 items were qualified for the core keyword analysis. In the next step, taking the repeatability of the keywords in the texts analysed as a criterion for their representativeness, the authors approved for further analysis those keywords that were repeated in three or more texts (the criterion of their repeatability is considered as a condition for representativeness in the analysis of results). There were 35 such keywords. They were further analysed with regard to occurrence and chronology, as well as divided into nine thematic clusters. They show 62 links and a total link strength of 64 among them. The three most frequently recurring keywords were leadership, humans and risk-taking behaviour. The networks of the keywords analysed with respect to occurrence and chronology are shown in Figure 3 and Figure 4, respectively.

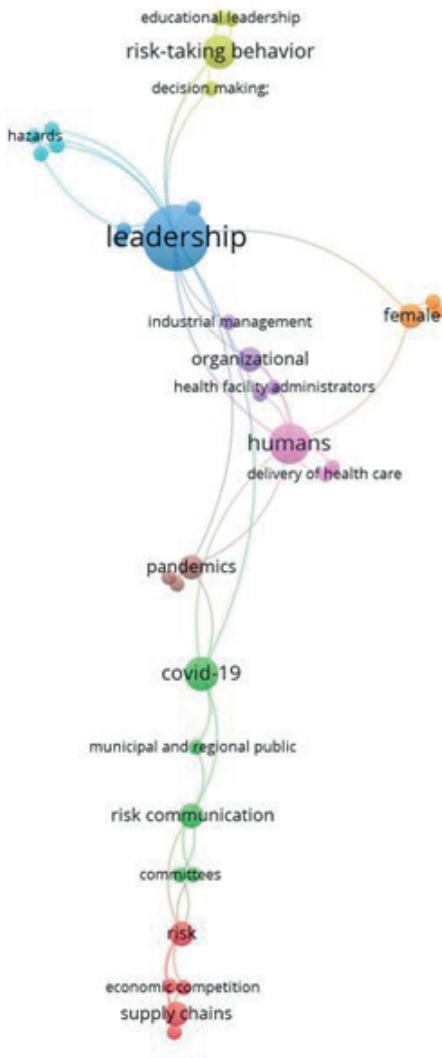


Figure 3. **Keywords network (occurrence)**

Source: own study based on VOSViewer

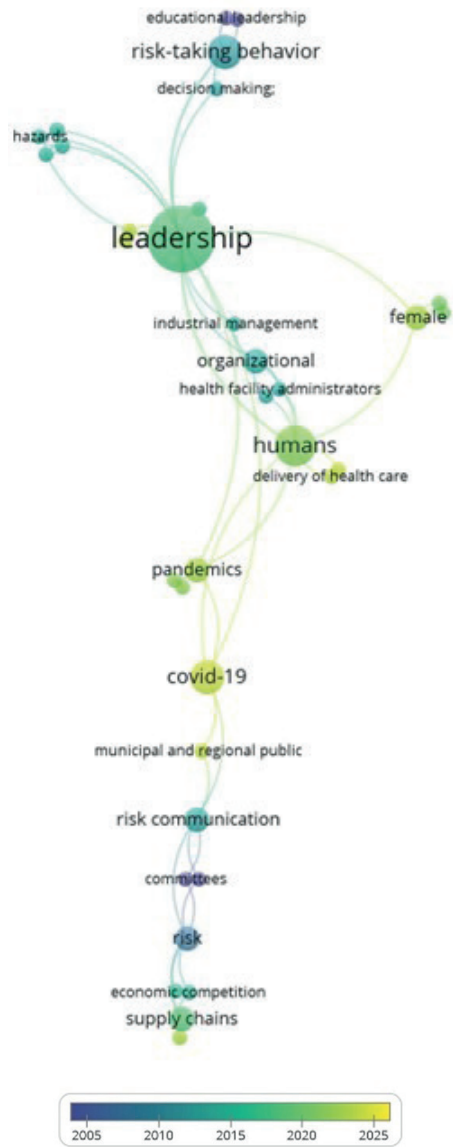


Figure 4. **Keywords network (chronology)**

Source: own study based on VOSViewer

4.3. Analysis of the scope

In the final step of the study, an analysis of the scope of the 84 selected texts was carried out. Based on a logical classification, seven categories of the scope were created, reflecting the substantive content of the texts analysed. The categories were as follows:

- importance of leaders in armed conflicts,
- importance of national leaders,
- leadership in crisis and security management,
- male and female roles of national and organisational leadership,
- leadership in the context of climate change, CSR and sustainable development,
- leadership in cybersecurity management, digital transformation and artificial intelligence,
- leadership in business management.

The results of the analysis of the scope are presented in Table 5.

Table 5. Analysis of the scope

Category of the scope	Texts	Number
Importance of leaders in armed conflicts	Flores (2012); Sudduth (2017)	2
Importance of national leaders	Heath et al. (2002); Ridenour & Twale (2005); Miller (2010); Rad & Shapiro (2014); Fails (2014); Sturup & Low (2015); Teufel et al. (2020); Shao & Hao (2020); Andersen et al. (2021); Juma et al. (2022); Guo et al. (2024); Ruslanjari et al. (2024)	12
Leadership in crisis and security management	Summerill et al. (2010); Orsini (2012); Fernández-Muñiz et al. (2014); Sandhåland et al. (2017); Goto et al. (2017); Oah et al. (2018); Zamisa & Mutereko (2019); Jacklin-Jarvis & Potter (2020); Wardman (2020); Shavshukov & Zhuravleva (2020); Menon & Motala (2021); Iranzo-Cabrera & López-García (2021); Lao et al. (2022); Cakir et al. (2023); Savoia et al. (2023); Buchtmann et al. (2023); Wei & Kuo (2023); Omidi et al. (2023); Lalika et al. (2023); Hiep & Hien (2023); Ren et al. (2024)	21
Male and female roles of national and organisational leadership	Ertac & Gurdal (2012); Glass & Cook (2020); Baldner et al. (2022); Rinne & Sonnabend (2022); Chen & Hsu (2024)	5
Leadership in the context of climate change, CSR and sustainable development	Shakeela & Becken (2015); Lizarralde et al. (2021); Bregenzer & Jimenez (2021); Tan & Ann (2023); Young et al. (2024)	5

Leadership in cybersecurity management, digital transformation and artificial intelligence	Windeler et al. (2017); Dixit et al. (2021); Block et al. (2021); Popescu et al. (2021); Ghosh et al. (2022); Dixit et al. (2023); Lesum et al. (2024)	7
Leadership in business management	Wang & Wilmschurst (2008); Haney et al. (2013); Heldal & Antonsen (2014); Carlson et al. (2014); Amin-Naseri & Azari Khojasteh (2015); Berg et al. (2017); Adeleke et al. (2018); Chen et al. (2018); Duan et al. (2019); Aqli et al. (2019); Jung et al. (2020); Moon (2021); Porcuna-Enguix et al. (2021); Liu et al. (2021); Camba (2022); Abrudan et al. (2022); Salin et al. (2022); Ta et al. (2022); Zeng et al. (2022); Lisdiono et al. (2022); Whiteoak et al. (2023); Zaher Omair Juma et al. (2023); Tran (2023); Nolan-McSweeney et al. (2023); Sharapov & Ross (2023); Wilson et al. (2023); Gupta & Mathur (2023); Jubault Krasnopevtseva et al. (2024); Anh et al. (2024); Mohr et al. (2024); Ye et al. (2025); Al-Dhobebe et al. (2025)	32

Source: own study

The results of the analysis of the scope presented in Table 1 confirm that, despite the fact that there is a scarcity of academic research on leadership in risk management, the studies that do appear are most often directly concerned with the analysis of strategies and the leadership function in risk management of individual companies, groups of companies or entire sectors (this applies to various groups of enterprises in both the public and private sectors). In this review, the texts of this type account for 38% of all texts analysed (32 texts). The second most numerous group of texts in this study comprises publications related to the leadership in crisis management and security management (21 texts representing 25% of all texts analysed). The third group includes texts dealing with the role of national and local leaders in managing risks in individual countries or communities (12 texts, 14%). Each of the remaining content categories contains fewer than 10 texts.

5. Discussion

The scoping literature review, the results of which are presented in this text, confirms that despite the high relevance of the issue of leadership in contemporary risk management in enterprises, business sectors or countries, academic texts on this topic are rarely published. In addition, only some of them are directly concerned with the analysis of strategies or the leadership function in the management of risks relevant to business organisations today.

As the results of the analyses confirm, when it comes to the evolution of research on leadership in risk management, the first texts on this topic do not deal with leadership itself, but directly with the personal role of leaders in managing crises on a national, global, or military scale (Heath et al., 2002; Ridenour & Twale, 2005; Miller, 2010; Flores, 2012; Sudduth, 2017; Rad & Shapiro, 2014; Fails, 2014; Sturup & Low, 2015; Teufel et al., 2020; Shao & Hao, 2020; Andersen et al., 2021; Juma et al., 2022; Guo et al., 2024; Ruslanjari et al., 2024).

The context of the importance of leadership in crisis situations began to be more widely considered academically in the aftermath of global crises, first with a limited number of texts during and after the global financial crisis, then with many more publications in reaction to the global COVID-19 pandemic (Wardman, 2020; Cakir et al., 2023; Hiep & Hien, 2023; Lalika et al., 2023; Savoia et al., 2023).

The demand for leadership in the processes of managing the proliferating threats of the modern world become also more apparent in the context of global issues such as climate change, CSR and sustainable development (Shakeela & Becken, 2015; Lizarralde et al., 2021; Bregenzer & Jimenez, 2021; Tan & Ann, 2023; Young et al., 2024), as well as digital transformation and cybersecurity (Windeler et al., 2017; Dixit et al., 2021; Block et al., 2021; Popescu et al., 2021; Ghosh et al., 2022; Dixit et al., 2023; Lesum et al., 2024).

There is also an emerging research thread focusing on gender differences in leadership roles in the context of risk management in countries and enterprises (Ertac & Gurdal, 2012; Glass & Cook, 2020; Baldner et al., 2022; Rinne & Sonnabend, 2022; Chen & Hsu, 2024).

The analysis of 32 publications from the leadership in business management category indicates that the research topics addressed in these studies focus on the links between leadership, risk management, organizational effectiveness, and employee behaviour under conditions of uncertainty (Wang & Wilmschurst, 2008; Duan et al., 2019; Wilson et al., 2023). The prevailing theme in the analysed studies is the role of leadership in shaping attitudes and behaviours related to risk within organizations (Berg et al., 2017; Aqli et al., 2019). The research indicates that both the style and quality of leadership influence employees' propensity to take or avoid risks, as well as affect risk management at the organizational level (Jung et al., 2020; Adeleke et al., 2018; Moon, 2021). Additionally, several articles emphasize the importance of different leadership styles in relation to organizational outcomes, including both hard outcomes (such as performance and financial results) and soft outcomes (such as safety climate, creativity, and employee well-being) (Berg et al., 2017; Whiteoak et al., 2023; Zeng et al., 2022; Ta et al., 2022). The leadership styles examined in these studies include, among others: transformational leadership, transactional leadership, servant leadership, ethical leadership, supportive leadership, authentic leadership, and empowering leadership (Moon, 2021; Jung et al., 2020). The reviewed publications also explore how leadership affects employee

behaviours that are particularly critical in uncertain and dynamic environments, such as creativity and innovation, willingness to speak up, change engagement, improvisation, rule compliance, and organizational citizenship behaviours (Duan et al., 2019; Jung et al., 2020; Ye et al., 2025). Another emerging theme concerns the role of leaders in strategic decision-making under conditions of uncertainty and rapid change in the environment (Sharapov & Ross, 2023). A significant portion of the literature deals with organizations operating under high-risk conditions, where key performance indicators include employee safety and system reliability. In such contexts, leadership is viewed through the lens of incident prevention and the cultivation of a safety culture (Ta et al., 2022; Zaher Omair Juma et al., 2023). By contrast, a less explored theme is the influence of broader organizational context, such as organizational culture, HR practices, or national conditions, on the relationship between leadership and risk (Nolan-McSweeney et al., 2023; Lisdiono et al., 2022). Some articles also advocate for moving away from narrowly defined leadership styles toward conceptualizing leadership as an element of a broader system that constitutes the organization and its environment (Nolan-McSweeney et al., 2023).

6. Conclusions

The study presented here is a response to the research gap existing in the international academic literature and concerning the lack of comprehensive reviews of publications devoted to leadership in risk management. The different leadership strategies represented by managers at different levels, whether in companies, whole industries, supervisory bodies or national economies, determine their leadership styles and attitudes towards risk, and therefore have a real impact on the risk management processes and the performance outcomes of the organizations they manage.

The main finding of the presented scoping literature review is that relatively little scientific attention has been given to the correlations between leadership styles and attitudes and reactions to risks in the contemporary business and other environments. Given that there were no criteria relating to publication dates, the number of the texts meeting the inclusion criteria was considerably lower than expected. This suggests that leadership and risk have largely been studied separately, leaving their intersection underexplored. Moreover, our analysis shows that interest in this topic is largely reactive: publications surged around major crises (e.g. the 2008–2009 financial crisis and the COVID-19 pandemic). For instance, publication rates increased significantly after 2020 (coinciding with COVID-19) while inter-crisis periods yielded few studies. In other words, the literature on leadership and risk tends to advance in waves triggered by crises, rather than as part of a sustained research program. This reactive pattern may have led to neglect of important

leadership factors affecting enduring risks, underscoring the need for more stable, proactive research agendas in this field.

The presented research results reveal that the literature on leadership in risk management is overwhelmingly leader-centric and psychological in orientation, with relatively few studies adopting broader organizational or strategic perspectives. Most existing research examines the attitudes, behaviors and styles of individual leaders, or their direct followers, in relation to risk, rather than embedding those findings in wider institutional or organizational contexts. In particular, there has been scant attention to how leadership affects system-wide or holistic approaches to risk – for example, few analyses consider leadership's role in shaping enterprise-level risk frameworks or cultures. As a result, the current body of work remains fragmented and piecemeal, providing little integrative foundation for building comprehensive models that link leadership processes and risk-management outcomes in organizations. This gap underscores the need for future research to move beyond individual-level theorizing and toward more systemic, multi-level models of leadership in risk management.

The main elements that distinguish our research from the existing literature on the subject are the very fact of conducting a literature review on the importance of leadership in risk management (which was previously unavailable) and the research findings previously unknown in the literature. Firstly, they allow us to establish priority research areas based on scoping and keyword analysis. Secondly, they allow us to identify underexplored research threads, such as the analysis of correlations between leadership styles and risk attitudes.

6.1. Theoretical and practical implications

The results of the analyses presented in this text have a number of implications, both theoretical and applicative. Theoretically, they reinforce that risk management is fundamentally shaped by leadership – a fact reflected in risk standards and recent studies. Presented mapping shows that leaders provide vision and structure for risk governance and strongly influence employees' risk attitudes. The few publications dealing with this research issue prove that there is a strong relationship between managers' leadership styles and their attitudes towards risk and, consequently, corrective and preventive actions or measures taken in response to various risks identified. In terms of the theoretical and cognitive aspects, they should definitely make researchers aware of the need to intensify research on the correlations between leadership and risk management at different management levels.

At the same time, most existing research focuses on positive leadership styles, while the impact of negative leadership styles (such as authoritarian leadership, avoiding leadership, toxic leadership) on risk perception and employee behaviour remains underexplored.

These styles represent the so-called “dark side” of leadership and merit further empirical attention. This highlights the need for theory to account for how detrimental leadership behaviors might undermine risk management.

An important cognitive dimension for future research is the identification of leadership competencies and behaviours that are crucial for the effective management of various types of risk in organizations. Knowledge of these competencies may, on the one hand, contribute to expanding the need for research on this topic, and on the other hand, it may influence the creation of new theories or frameworks regarding the relationships between types of leadership styles and the risk management attitudes represented by managers. It is also recommended that comparative studies be conducted across sectors to determine which leadership styles are most effective in managing specific types of risk. Such research would support the development of context-sensitive leadership recommendations tailored to particular industries.

The scoping review conducted in this paper also reveals emerging trends. Leadership in business management and crisis management dominates the field. Topics such as climate change and cybersecurity leadership are significantly less popular. Future theory should therefore incorporate these emerging areas, integrating digital transformation and sustainability into leadership and risk models. Practically, these findings suggest organizations should broaden leadership development to cover diverse risk domains. In particular, leaders may need new competencies for technology-driven and environmental risks.

In the application aspect, the results of the analyses presented may be useful for management practitioners. They can become familiar with real-world leadership strategies and their results in risk and crisis management. They can also adapt the acquired information to their decision-making styles. This is particularly important nowadays, when the whole world, not just the business world, faces the growing number of serious threats, such as pandemics, geopolitical conflicts, energy crises, inflationary problems, cyber threats, climate change, environmental urgencies, etc.

6.2. Limitations and future research directions

The study conducted also has some limitations. One of them is the fact that only two databases were taken into consideration in the search for relevant scientific publications. This may have resulted in omitting texts that meet the inclusion criteria but are not indexed in the databases analysed. However, the choice of the two databases that integrate the largest number of texts from the management science discipline means that, although potential, this risk is minimised. Moreover, the review only included publications written in English, which may introduce language bias by omitting relevant studies published in other languages. This is particularly relevant in fields such as

public risk governance or crisis management, where national and regional approaches are often discussed in local-language sources. It should also be emphasized that grey literature (such as government reports, policy papers, or practitioner documents) was not included in the analysis. While the focus on peer-reviewed academic publications ensures scientific rigor, this exclusion may overlook valuable insights from non-academic practice, especially in applied areas of risk leadership. Future reviews may benefit from incorporating a broader linguistic and source scope to capture more diverse perspectives and practices across global contexts.

Given the previously indicated relatively small number of scientific texts directly addressing leadership issues in contemporary enterprise risk management, further research on the topics presented in this paper is undoubtedly justified and necessary. Clearly more studies are needed on specific relationships between individual leadership styles and decision-makers' attitudes towards risk. Future research should examine how different leadership styles affect risk perception and decision-making. Current studies mostly focus on "positive" styles and overlook the potential impact of negative or coercive leadership. There is a particular need to explore how varying styles shape organizational risk appetite, decision quality, and error rates in uncertain conditions. Conclusions to be drawn from research could be extremely useful for managers, regardless of business sector or geographical region. There is a lack of cross-sector and cross-cultural research on how leadership influences risk. Future studies should compare how leadership styles affect risk behaviours across industries (e.g. finance vs. healthcare) and examine how cultural factors shape these relationships. This would help determine whether leadership–risk dynamics are context-specific or more universal. Current research rarely examines how organizational structures or institutional settings influence leadership in risk management. Future studies should explore that factors. Most studies focus on individual leaders at a single point in time. Future research should use multi-level and longitudinal designs to explore how leadership influences risk across teams, organizations, and over time, especially before, during, and after crises. This would better reflect the complexity of leadership in risk contexts. Future research should also examine how leaders address cybersecurity, sustainability, and ethical challenges—areas increasingly critical for modern organizations but largely absent from current studies.

Authors' contribution

S.B.: article conception, research methods applied, conducting the research, data collection, analysis and interpretation of results, draft manuscript preparation. **K.G.:** article conception, theoretical content of the article, analysis and interpretation of results, draft manuscript preparation.

Declaration of Generative AI and AI-assisted technologies in the writing process

During the preparation of this work the authors did not use Generative AI and AI-assisted technologies in the writing process.

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