

Risk Management as a Tool for Reducing Resistance to Change in Organisations

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Abstract. *Digital transformation exposes organisations to emerging risks, with resistance to change representing a major obstacle that can delay implementation and undermine outcomes. Although risk management and resistance to change are both well-established research areas, their integration remains limited. This study addresses this gap by examining how risk management can function as a strategic mechanism for reducing resistance during organisational transformation in volatile, technology-driven environments. Using a bibliometric analysis of the Web of Science database and science-mapping techniques in Biblioshiny, the study identifies a growing research focus shifting from technical concerns toward governance, performance, and digital transformation. While risk and change management emerge as central themes, resistance remains underexplored and often treated as a secondary outcome. The paper reframes resistance as a strategic organisational risk that can be addressed through integrated governance practices such as stakeholder engagement, communication, training, and contingency planning. These findings contribute to theory development and support future empirical research on managing resistance in transformation processes.*

Keywords: risk management; change management; resistance to change; bibliometric analysis; thematic map; keyword analysis.

Introduction

In contemporary contexts, within a highly volatile, uncertain, complex, and ambiguous (VUCA) environment, further intensified by rapid technological disruption, particularly through advances in artificial intelligence and machine learning, organisations are exposed to a wide spectrum of risks which has led to organisational adaptability becoming a condition of survival rather than choice (Percy & Dow, 2021). As organisations increasingly deploy digital technologies as instruments for risk mitigation, the significance of effective change management and the dynamics of resistance to change become progressively more pronounced. Organisational reluctance to adapt can critically undermine transformation initiatives by obstructing the incorporation of novel

practices and constraining innovative development. Accordingly, resistance to change and digital transformation should be conceptualized as interdependent processes that merit systematic examination, particularly within the domain of organisational risk management (Slassi-sennou & Elmouhib, 2025). Consequently, the mitigation of organisational risk through the transformation of learning into innovative strategic capability must be pursued through a systemic and integrated organisational framework (Percy & Dow, 2021).

Resistance to change has been widely examined within the fields of organisational development and change management, where it has long been recognized as a central challenge in organisational transformation. The ways in which resistance is understood, addressed, and managed therefore remain highly relevant to both research and practice. In contemporary organisational contexts, change is increasingly continuous, unpredictable, and unavoidable, and is commonly accompanied by resistance or inertia (Warrick, 2023). Such resistance may be rational or irrational, and may be expressed openly or indirectly. Regardless of its form, resistance remains one of the principal factors contributing to the failure of change initiatives. Effective management of resistance can generate substantial organisational benefits, whereas inadequate change management capabilities can result in significant organisational costs (Warrick, 2023).

This study aims to reconceptualise resistance to change as a strategic organisational risk that can be systematically addressed through risk management frameworks and to provide a comprehensive bibliometric integration of the risk management and resistance to change literatures, revealing their structural fragmentation and limited theoretical integration. Thus, the study develops an integrative governance perspective that positions risk management as a proactive mechanism for anticipating and mitigating behavioural resistance during transformation processes. As such, the main research questions this study must answer are: How can risk management function as a strategic mechanism for reducing resistance to change during organisational transformation processes while operating within volatile and technologically disruptive environments? What mechanisms are proposed in the literature linking RM integration to resistance outcomes?

Following this introduction, the paper proceeds with a comprehensive literature review that examines the theoretical evolution of resistance to change and its intersection with organisational risk management, highlighting key conceptual gaps and emerging integrative perspectives. The methodology section then outlines the bibliometric research design, data sources, search strategy, and analytical techniques. The results and discussion subsequently present the science-mapping of the field through thematic structures, network analyses, and trend identification. Finally, the conclusion synthesises the findings, discusses theoretical and practical implications, and identifies directions for future research.

Literature review

Research on resistance to change has evolved from an early focus on the social dimensions of organisational change to a more recent emphasis on the interaction between technology and organisations, being initially viewed as nothing more than a simple deviation from expected employee attitudes shaped by group norms (Bagrationi & Thurner, 2023). More recent perspectives, however, recognize resistance as socially embedded and sometimes driven by constructive intentions, and also linking it to organisational factors such as poorly planned change processes, inadequate human resource management, and insufficient competence or commitment (Bagrationi and Thurner, 2023).

According to Slassi-sennou and Elmouhib (2025), employee resistance to organisational change is a multidimensional phenomenon encompassing cognitive, emotional, and behavioral components, representing both a challenge and an opportunity for organisational improvement, being commonly driven by fear, perceived threats, and divergent evaluations of the change's value. Resistance among users may be expressed through a broad spectrum of behaviors ranging from passive disengagement to active opposition. Passive forms include reduced participation, limited interest, procrastination, adherence to established routines, and strategic withdrawal, while more active responses involve articulating dissenting perspectives, mobilizing support from others, or forming oppositional groups (Vrhovec et al., 2015). In extreme cases, resistance escalates into overtly confrontational or harmful actions that disrupt organisational functioning, such as internal disputes, intimidation, labor actions, boycotts, or deliberate sabotage (Vrhovec et al., 2015). Consequently, resistance is increasingly framed as an organisational risk that can be addressed through structured risk management frameworks, effective mitigation strategies including but not being limited to: stakeholder engagement, transparent communication, targeted training, and phased change processes, with change agents playing a central role in building trust, clarifying benefits, and facilitating collaboration (Slassi-sennou & Elmouhib, 2025). Within the context of project and program management for example, resistance to change may be conceptualized as a risk factor affecting the achievement of project or program objectives, particularly the successful realization of planned changes. In line with established risk management frameworks, such resistance can exert either adverse or beneficial influences on the change implementation process (Fiedler, 2010)

Effective management of organisational change requires a systematic examination of the stages through which the change process unfolds, along with the identification and diagnosis of the sources of resistance. An understanding of how resistance emerges across different phases of change enables managers to anticipate potential disruptions, challenges, and atypical situations, thereby improving their capacity to respond proactively and guide the process more effectively (Kuzhda, 2016). As key agents in organisational change initiatives, managers' perceptions regarding the anticipated degree of employee resistance to technological adoption play a critical role in shaping decisions about whether and how such technologies are ultimately implemented within the organisation (Jalo & Pirkkalainen, 2021). Accordingly, management should increasingly emphasize the formulation of risk management objectives to encourage employee engagement in addressing negative behaviors. By fostering strong employee-management relationships and clarifying goals, organisations can promote constructive competition that supports performance and protects organisational interests (Alshehabeya, 2024). Bagrationi et al. (2021) state that, in certain instances, middle managers themselves may act as sources of resistance, influenced by concerns such as job insecurity, diminished authority, or insufficient alignment with strategic goals. Their reluctance can propagate through departmental and professional networks, as middle managers convey skeptical attitudes to their subordinates, thereby impeding the effectiveness and progression of the broader change initiative. The effectiveness of change management initiatives within an organisation has significant implications for business risk exposure and related financial performance. As organisations increasingly rely on data to generate customer value and guide strategic decision-making, they are compelled to address not only the nature of the transformations required to achieve data-driven value, but also the challenge of implementing such changes effectively while minimizing associated risks (Sittrop & Crosthwaite, 2021).

A critical intersection between risk management and resistance to change emerges in the implementation of Enterprise Risk Management (ERM), where the pursuit of a systematic,

organisation-wide approach to identifying and mitigating risks often encounters obstacles rooted in employee apprehension, skepticism, or reluctance to adopt new practices. ERM constitutes a formalized and systematic approach to the identification, assessment, and mitigation of risks that may influence organisational objectives and long-term performance. Unlike traditional risk management practices, which are often fragmented and function-specific, ERM integrates risk-related activities across the organisation, thereby enabling a comprehensive and coordinated approach to managing uncertainty (Sax & Andersen, 2019). While describing the relation between risk management and resistance to change, Mabkhot and Mirzaliev (2025) argue that the awareness of change management principles represents a critical factor influencing the effectiveness of organisational risk management practices. As organisations continuously adapt to technological innovation, globalization, and regulatory change, employees' capacity to recognize, accept, and respond to change plays a pivotal role in risk mitigation. Organisations with high levels of change management awareness foster cultures in which employees proactively anticipate and address emerging risks, thereby reinforcing and enhancing the overall ERM framework. Moreover, Zhao et al. (2014) suggest that organisational culture exerts a fundamental influence on the success of change initiatives due to its pervasive and often deeply embedded nature. Resistance to change may arise when the prevailing culture is unsupportive, shaped both by entrenched group norms and specific organisational elements that impede the effective implementation of ERM. One critical cultural element in this context is the organisation's risk attitude, which may be misaligned with its formally defined risk appetite. According to Martens and Rittenberg (2018), risk appetite represents the types and level of risk an organisation is willing to accept, on a broad scale, in pursuit of value. Misalignment between employees' risk behaviors and the organisation's risk appetite, compounded by the real-world constraints faced by the firm, can hinder ERM adoption. Furthermore, individuals often react to change through habitual patterns and exhibit cognitive biases that shape their perception of change in ways that are most comfortable to their existing worldview, further complicating the process of cultural and organisational transformation (Zhao et al., 2014).

Temitope (2024) identifies effective risk management as a potential tool for reducing resistance to change. According to their study, contingency planning entails the systematic development of predefined responses to identified risks, including the allocation of resources and the establishment of procedures that are activated when specific conditions or risk thresholds are reached. Such planning may involve, for instance, the reservation of financial or operational buffers to manage unforeseen events. The presence of a well-structured contingency framework enhances organisational adaptability and responsiveness to change, enabling more effective responses to unexpected disruptions and facilitating rapid recovery from setbacks. As a result, project continuity is strengthened and adverse impacts on timelines and performance outcomes are significantly reduced.

The principles articulated in ISO 31000 (International Organization for Standardization, 2018) emphasise that risk management should be fully integrated into organisational processes, decision-making structures, and change initiatives rather than treated as a stand-alone control function. The standard highlights the importance of leadership commitment, stakeholder engagement, communication, and continual improvement, all of which are directly relevant to the management of organisational change. From this perspective, resistance to change can be interpreted as a source of implementation risk that emerges when uncertainty, inadequate communication, or misaligned stakeholder expectations are not systematically addressed. Although ISO 31000 does not explicitly conceptualise resistance as a distinct risk category, its process-

oriented and integrative logic implicitly supports the treatment of behavioural and cultural barriers as risk factors that should be anticipated and managed within enterprise risk practices.

Similarly, the Committee of Sponsoring Organizations of the Treadway Commission (COSO) ERM framework (Committee of Sponsoring Organizations of the Treadway Commission, 2017) promotes a holistic, strategy-aligned view of risk that incorporates organisational culture, governance, and performance considerations. COSO explicitly recognises that risk management effectiveness depends on risk-aware culture, clear communication flows, and strong internal alignment, all of which are critical during periods of organisational transformation. Within this framework, resistance to change may be understood as a manifestation of cultural and behavioural risk that can undermine the achievement of strategic objectives if not proactively managed. While the COSO ERM model does not operationalise resistance to change as a standalone construct, its emphasis on governance, risk culture, and information flows provides a conceptual foundation for integrating change-related behavioural dynamics into enterprise risk management processes.

Methodology

This study employs a systematic bibliometric methodology to examine the scientific literature on risk management as a tool for reducing resistance to change, with the objective of mapping the intellectual, conceptual, and thematic structure of the field. The objective of the bibliometric approach is interpretative and structural rather than causal, focusing on knowledge mapping rather than empirical testing of organisational outcomes. Bibliometric analysis is adopted as an appropriate methodological framework due to its capacity to identify large-scale knowledge patterns, trace conceptual evolution, and reveal structural relationships within fragmented and interdisciplinary research domains (Donthu et al., 2021). The approach integrates quantitative performance analysis with relational science-mapping techniques, enabling both descriptive evaluation of scientific production and interpretative reconstruction of knowledge structures (Zupic & Čater, 2015). The Web of Science Core Collection was selected as the exclusive data source for the study due to its high-quality indexing standards, standardized bibliographic metadata, and strong compatibility with bibliometric analytical tools. This choice also reduces the risk of duplicate record inflation that may arise when combining multiple large bibliographic databases with substantial journal overlap, such as Web of Science and Scopus. The database provides curated coverage of peer-reviewed journals and high-impact conference proceedings across management, organisational studies, engineering, psychology, and social sciences, which is essential for capturing the interdisciplinary nature of research at the intersection of risk management and organisational change (Mongeon & Paul-Hus, 2016). Restricting the data source to a single database enhances methodological coherence, internal validity, and reproducibility, ensuring a controlled and transparent analytical environment.

The search strategy was designed using a dual-concept logic that integrates the domains of risk management and resistance to change. The risk management dimension includes multiple functional and theoretical variants, such as risk control, risk governance, risk assessment, risk modelling, risk mitigation, and risk reduction, while the organisational change dimension captures both process-oriented and resistance-oriented constructs, including resistance to change, change management, organisational transformation, and opposition to change. The PRISMA workflow is illustrated in Figure 1.

The query used to extract the dataset is: ((“risk management” OR “risk control” OR “risk assessment” OR “risk analysis” OR “risk evaluation” OR “risk identification” OR “risk governance” OR “risk mitigation” OR “risk adjustment” OR “risk modelling” OR “risk reduction”)

AND (“resistance to change” OR “change resistance” OR “change management” OR “organisational change” OR “organizational change” OR “organisational transformation” OR “organizational transformation” OR “transformation management” OR “opposition to change”)). The query was applied to titles, abstracts, and author keywords in order to balance conceptual specificity with retrieval breadth, thereby maximizing both precision and recall in the dataset. The initial search resulted in 470 academic papers.

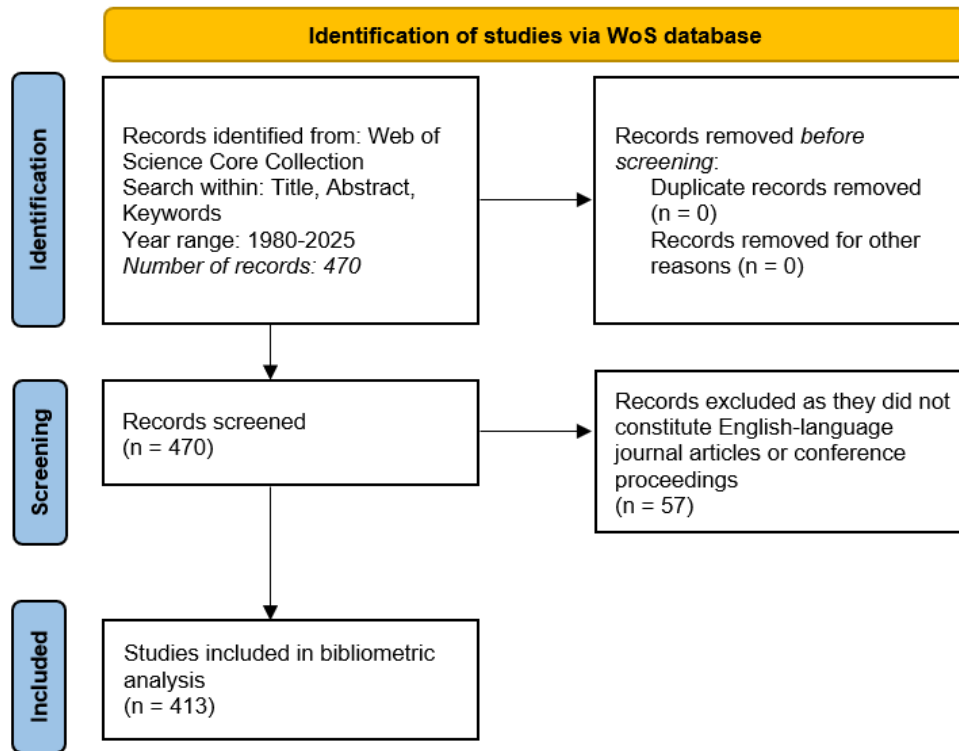


Figure 1. PRISMA workflow of the bibliometric analysis

Source: Authors' own research using PRISMA flow diagram template.

Only research articles and proceedings papers written in English were included in the final dataset (413). These document types were selected because they represent primary knowledge production through empirical research, theoretical development, and methodological innovation. Conference proceedings were included to capture emerging research trajectories and early-stage conceptual developments, while other document types such as reviews, editorials, book chapters, and notes were excluded to maintain analytical consistency and focus on original scientific contributions. Only papers published until 1 december 2025 were selected, the dataset being retrieved on 24 december 2025. Following data retrieval, records were exported in compatible bibliographic formats and subjected to systematic preprocessing procedures (Cobo et al., 2011) such as keyword standardization, synonym merging, spelling harmonization, and semantic clustering of conceptually equivalent terms. This data-cleaning phase was essential to ensure analytical reliability, semantic coherence, and structural validity in subsequent mapping processes. All analytical stages were conducted using the Bibliometrix R-package, implemented through its graphical interface Biblioshiny, which provides an integrated, transparent, and reproducible environment for bibliometric analysis, science mapping, and visualization (Aria & Cuccurullo, 2017). The use of Biblioshiny enables standardized workflows for data processing, network

construction, thematic mapping, and longitudinal analysis, ensuring methodological traceability and replicability.

The analytical strategy combined performance analysis and science-mapping techniques. Performance analysis was used to examine publication trends, citation dynamics, source productivity and institutional distributions. Science mapping was employed to reconstruct the conceptual and intellectual structure of the field through co-word analysis, co-citation analysis and thematic mapping. Co-word analysis enabled the identification of conceptual relationships and thematic clusters, while co-citation analysis revealed the theoretical foundations and dominant intellectual traditions shaping the field. Thematic mapping based on centrality-density metrics allowed the classification of themes into core, foundational, specialised, and emerging domains, thereby revealing the structural organisation and developmental dynamics of the literature.

Results and discussions

The temporal distribution presented in Figure 2 reveals a phased evolution of publication output and citation volume over the period 1996-2025, with pronounced differences between the early and more recent stages. During the interval 1996-2004, both the number of publications and the volume of citations remain low and relatively stable. This pattern corresponds to an initial stage characterized by a limited presence of scholarly contributions and modest academic visibility. Between 2005 and 2010, a gradual increase in publication counts can be observed, accompanied by a slow but steady accumulation of citations. This trend reflects a progressive broadening of scholarly interest and the early consolidation of a core body of works.

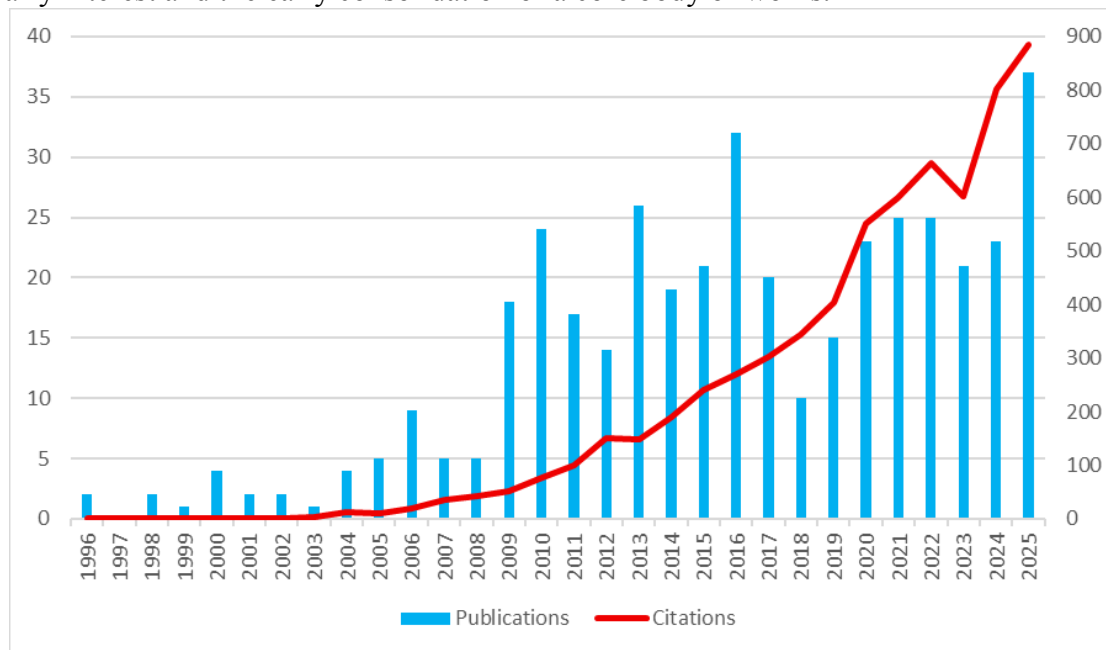


Figure 2. The evolution of papers and citations

Source: Authors' own research.

After 2010, the trajectory becomes markedly upward. Publication activity increases at a faster pace, albeit with annual fluctuations, while citation counts rise sharply. This phase indicates a substantial intensification of academic engagement and a growing reliance on existing studies as reference points within the field. From approximately 2018, the annual number of publications shows signs

of relative stabilization, whereas citation growth continues at a pronounced rate. This divergence in dynamics suggests a cumulative effect, whereby previously published works generate sustained and increasing levels of scholarly uptake in subsequent years. The trends depicted point to a clear transition from an early developmental stage toward a phase of consolidation and maturity, reflected in the sustained growth in both the visibility and utilization of research outputs over time.

Figure 3 shows a clear concentration of publications within a relatively small group of academic journals, reflecting the top 10 most relevant sources of risk management and resistance to change. Sustainability stands out as the most prolific journal, publishing the largest number of articles in this area. Its leading position indicates a strong tendency toward integrative and interdisciplinary research, where risk-related topics are examined in connection with sustainability, strategic governance, and long-term organisational change. A second cluster of journals, including Business Process Management Journal and Safety Science, also accounts for a substantial share of publications. Their prominence highlights a consistent emphasis on process-oriented, operational, and safety-focused perspectives, underlining the importance of risk management in strengthening organisational processes and addressing resistance to change. Journals such as BMJ Open, International Journal of Project Management, and Journal of Accounting and Organisational Change occupy a mid-range position in terms of article frequency. Their presence points to a broader thematic scope, extending research into project-based environments, organisational transformation, and the financial and accounting aspects of risk-related decision-making. At the lower end of the distribution, journals including Applied Sciences (Basel), International Journal of Construction Management, Journal of Construction Engineering and Management, and Journal of Risk and Financial Management contribute a comparatively smaller number of articles. This pattern suggests a gradual expansion toward applied and sector-specific contexts, where risk management is addressed within technical, engineering, or financially oriented frameworks.

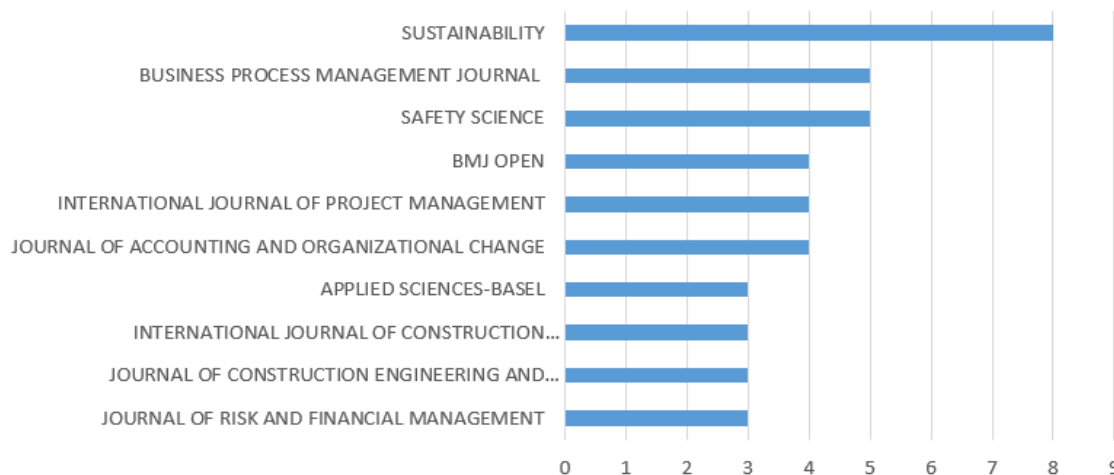


Figure 3. The most relevant sources

Source: Authors' own research.

Figure 4 presents the distribution of publications across key academic affiliations active in the field of risk management and resistance to change. The results show a concentration of research output within a limited number of universities, indicating the existence of institutional centers that play a central role in shaping scholarly work in this area. The University System of Ohio records the highest number of publications, reflecting sustained institutional engagement with risk-related

and organisational change topics. A second group of affiliations includes the University of Belgrade and the University of Texas System, both displaying a strong research presence. Their positions underline the international scope of research on risk management and resistance to change, as well as the relevance of these themes across different organisational and socio-economic settings. The University of London also shows a notable level of output, confirming the role of large research-intensive institutions in advancing interdisciplinary approaches to risk and change. Affiliations such as Case Western Reserve University, McGill University, the University of Southern California, and the University of Tehran occupy a mid-range position in terms of publication volume. This pattern suggests a broad diffusion of research activity across institutions with varied academic profiles and geographic locations. At the lower end of the distribution, Bucharest University of Economic Studies and Curtin University contribute fewer publications, pointing to a gradual expansion of research into applied and context-specific academic environments. Overall, the distribution highlights both the concentration of research activity within several prominent institutions and the global reach of scholarly interest in risk management and organisational resistance to change.

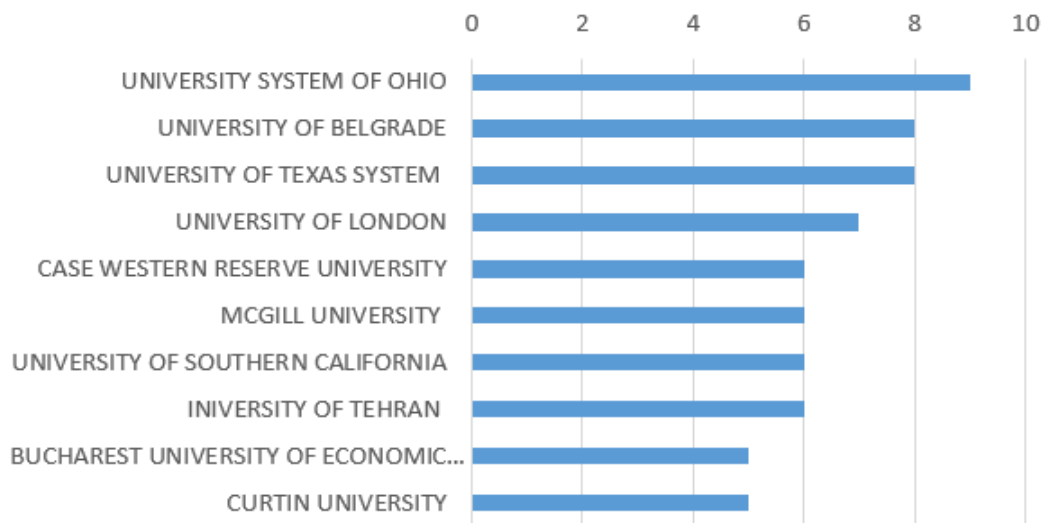


Figure 4. The most relevant affiliations

Source: Authors' own research.

Table 1 presents the most highly cited publications within the extracted dataset, highlighting influential contributions that have shaped scholarly discourse at the intersection of organisational change, risk management, and transformation processes. Heeks' (2006) work examines the systemic failures associated with the implementation of health information systems (HIS), conceptualising such failures through the lens of contingency theory and the notion of "fit" or "congruence" between organisational, technological, and contextual factors. Central to his argument is the idea that misalignment between design expectations and organisational realities generates implementation failure, particularly in contexts where systems are introduced as instruments of organisational change. Although HIS are formally intended to facilitate organisational transformation and performance improvement, Heeks argues that such systems inherently impose change pressures that generate structural and behavioural tensions. To address this, he proposes the design-reality gap model as both a post hoc evaluative framework and a pre hoc risk assessment and mitigation instrument, enabling organisations to diagnose implementation

vulnerabilities and proactively manage change-related risks. The model further validates a set of methods, techniques, roles, and competencies necessary to support the adaptive improvisation processes that underpin successful system implementation. Cousins et al. (2004) investigate work-related stress among employees as a multidimensional organisational phenomenon, identifying organisational change as a significant stress-inducing factor with the potential to generate resistance behaviours. Their analysis highlights the psychosocial consequences of change processes and conceptualises resistance not merely as attitudinal opposition, but as a stress-mediated organisational response. Within this framework, risk assessment is positioned as a managerial tool capable of identifying, managing, and mitigating stress-related risks arising from organisational transformation, thereby indirectly contributing to resistance reduction mechanisms.

Galbreath (2013) conceptualises environmental, social, and governance (ESG) integration as a risk management challenge, emphasising the organisational disruptions and structural changes required for effective ESG implementation. His analysis situates ESG adoption within a broader risk governance framework, framing sustainability transformation as both a strategic risk and an organisational change process. Similarly, Arjaliès and Mundy (2013) explore the role of management control systems (MCS) in shaping strategic processes underpinning corporate social responsibility (CSR). Their study demonstrates how MCS can facilitate strategic realignment and organisational transformation by embedding risk management processes within strategic governance structures, thereby enabling organisations to align risk control mechanisms with evolving strategic objectives. Birkel et al. (2019) focus on the transformative implications of Industry 4.0 for industrial systems, identifying both the operational risks and structural barriers that hinder its implementation. Their work provides a systematic overview of technological, organisational, and strategic risks associated with digital industrial transformation, while also identifying key sources of organisational resistance that impede adoption processes.

Despite their conceptual relevance and thematic proximity, these highly cited studies do not establish a direct or systematic theoretical linkage between risk management and resistance to change. Instead, the relationship between these constructs remains largely implicit, fragmented, and indirect, reinforcing the need for integrative research frameworks that explicitly conceptualise risk management as a strategic mechanism for mitigating organisational resistance to change.

Table 1. The most cited papers from the database

No.	Authors. Publishing year. Title	Citations
1	Heeks, R. (2006). Health information systems: Failure, success and improvisation	370
2	Cousins, R., MacKay, C.J., Clarke, S.D., Kelly, C., Kelly, P.J., & McCaig, R.H. (2004). 'Management Standards' work-related stress in the UK: practical development	341
3	Galbreath, J. (2013). ESG in Focus: The Australian Evidence	297
4	Arjaliès, D.L., Mundy, J. (2013). The use of management control systems to manage CSR strategy: A levers of control perspective	272
5	Birkel, H.S., Veile, J.W., Müller, J.M., Hartmann, E., & Voigt, K.I. (2019). Development of a Risk Framework for Industry 4.0 in the Context of Sustainability for Established Manufacturers	252

Source: Authors' own research.

The analysis of keyword frequency presented in Figure 5 provides a quantitative overview of the most frequently occurring terms in research on risk management and resistance to change. The keyword "risk management" appears as the dominant term, confirming its central role and

function as the main conceptual anchor of the literature. The strong presence of “change management” further highlights the close connection between risk-oriented approaches and organisational change processes, indicating that risk management is increasingly framed as a tool for addressing resistance to change. A substantial number of publications also employ the terms “management” and “performance”, reflecting the managerial focus of the literature and its emphasis on organisational outcomes. The frequency of these keywords suggests that research in this area often links risk management practices to performance evaluation, strategic alignment, and effective decision-making in change contexts. Keywords such as “model” and “risk” occupy a mid-range position in the distribution, pointing to the importance of conceptual frameworks and analytical approaches in examining change-related risks. Their presence indicates a reliance on structured models and formal risk assessment methods to understand uncertainty and mitigate resistance during organisational change. Among the less frequently occurring keywords, keywords including “implementation”, “impact”, “project management”, and “systems” highlight the applied dimension of the research field. Although less frequent, these terms emphasize the operational and project-based settings in which risk management practices are enacted. This confirms the interdisciplinary nature of research on risk management as a mechanism for reducing organisational resistance to change, integrating managerial, analytical, and applied perspectives.



Figure 5. The most frequent keywords

Source: Authors' own research.

Figure 6 depicts the keyword co-occurrence network, providing insight into the structural relationships among the main research themes and the manner in which these themes interact within the field. The network exhibits a highly centralized configuration, with risk management and change management occupying the most influential positions and serving as the principal conceptual anchors. The dominant cluster (red) is structured around these two core keywords and incorporates terms such as information systems, process improvement and knowledge management. This cluster reflects a pronounced managerial and operational orientation, indicating that risk management is frequently examined in close connection with organisational change processes, system integration, and coordination mechanisms. The high density of links within this cluster suggests that risk management is predominantly framed as a tool for supporting structured change and improving operational performance. A second cluster (blue) brings together keywords including management, implementation, framework and organisational change. This cluster emphasizes the implementation dimension of the field, highlighting scholarly attention to the challenges, enabling conditions, and organisational capabilities required for the effective deployment of risk management and change-related initiatives. The presence of adoption- and barrier-related terms underscores the importance of execution processes and organisational readiness. In parallel, the network reveals a performance-oriented cluster (green) composed of keywords such as performance, governance, digital transformation and strategy. This cluster points to a higher-level organisational perspective in which performance outcomes constitute the primary

focal point, while strategic considerations and governance mechanisms function as enabling structures. The prominence of performance-related concepts indicates an increasing tendency to conceptualize risk management as a contributor to organisational effectiveness and value creation, rather than solely as a control-oriented practice. The interconnections among the red, blue, and green clusters indicate a strong degree of conceptual integration across the network. Risk management emerges as a central linking construct that connects operational change processes (red cluster), implementation and adoption concerns (blue cluster), and performance-driven organisational considerations (green cluster). Taken together, the relational structure a multidimensional research landscape in which risk management functions as an integrative framework, bridging change management, implementation dynamics, and performance-oriented organisational perspectives.

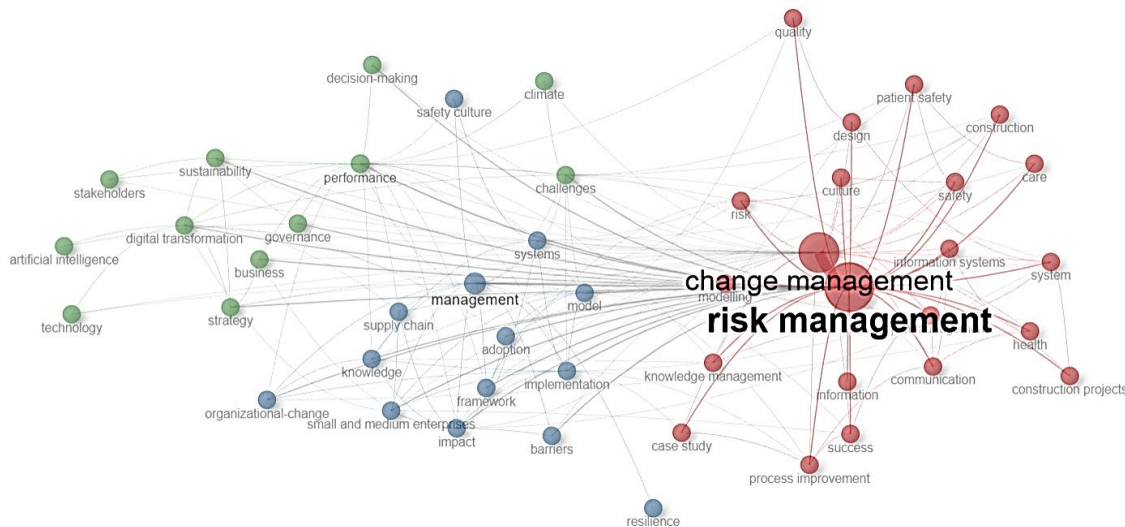


Figure 6. Keyword co-occurrence network

Source: Authors' own research using Biblioshiny

The thematic map in Figure 7 provides a structured visualization of the conceptual organisation of the literature on the relationship between risk management and organisational resistance to change. The upper-right quadrant highlights well-developed and highly influential research streams. Clusters such as performance-stakeholders-governance, safety-information systems-communication, and risk-change-complexity represent theoretically and empirically mature domains that are central to the literature. These themes indicate that organisational change is increasingly conceptualised as a complex, risk-laden process requiring integrated governance structures, effective stakeholder engagement, and robust communication systems. Their position suggests that these topics are not only internally coherent but also strongly connected to the broader research field, functioning as key drivers of scholarly development. The lower-right quadrant contains foundational but comparatively underdeveloped clusters, including risk management-change management-knowledge management, project management-decision-making, and digital transformation-sustainability-artificial intelligence. These themes are highly relevant to the domain but lack internal thematic consolidation, indicating conceptual fragmentation or early-stage theoretical integration. Importantly, the prominence of risk management and change management as a basic theme confirms their structural centrality to the field, while simultaneously suggesting that their interrelationship, particularly regarding organisational resistance, remains insufficiently

theorised and systematised. This quadrant thus represents a critical area for future theory-building and integrative empirical research. The upper-left quadrant includes specialised but well-developed research areas such as crisis prevention, quality management principles, requirements engineering, human factors, and new product development. These themes demonstrate strong internal cohesion but weak connectivity to the broader intellectual structure of the field. Their niche positioning suggests that while they offer valuable domain-specific insights, particularly in technical, engineering, and safety-oriented contexts, they currently exert limited influence on mainstream debates concerning organisational resistance to change and risk governance.

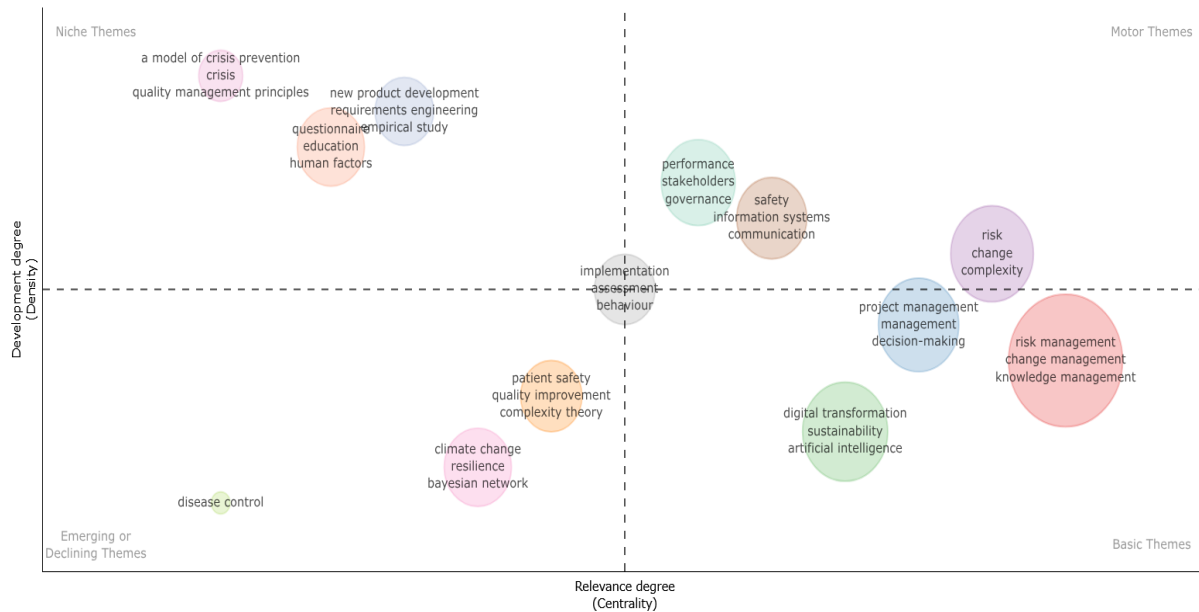


Figure 7. Thematic map

Source: Authors' own research using Biblioshiny.

The lower-left quadrant reflects peripheral and weakly developed clusters, including climate change-resilience-Bayesian networks, patient safety-quality improvement-complexity theory, and disease control. These themes may represent either emerging research trajectories or declining lines of inquiry. Their marginal position indicates limited integration with the core discourse on organisational change and risk management, although some, particularly those linked to complexity theory and resilience, hold potential for future conceptual convergence with organisational resistance and adaptive change frameworks. The central positioning of implementation-assessment-behaviour at the intersection of relevance and development dimensions reflects a bridging function between thematic clusters. This indicates that behavioural and implementation-oriented perspectives operate as integrative mechanisms connecting risk management practices with organisational responses to change, reinforcing the socio-organisational dimension of resistance beyond purely technical or procedural interpretations. This thematic structure as a whole reveals a field that is conceptually anchored in risk and change management, yet theoretically fragmented in explaining organisational resistance to change. Risk management appears as a central but under-integrated construct, suggesting that resistance is more often treated as an implicit organisational outcome rather than as an explicit analytical focus. The map thus supports the interpretation that future research should move toward stronger theoretical integration between risk management and resistance to change frameworks, behavioural and socio-

cognitive perspectives on risk perception and resistance to change, and complexity-informed models that link uncertainty, organisational learning and adaptive capacity. This positioning confirms that the relationship between risk management and organisational resistance to change represents a structurally central but conceptually under-theorised research domain, offering significant scope for theoretical consolidation and model development.

Figure 8 illustrates the evolution of key research topics related to risk management and resistance to change over the past two decades, highlighting a gradual shift from technical and operational concerns toward strategic, organisational, and digital perspectives. In the early 2000s, topics such as information systems, care and modelling dominate the landscape, indicating an initial emphasis on system-based support, data structures, and analytical tools for managing risk. During this phase, resistance to change is addressed implicitly, mainly through improvements in information handling and technical reliability rather than explicit organisational or behavioral frameworks.

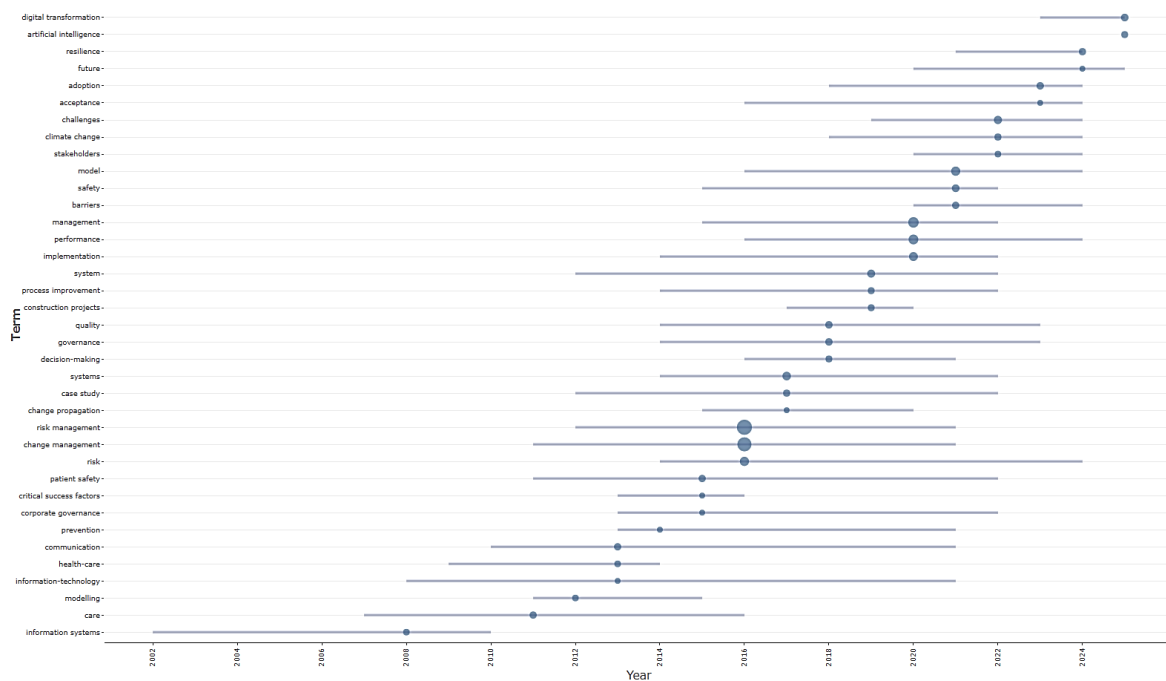


Figure 8. Trend topics

Source: Authors' own research using Biblioshiny.

Between 2008 and 2012, the emergence of topics including health-care, communication, prevention and corporate governance reflects a move toward applied and sector-specific contexts. Research during this period increasingly recognizes the role of communication, governance mechanisms, and preventive approaches in managing risk and facilitating acceptance of change, particularly in complex and regulated environments. Around 2014-2016, themes such as risk management, change management, risk, case study gain prominence, marking a conceptual turning point. Risk management becomes more explicitly linked to organisational change processes, while resistance to change is examined through empirical and practice-oriented lenses. This stage signals the consolidation of risk management as a managerial function directly involved in guiding and stabilizing change initiatives. From 2018 onward, the focus expands toward decision-making, governance, performance, implementation, process improvement. This shift highlights a growing

interest in how structured decision processes, performance management, and implementation strategies can reduce resistance to change by embedding risk considerations into everyday organisational routines. The presence of construction projects, systems also points to the relevance of project-based and system level environments in studying change-related risks. In the most recent years, particularly after 2020, emerging topics such as resilience, stakeholders, climate change, challenges, acceptance and adoption become increasingly visible. These trends reflect a broader and more integrative understanding of risk management, one that accounts for external uncertainty, stakeholder dynamics, and the social dimensions of resistance to change. The appearance of digital transformation and artificial intelligence in the latest period signals a forward-looking research agenda, where technological innovation is seen as both a source of risk and a key enabler for managing resistance in rapidly changing environments. This evolution shows a clear shift from technical and sector-specific approaches toward strategic, behavioral, and digitally enabled perspectives, confirming that risk management is increasingly viewed as a core mechanism for addressing organisational resistance to change in complex contexts.

In Figure 9 we can observe *the main collaboration networks between academic affiliations*, highlighting the structural relationships that shape inter-institutional research cooperation. In this network, node size reflects the relative contribution or influence of each affiliation, while spatial proximity and link density indicate the intensity of collaborative ties. The resulting configuration reveals several distinct clusters, differentiated by color, each reflecting specific patterns of institutional collaboration. The most prominent and influential grouping is the blue cluster, centered on the University of Texas System, which appears as the largest and most central node in the network. This cluster includes institutions such as Harvard University, University of Southern California, Baylor College of Medicine, and Loughborough University. The dense web of connections within this cluster indicates a highly integrated collaboration structure characterized by frequent co-authorship and sustained institutional partnerships. The central position of the University of Texas System suggests its role as a key driver of collaborative activity and a major hub connecting multiple research institutions. A second major grouping is represented by the red cluster, organised around the University System of Ohio and the Pennsylvania Commonwealth System of Higher Education (PCSHE). This cluster also includes Case Western Reserve University and other closely linked U.S. institutions. The strong intra-cluster connectivity reflects a regionally consolidated collaboration pattern, suggesting coordinated research efforts within the U.S. higher education system, with comparatively fewer direct links to international partners. Another distinct grouping is visible in the green cluster, centered on the University of London. This cluster encompasses institutions such as King Abdulaziz University and other international partners, highlighting the role of the University of London as an intermediary node facilitating cross-border collaboration. The structure of this cluster points to a predominantly academic and internationally oriented collaboration network, bridging European research institutions with partners from other regions. In addition to these major clusters, several smaller groupings contribute to the overall collaboration landscape. The teal cluster includes Colorado State University and the Colorado State University System, reflecting regionally concentrated collaboration patterns within the United States. The light green cluster, composed of DuPont USA and DuPont, illustrates industry – academia collaboration dynamics, indicating the involvement of corporate research entities in the field. Furthermore, the purple cluster, which includes Curtin University and University of Malaya, represents a geographically localized collaboration pattern in the Asia-Pacific region, characterized by strong internal ties but limited integration with the dominant North American and European clusters. Similarly, the gray cluster, encompassing institutions such as Yonsei University and Seoul

National University, reflects regionally focused collaboration structures in East Asia. Several affiliations appear as peripheral nodes across the network, including University of Barcelona, Hospital Clinic de Barcelona, and University of Newcastle. These institutions display weaker connectivity, suggesting more selective collaboration patterns or a focus on localized research agendas. These networks reveal a multi-clustered structure dominated by a small number of highly connected institutional hubs, complemented by regionally and thematically specialized clusters. This configuration underscores both the concentration of collaborative activity within major research systems and the geographically diverse nature of institutional participation in the field.

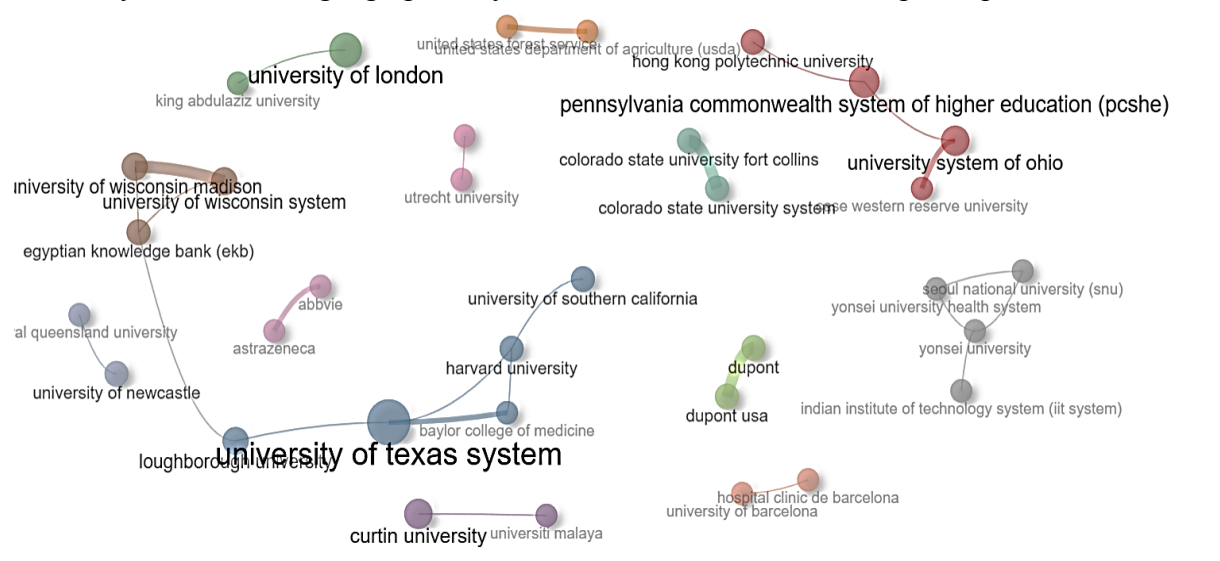


Figure 9. Collaboration networks between affiliations

Source: Authors' own research using Biblioshiny.

Figure 10 illustrates *the co-citation networks of sources* referenced within the analyzed literature. Each node represents a publication outlet, while node size reflects its relative prominence within the co-citation structure. The network reveals a clearly differentiated configuration composed of several clusters, each corresponding to a distinct domain of academic influence, while remaining interconnected within the broader intellectual landscape. One of the most prominent groupings is the red cluster, which occupies a central position within the network and is characterized by several highly influential journals. This cluster is anchored by the International Journal of Project Management, which emerges as one of the largest and most dominant nodes. Other closely connected sources include Safety Science and Risk Analysis. The dense pattern of co-citation links within this cluster indicates a strong applied orientation, with a focus on project-based risk management, safety systems, engineering contexts, and operational risk. The compact structure and high connectivity suggest frequent joint referencing among journals concerned with practical risk assessment and control in complex project environments. Following closely in terms of influence is the green cluster, positioned near the core of the network and centered around leading management and strategy-oriented journals. Prominent nodes within this cluster include Academy of Management Journal, Harvard Business Review and Strategic Change. The relatively large node sizes and strong internal linkages reflect the central role of this cluster in shaping theoretical, strategic, and governance-related perspectives. Journals within this grouping are frequently co-cited in research addressing organisational change, managerial decision-making, corporate governance, and performance-related outcomes, indicating their foundational

contribution to the conceptual development of the field. Beyond these two dominant clusters, additional groupings contribute to the diversification of the co-citation structure. The blue cluster, located in the upper-right region of the network, is dominated by journals such as International Journal of Production Economics and European Journal of Operational Research. This cluster exhibits a more elongated structure, reflecting the influence of operations management, quantitative modeling, and decision science approaches. The co-citation patterns within this cluster highlight the importance of analytical methods, optimization techniques, and data-driven decision-making in risk-related research.

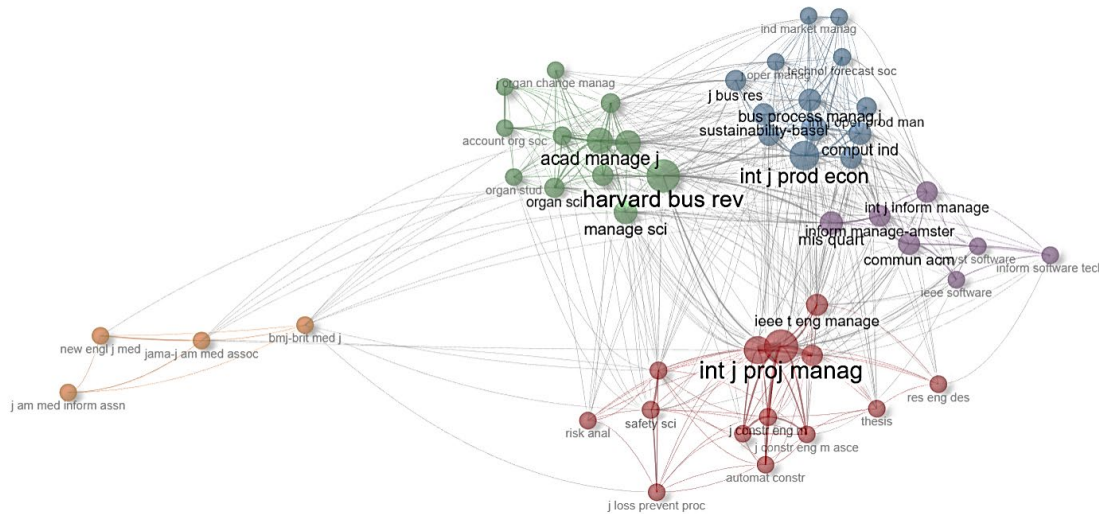


Figure 10. Co-citation networks between sources

Source: Authors' own research using Biblioshiny,

In addition, a smaller purple cluster emerges on the right side of the network, encompassing journals such as Information & Management, MIS Quarterly and Information Systems Research. Although less central, this cluster underscores the growing relevance of information systems, digital infrastructures, and communication technologies in supporting risk management and organisational change processes. Finally, a peripheral orange cluster is visible on the left margin of the network, primarily composed of medical and health-related journals. Its marginal position and weaker connections indicate a more specialized and limited integration of health-focused risk perspectives within the broader research domain. From an integrative perspective, the co-citation structure reveals a multi-core intellectual landscape in which applied research focused on projects and safety, represented by the red cluster, and the body of literature oriented toward management and strategic perspectives, represented by the green cluster, constitute the principal pillars. These are complemented by additional streams concerned with operational analysis, technological systems, and domain-specific applications. This configuration underscores the interdisciplinary character of the field and illustrates how diverse scholarly traditions collectively contribute to the advancement of risk management research.

Taken together, the bibliometric patterns identified in this study point to a field that is conceptually adjacent but not yet fully integrated. While risk management and change management emerge as strongly connected thematic anchors, resistance to change remains comparatively under-theorised as an explicit risk construct. This structural configuration suggests that the literature has largely treated resistance as a secondary behavioural outcome rather than as a governable source of organisational uncertainty. The observed concentration of keywords around performance,

governance, and digital transformation indicates a growing strategic orientation of risk management research. However, the relative dispersion of resistance-related terms across clusters implies that behavioural and socio-cognitive dimensions of change are still weakly embedded within mainstream risk frameworks. This gap is particularly significant in digitally intensive environments, where transformation speed and complexity tend to amplify human and organisational frictions. Furthermore, the thematic evolution analysis reveals a clear trajectory from early technical and system-focused concerns toward broader organisational and governance perspectives. Despite this progression, the co-occurrence and thematic mapping results indicate that the integration between risk management practices and resistance dynamics remains largely implicit and fragmented. This suggests that the field is transitioning from operational risk control toward more strategic and behavioural interpretations, but has not yet consolidated a unified conceptual model linking these domains. From an organisational standpoint, these findings support the interpretation that resistance to change should be more explicitly incorporated into enterprise risk thinking, particularly in contexts characterised by continuous digital transformation. More broadly, the results highlight the need for future research to move beyond parallel literatures and toward empirically grounded frameworks that systematically connect risk governance mechanisms with behavioural responses to change.

Although resistance to change and risk management have each been extensively examined as independent areas of scientific inquiry, the body of research that explicitly integrates these two domains remains limited in scope and uneven in theoretical coherence. Existing studies addressing their intersection are sparse, conceptually fragmented, and methodologically inconsistent, resulting in an underdeveloped and weakly consolidated knowledge base that fails to provide a systematic understanding of how risk management practices interact with resistance dynamics within organisational change processes.

One promising pathway for advancing research activity at the intersection of risk management and resistance to change lies in the systematic institutionalisation of risk management frameworks within higher education systems. Rahayu et al. (2024), through a conceptual synthesis of existing theories and empirical studies, examine the strategic relevance of risk management for universities and analyse the organisational mechanisms through which higher education institutions can operationalise risk governance structures. Their findings highlight that the implementation of risk management in academic environments is not merely a technical process, but a complex organisational transformation, shaped by structural constraints, cultural dynamics, and behavioural resistance. Notably, resource limitations and resistance to change emerge as central barriers, particularly in the context of digital transformation, e-learning infrastructures, and the adoption of new educational technologies. These dynamics position higher education as a critical setting for examining how risk management practices interact with organisational resistance, thereby offering a promising domain for theoretical development and future research integration.

Conclusion

This study set out to examine the relationship between risk management and organisational resistance to change from an academic perspective, with the central objective of assessing whether risk management can function as a strategic mechanism for mitigating resistance during organisational transformation processes. By applying a systematic bibliometric methodology, the paper provides a structured and comprehensive mapping of the scientific literature at the intersection of these two domains. Its primary contribution lies in demonstrating that, while both

risk management and resistance to change are well-established research fields in their own right, their integration remains conceptually fragmented, theoretically underdeveloped, and empirically inconsistent. The evolution of research themes shows a clear movement from technical and operational perspectives toward governance, performance, behavioural, and digital transformation frameworks. Keyword networks, thematic maps, and co-citation structures collectively indicate that risk management is now positioned as a central organisational capability that connects change management, implementation processes, and performance outcomes. However, resistance to change is still most often treated as an implicit consequence of transformation rather than as an explicit analytical focus within risk management frameworks. This structural separation confirms the core finding of the study: despite growing conceptual proximity, the relationship between risk management and resistance to change has not yet been systematically theorised as an integrated research domain.

The main strength of this work lies in its integrative perspective. By consolidating fragmented research streams, the study demonstrates that organisational resistance should be conceptualised not only as a behavioural or cultural challenge, but also as a strategic organisational risk. Framing resistance in this way allows it to be incorporated into formal risk governance structures, including ERM, contingency planning and strategic risk assessment. This reconceptualisation is particularly relevant in contexts of digital transformation, where technological disruption intensifies uncertainty, accelerates change cycles, and amplifies resistance dynamics. The findings therefore contribute to existing literature by repositioning risk management as a proactive governance mechanism rather than a reactive control tool. Organisations can reduce resistance to change by embedding risk management principles directly into change management strategies. This includes integrating stakeholder analysis, structured communication, training programmes, contingency planning, and phased implementation into formal risk frameworks. Risk management tools can be used to anticipate behavioural resistance, identify vulnerability points in transformation processes, and design mitigation strategies before resistance escalates into organisational disruption. Such an approach should enable organisations to align strategic objectives, digital transformation initiatives, and human factors within a unified governance structure, thereby improving both transformation effectiveness and organisational resilience.

Several avenues for future research emerge from this analysis. Empirical studies are needed to test causal relationships between risk management integration and levels of organisational resistance across different sectors and organisational contexts. Future research could develop theoretical models that explicitly link risk perception, behavioural resistance, organisational learning and adaptive capacity. The role of organisational culture, leadership, and middle management in mediating this relationship requires deeper investigation, especially in higher education, healthcare and digitally intensive industries. While this study conceptually positions resistance to change as a strategic organisational risk, the bibliometric design does not permit formal construct operationalisation or causal modelling. Future research should also translate this integrative perspective into testable frameworks by specifying the mechanisms through which risk management practices influence resistance dynamics, identifying measurable indicators of behavioural resistance risk, and examining their impact on transformation outcomes across organisational contexts. Future studies may extend the analysis through multi-database integration to further test the stability of the observed knowledge structures.

This study also presents important limitations. Methodologically, the exclusive reliance on the Web of Science database may limit coverage of relevant literature indexed in other databases such as Scopus or Google Scholar. The bibliometric approach, while powerful for mapping

knowledge structures and trends, does not provide direct empirical evidence of organisational practices or causal mechanisms. The bibliometric analysis captures patterns of academic production rather than real-world organisational outcomes, limiting direct practical generalisation. Despite these constraints, the study provides a structured foundation for future theoretical development and empirical research, and supports the conclusion that risk management represents a promising and underutilised strategic tool for reducing organisational resistance to change in complex and rapidly evolving organisational environments.

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Appendix

The Appendix presents the complete research methodology for the bibliometric analysis: search query employed, along with the exclusion and synonym dictionaries and the parameter settings used to generate the visualisations in Biblioshiny.

Query string:

((“risk management” OR “risk control” OR “risk assessment” OR “risk analysis” OR “risk evaluation” OR “risk identification” OR “risk governance” OR “risk mitigation” OR “risk adjustment” OR “risk modelling” OR “risk reduction”) AND (“resistance to change” OR “change resistance” OR “change management” OR “organisational change” OR “organizational change” OR “organisational transformation” OR “organizational transformation” OR “transformation management” OR “opposition to change”))

Exclusions dictionary:

based; study; research; results; papers; findings; paper; data; article; journal; musculoskeletal disorders; textile industry; credit risk management; credit guarantee mechanism; incentive theory; dynamic capabilities; case study; rebalancing; sewing and cutting machine operators; affordable care act; aca; na;

Synonyms dictionary (the first-listed term in each group represents the standardised keyword that appears in the resulting graphs):

risk management; enterprise risk management; risk-management; risk management practices; risk mitigation; risk governance; risk adjustment; risk analysis; risk assessment; risk evaluation; risk identification; risk-management; risk assessment; risk governance; risk control; enterprise risk management; erm; enterprise risk management (erm); small and medium enterprises; smes; sme; small and medium-sized businesses (smbs); small and medium-sized business; small and medium enterprise; small and medium sized enterprises; smes; sme's; enterprises; companies; enterprise; company; firms; small to medium-sized enterprises; small and medium enterprises (smes); small and medium enterprise (sme); small to medium-sized enterprise; small- and medium-sized enterprises; medium-sized; small-to-medium-sized enterprise (sme); small and medium-sized enterprises (smes); small and medium-sized enterprises; small and medium-sized enterprise; small enterprises; small business; small and micro enterprises; micro-small and medium enterprises; micro small and medium enterprises (msmes); micro small and medium scale enterprises (msmes); business; businesses; risk; risks; competitiveness; competitive advantage; individual competitiveness rate; sustainable competitive advantage; human; humans; covid-19 pandemic; covid-19; the covid-19 pandemic; pandemic crisis; credit risk management; credit risk assessment; innovation; open innovation; barriers to innovation; business model innovation; co-innovation; eco-innovation; firm innovation; inbound open innovation; supply chain risk management; supply chain sustainability risk; supply chain uncertainty; supply chain risk; supply chain risks;

performance; financial performance; firm performance; business performance; sme performance; smes performance; organizational performance; firm performance in micro small and medium enterprise;

entrepreneurship; entrepreneurship of small and medium-sized enterprises; venture entrepreneurship; entrepreneurship posture; international entrepreneurship;

strategic risk; strategic risk management;

climate change; climate-change;

supply chain; supply chain risk management; supply chain management;

strategic risk; strategic risk management; strategic risks; strategic planning; strategic decision; strategic decisions; strategic goal; strategic goals; strategic activity; strategic activities; strategic objective; strategic objectives; strategic initiative; strategic initiatives; strategic opportunity; strategic opportunities; strategic process; strategic processes;

flood risk; flood risk management;

scenario analysis; scenario; scenarios;

geographic information system; gis;

change management; organisational change; organizational change; organisational-change; organizational-change;

Figure 6. Keyword co-occurrence network:

Field: All Keywords

Method parameters:

Network Layout: Automatic layout

Clustering Algorithm: Louvain

Normalization Method: Association

Figure 7. Thematic map

Field: Author's Keywords

Parameters

Network Parameters: Clustering Algorithm: Louvain

Figure 8. Thematic Evolution

Field: All Keywords

Figure 9. Collaboration networks between affiliations

Field: Institutions

Method Parameters

Network Layout: Automatic layout

Clustering Algorithm: Louvain

Normalization Method: Association

Figure 10. Co-citation networks between sources

Field: Sources

Method Parameters

Network Layout: Automatic layout

Clustering Algorithm: Louvain