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EXPLORING THE NEXUS OF INFORMATION SYSTEMS MANAGEMENT AND STRATEGIC PLANNING: A BIBLIOMETRIC PERSPECTIVE USING THE WEB OF SCIENCE DATABASE

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Abstract. In modern organizational studies, the incorporation of Information Systems (IS) and strategic planning has gained prominence. This hybrid literature review seeks to explore the literature on such incorporation and its implications for risk management, business continuity, and organizational development. First, keyword co-occurrence analysis was conducted on 105 SJR-ranked journal articles sampled from the Web of Science database. This study identified and analyzed the major research areas within the domain. Through content analysis, after refining our sample by applying bibliographic coupling of the most globally cited contributions, our sample was restricted to a selection of 32 articles, with all the articles matching or exceeding a threshold of at least 20 total global citations (TGCs). Our review indicated that research on the integration of IS and strategic planning focuses more on the factors affecting the adoption and continuance of these practices, while most papers contributing to risk management and organizational development focus on a discussion of the theoretical framework that underlies their implementation. Moreover, the review has signaled a constant number of challenges relative to this integration, especially concerning perceived effectiveness and the differential effects of cultural and generational variables on its practice in organizational settings.

INTRODUCTION

The integration of IS management and strategic planning is increasingly recognized for its potential to contribute to the

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improvement of risk management, business continuity, and overall organizational development. The integration of Sabherwal & Chan emerged from the incessant evolution of risk management strategies, together with technological changes that keep shaping organizational practices. The integration of strategic planning practices into IS management would facilitate organizational resources to use effectively and enhance credibility and security of information systems, which in turn would affect the performance of the whole organization positively. Martinsons et al. conclude in their work. Even though various studies are conducted based on the various impacts from the integration of these two domains, "how this integration positively contributes towards organizational goals" appears to be an important research question. Tallon states that. In this respect, the current literature suggests that with risk management tools, advanced IS management techniques enable organizations to measure and manage risks while maintaining business continuity and promote organizational development accordingly (Bergeron et al., 2001).

On the other hand, the integration of IS management and strategic planning is a challenging, dynamic phenomenon of considerable relevance for organizations, and policymakers alike (Cooper et al., 2000). These investment advocates among the policymakers often claim that IS management practices are part of a greater panoply of strategies related to risk management and business continuity. The question as to what degree this might drive organizational development is still open to debate. Generally speaking, any organization able to embed IS management into the strategic planning functions can be regarded as more effective in managing risks and business continuity compared to one that does not try to do so. On the contrary, an organization which does not apply such an integrated approach is likely to expose itself to higher risks and possible disruptions of activities, hurting overall performance.

On the other hand, however, such integration taken to the extreme can also pose certain issues, especially if the stakeholders are not properly enlightened as to the concerns it hopes to resolve. Also, what is lacking from the current literature is the presentation of a robust model which would trace the integration of IS management and strategic planning to its effects on organizational outputs systematically. Despite some review studies conducted regarding the impact of this integration, these mostly provide insights only as secondary evidence or within broader organizational contexts.

This paper tries to address these gaps through the adoption of a hybrid approach that uses both bibliometric and content analysis techniques in developing better understanding of mapping IS management and strategic planning integration in regard to risk management, business continuity, and organizational development (Huang & Hu, 2007). The literature review will draw from pragmatic examples that show how such integration affects the identified key organization objectives, with a specific focus on outcomes including the effectiveness of risk management and business continuity plans.

This study, therefore, tries to answer the following research question, which is: what has the literature achieved in understanding the association of IS management and strategic planning integration with regard to risk management business continuity and organizational development? (Frolick & Ariyachandra, 2006). It will assess whether available literature addresses this question appropriately through metrics that demonstrate the benefit of such integration (Scott, 2000).

This research contributes to the wide array of literature on how this integration of IS management and strategic planning functions has impacted risk management, business continuity, and organizational development. In a nutshell, through a systematic review of literature, this research is going to try to fill the gaps regarding the relations among these domains by providing a number of insights to the management of organizations, and policy-making.

Therefore, the study help explain not only the benefits but also the issues likely to crop up with the integration of IS management and strategic planning functions for the purpose of arriving at better-informed organizational strategy and policies Teubner (2007). The structure of the paper is as follows: the first section covers the theoretical framework; Section 2 describes methods and criteria for the development of samples for the hybrid literature review and its analysis; Section 3 sets out the bibliometric analysis; Section 4 sets out the content analysis. Finally, Section 5 discusses findings and their implications for practice and future research.

THEORETICAL STRUCTURE

The integration of Information Systems (IS) management and strategic planning is increasingly recognized for its potential to enhance risk management, business continuity, and overall organizational development (Sabherwal & Chan, 2001). However, it is essential to note that well-known theories in IS management do not guarantee favorable outcomes for organizations, leaving their effects and long-term impacts open for debate (Wamba et al., 2020). In this context, assessing the effectiveness of these integrations involves different processes compared to evaluating the overall value added to the organizational framework (Martinsons et al., 1999). Furthermore, it is not uncommon for organizations that use traditional management practices or do not fully integrate IS functions to achieve outcomes that equal or even exceed those of more technologically advanced organizations (Tallon, 2008). Conversely, integrating IS management practices often leads to improved risk management and business continuity, thus enhancing organizational resilience through more robust processes (Bergeron et al., 2001).

Moreover, studies have found that integrating IS management with strategic planning can result in various benefits, including better risk management, enhanced business continuity, and improved organizational development (Cooper et al., 2000). In this regard, such integrations provide comprehensive oversight, strengthen internal controls, and support more effective strategic

planning (Gerow et al., 2015). Nonetheless, some studies indicate that these integrations do not always lead to better outcomes, suggesting that traditional methods can sometimes perform better in specific situations (Kaiser et al., 2015). Thus, various methods and theories have been explored for integrating IS management and strategic planning, with this study focusing specifically on combining strategic initiatives with IS functions to offer a comprehensive way to handle business risks and promote growth (Y. Li et al., 2012). This approach enhances organizational performance by fostering a dynamic and interactive strategy for risk management and continuity planning (Cheng & Lee, 2010).

As a result, evaluating these integrations typically involves assessing their impact on risk management and business continuity, defining key metrics, and evaluating overall effectiveness (T. C. Li & Chan, 2019). Consequently, this targeted evaluation focuses on specific organizational outcomes to support better management decisions (Ariyachandra & Frolick, 2008). While evaluations of IS management and strategic planning integrations are unique to each organization, they are part of a larger set of evaluations that consider more than just the technological effects, thereby serving different organizational goals (Palvia et al., 2010).

In addition, organizational development employs various methods to evaluate the integration of IS management and strategic planning, often using quantitative metrics known as integration scores (Huang & Hu, 2007). These scores can involve sub-scores at multiple levels, each measured through specific criteria (Hackbarth & Kettinger, 1999). For instance, an integration score might aggregate scores across dimensions such as risk management effectiveness and strategic planning efficiency, evaluating each through sub-factors like risk mitigation strategies and operational effectiveness (Frolick & Ariyachandra, 2006). However, it is important to recognize that integration scores are not the only tools available for assessing the impact of combining IS management and strategic planning (Scott, 2000). Researchers also link this integration to various measures, including overall quantitative ratings and non-financial reporting strategies (Tan et al., 2009).

To elaborate, different theories examine the relationship between integration topics and organizational outcomes, particularly focusing on the dichotomy between Risk Management Theory and Strategic Development Theory (Sledgianowski & Luftman, 2005). Specifically, Risk Management Theory posits that integrating IS practices within strategic planning enhances organizational resilience by improving risk assessment and mitigation processes (Teubner, 2007). In contrast, Strategic Development Theory emphasizes the importance of aligning IS practices with strategic initiatives for continuous improvement (Philip, 2007). Empirical studies on this integration often utilize measures related to risk management, business continuity, and organizational development outcomes (Henningsson & Carlsson, 2011).

Furthermore, the integration of IS management and strategic planning underscores the critical role of these systems in enhancing risk management and ensuring business continuity (Kauffman & Wang, 2008). Specifically, theories related to digital technologies illuminate their impact on these areas, emphasizing how digital tools influence risk assessment and continuity planning (Gottschalk, 2000). In particular, digital technologies provide valuable tools for identifying, assessing, and mitigating risks, thereby improving the precision and efficiency of risk assessments (Allen, 1995). Additionally, they play a pivotal role in developing and maintaining robust continuity plans, enabling organizations to respond effectively to disruptions (Zarina Abdul Jabar et al., 2022).

To further understand the integration of IS management and strategic planning, various theories such as the Technology Acceptance Model (TAM) and constructivist theory are applied (Mitchell, 2020). In this context, TAM underscores the significance of perceived ease of use and usefulness in technology adoption, which is crucial for effectively implementing IS management and strategic planning systems (Maleh et al., 2022). On the other hand, constructivist theory aligns with the interactive nature of digital tools, thereby enhancing training and development initiatives (Al Karabsheh et al., 2024). Furthermore, the resource-based view complements this framework by highlighting that digital tools are valuable assets contributing to competitive advantage (Qabajeh et al., 2024). By effectively integrating these tools into IS management and strategic planning, organizations can maximize their benefits and achieve strategic objectives (Abu Anzeh et al., 2024).

In summary, the integration of IS management with strategic planning is crucial for enhancing risk management, maintaining business continuity, and fostering organizational development (Perez Calderón & Alrahamneh, 2024). Theories provide a comprehensive framework for understanding how these technologies impact these areas, thereby offering valuable insights for improving organizational outcomes (Alrahamneh, 2024). Ultimately, leveraging digital tools effectively enables organizations to better manage risks, ensure operational stability, and drive growth and development, ensuring a holistic understanding of the impact of digital technologies on IS management and strategic planning functions.

METHODOLOGY

Following the approach suggested by previous studies (Alqudah, Lutfi, et al., 2023; H. Qudah et al., 2023), we conducted a hybrid review combining citation analysis and content analysis methods. This review utilized various quantitative and qualitative literature review techniques to avoid bias and provide a comprehensive understanding of how Information Systems Management (ISM) and Strategic Planning can work together (K. K. Abdo et al., 2023; L. A. Al-Qudah et al., 2022).

Initially, we aimed to identify relevant scientific contributions for our analysis. We utilized the Web of Science databases, which

encompass numerous peer-reviewed journals (Alqudah, Ferruz, et al., 2023; Qudah, Abdo, Al-Qudah, Aldmour, et al., 2021). We then applied a two-factor search criterion using Scopus fields "Article Title, Abstract, Keywords." The first factor focused on the integration of ISM and Strategic Planning, specifically in relation to risk management, business continuity, and organizational development (H. A. Al-Qudah et al., 2020; Momani et al., 2023). To capture a broad range of contributions, the query used was ("Information Systems Management" OR "IT Management" OR "IS Management" OR "Information Technology Management" OR "Enterprise Systems Management" OR "Digital Systems Management") AND ("Strategic Planning" OR "Business Strategy" OR "Organizational Strategy" OR "Corporate Strategy" OR "Strategic Decision-Making" OR "Long-Term Planning" OR "Strategic Management") (Qudah, Malahim, et al., 2024; ALShanti et al., 2024). This approach helped compile a comprehensive database of studies relevant to the integration of ISM and Strategic Planning. By the end of this phase, we identified 338 papers (Alqudah, Ferruz, et al., 2023; Qudah, Abdo, Al-Qudah, Kilani, et al., 2021) as shown in Table 1.

Next, we applied a second screening level to filter contributions from the subject areas of ISM, Strategic Planning, and related fields (Al Qudah et al., 2023, 2024; Aladayleh et al., 2023). Social and environmental studies were excluded as they did not pertain to the integration of ISM and Strategic Planning in the context of risk management, business continuity, and organizational development (Abu Anzeh et al., 2024; Qudah, Malahim et al., 2024). The selection criteria covered papers from January 2017 to August 2024, published in English, and excluded review articles (Al Karabsheh et al., 2024; Alrahamneh, 2024). This process resulted in 178 articles (Qudah, Baqila, et al., 2024).

In the third screening level, we excluded non-genuine scientific productions by selecting only SJR-ranked journals through the most recent Academic Journal Guide database (Alqudah, Lutfi, et al., 2023; Magboul et al., 2024). This process yielded an initial sample of 105 articles. Following established methods, we conducted a bibliometric analysis using co-citation, co-authorship, and keyword co-occurrence, employing the Biblioshiny

Table 1 ***Sample initial building standards.***

Step	Criteria	Documents
1	TITLE-SJR-KEY (("Information Systems Management" OR "IT Management" OR "IS Management" OR "Information Technology Management" OR "Enterprise Systems Management" OR "Digital Systems Management") AND ("Strategic Planning" OR "Business Strategy" OR "Organizational Strategy" OR "Corporate Strategy" OR "Strategic Decision-Making" OR "Long-Term Planning" OR "Strategic Management"))	338
2	TITLE-SJR-KEY ((("Information Systems Management" OR "IT Management" OR "IS Management" OR "Information Technology Management" OR "Enterprise Systems Management" OR "Digital Systems Management") AND ("Strategic Planning" OR "Business Strategy" OR "Organizational Strategy" OR "Corporate Strategy" OR "Strategic Decision-Making" OR "Long-Term Planning" OR "Strategic Management")) AND PUBYEAR >1995 AND PUBYEAR <2024 AND (LIMIT-TO (SRCTYPE, "J")) AND (LIMIT-TO (PUBSTAGE, "Final")) AND (LIMIT-TO (SUBJAREA, "EDUC") OR LIMIT-TO (SUBJAREA, "MANAG")) AND (LIMIT-TO (LANGUAGE, "English")) AND (LIMIT-TO (DOCTYPE, "ar"))	178
3	Exclusion of non-SJR ranked journals	105

R package and VOSviewer software on the initial sample (Abu Huson et al., 2024; Al Karabsheh et al., 2024; Alrahamneh, 2024). We then refined the sample with bibliometric coupling analysis via VOSviewer, selecting documents with a TGC count of at least 20 based on the Web of Science database. This final screening phase resulted in a final sample of 32 articles for content analysis (Perez Calderón & Alrahamneh, 2024; Qabajeh et al., 2024).

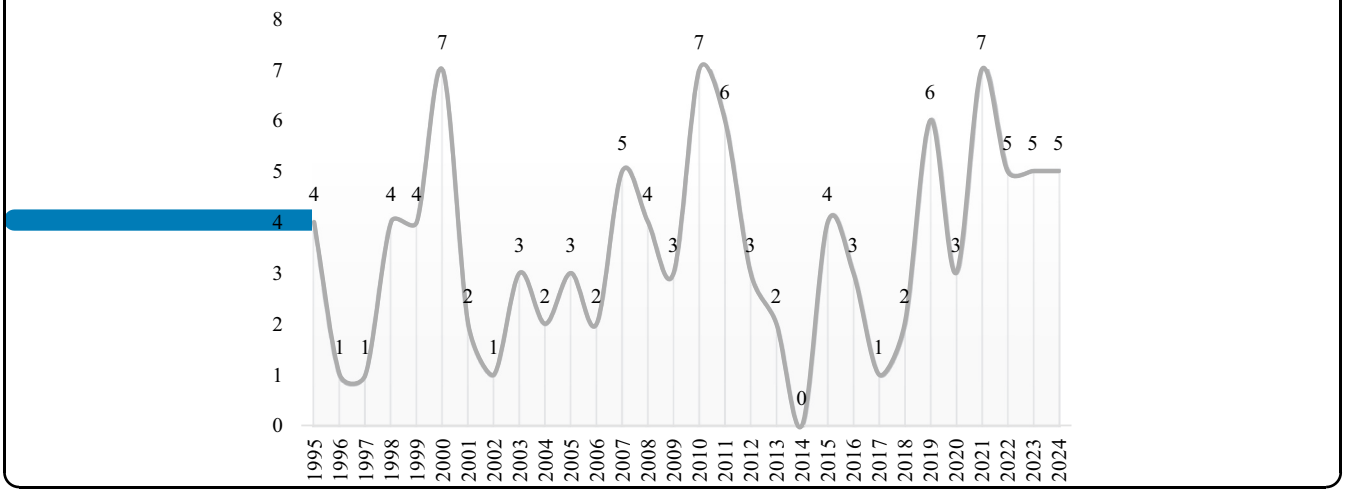
Finally, following methodologies from reviews on ISM and Strategic Planning integration (Alqudah, Ferruz, et al., 2023; H. Qudah et al., 2023), we performed a qualitative content analysis based on the bibliographic coupling results (K. K. Abdo et al., 2023; L. A. Al-Qudah et al., 2022). We assessed each article for its connection to risk management, business continuity, and organizational development, classifying them as positive if the integration of ISM and Strategic Planning effectively enhanced these areas, negative if it did not, or uncertain if the effects were ambiguous (Alqudah, Lutfi, et al., 2023; Qudah, Abdo, Al-Qudah, Kilani, et al., 2021). Only studies that addressed ISM and Strategic Planning with specific implications for risk management, business continuity, or organizational development qualified for this classification (H. A. Al-Qudah et al., 2020; Momani et al., 2023). We defined a positive effect as one where the integration improved risk management, business continuity, or organizational development, and a negative effect as one where it did not (ALShanti et al., 2024; Qudah, Baqila, et al., 2024). If the sought relationship was not evident, the article was marked as nondeterminable (n.d.) (H. Alqudah et al., 2024; Qudah, Abdo, Al-Qudah, Aldmour, et al., 2021). This approach avoided subjective interpretation and potential bias by not forcing a result inconsistent with the study's original purpose and methodology (K. Abdo et al., 2021; Al Karabsheh et al., 2021). If an article addressed a different research question but demonstrated an effect on ISM and Strategic Planning integration as a secondary outcome, it was classified accordingly (Al Karabsheh et al., 2024; Magboul et al., 2024).

BIBLIOMETRIC CONTENT

The initial sample consists of 105 documents (articles) from 62 sources (journals, books, etc.), featuring a total of 250 authors. This dataset reveals a modest annual growth rate of 0.77% and an average document age of 13.3 years. Each document has an impressive average of 29.81 citations, with a total of 5,124 references and 384 author keywords. Despite the earliest publications dating back to 1995, significant growth in the number of publications only emerged recently, particularly around 2020, reflecting a slow but steady increase in the field of Information Systems Management and Strategic Planning (see Figure 1).

Moreover, the majority of the articles are coauthored, with an average of 2.5 coauthors per document. Only 24 documents are single-authored, with 21 authors contributing exclusively one article each. This pattern suggests that a significant number of researchers engage in collaborative efforts, while 17.14% of

Figure 1 *1995–2024 annual scientific output (Articles).*

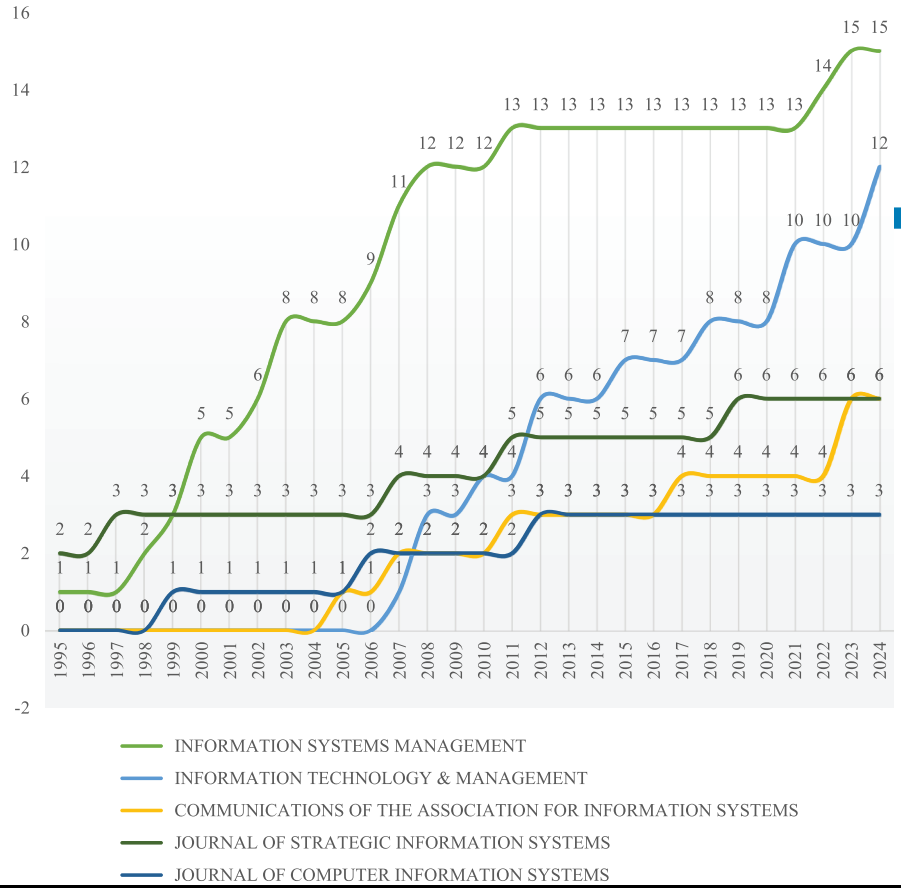


publications involve international co-authorships. The analysis also indicates a diverse reference structure, as evidenced by 239 authors contributing only one document, which represents 95.6% of the total authors. Additionally, only 9 authors have written two articles, accounting for 3.6% of the authors. The dataset shows a significant heterogeneity in citation patterns, with 6,455 documents receiving only one citation each, emphasizing a varied approach to the subject. Notably, the most cited paper has only 14 local citations, and the average citation per reference is 1.12. This complexity suggests a developing research landscape in Information Systems Management and Strategic Planning, characterized by diverse contributions and a lack of a single dominant proposition in the field.

Focusing on the primary sources emerging from this analysis, we developed a cumulative journal production curve to highlight the most productive journals in Information Systems Management and Strategic Planning since 1995 (Figure 2). As of August 2024, the cumulative output from the leading journals has reached a notable peak, with a total of 15 documents from the "Information Systems Management" journal, representing 14.3% of the total production of 105 documents. Other prominent journals include "Information Technology & Management," contributing 12 articles (11.4%), and the "Journal of Strategic Information Systems," with 6 articles (5.7%).

Notably, significant production from these top journals began to emerge around the 2020–2021 period, coinciding with a general uptick in publication output, where the annual growth rate for the overall dataset stands at just 0.77%. By 2023, "Information Systems Management" had an average citation count of 29.81 per article, highlighting its influence within the field. In terms of collaboration, the dataset shows an average of 2.5 coauthors per document, with 17.14% of publications involving international co-authorships, further indicating the collaborative nature of this research area. Despite the peak outputs,

Figure 2 ***Total production of top journals over time.***

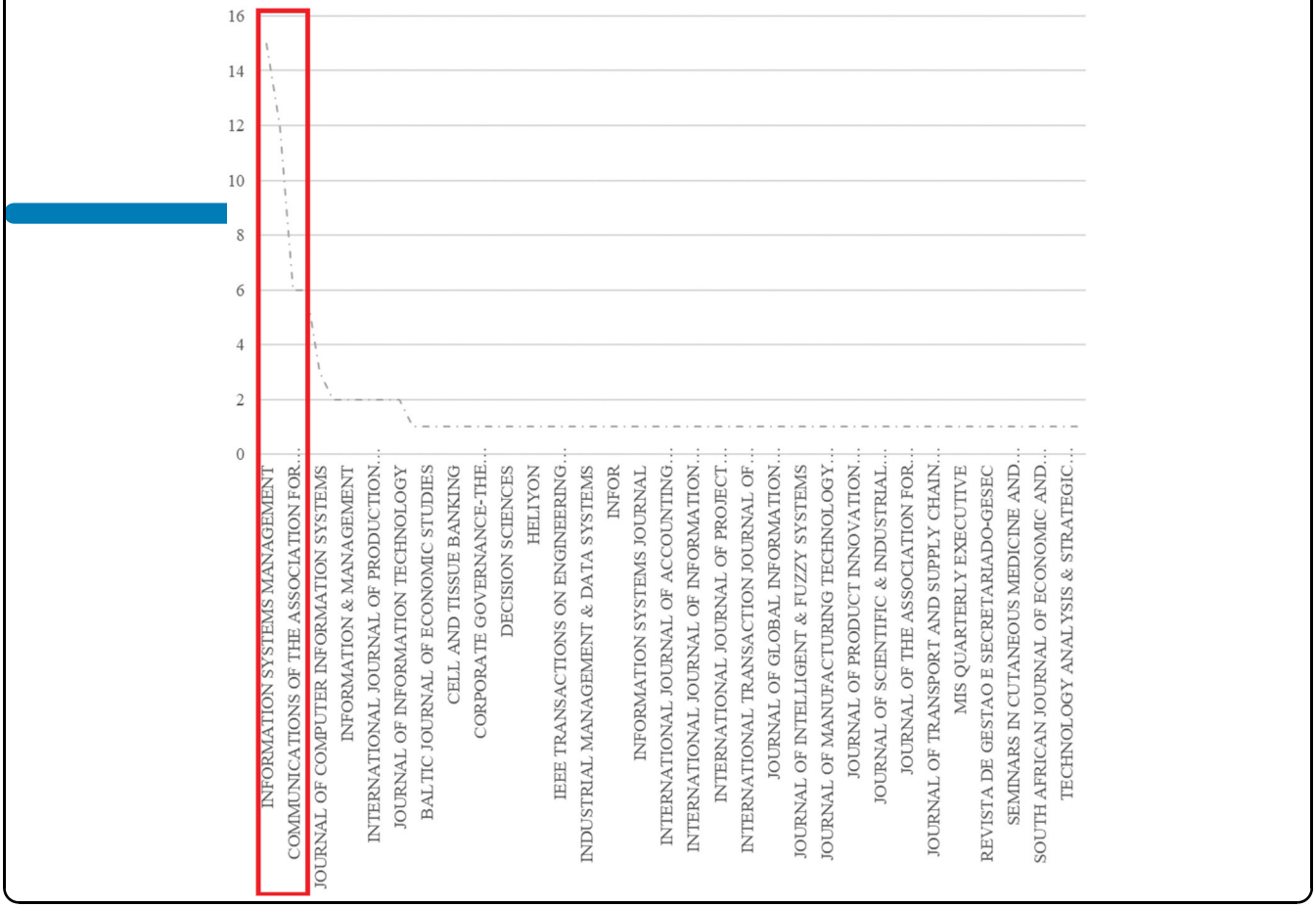


a significant portion of articles received only a modest number of citations, underscoring the heterogeneous nature of the literature. Overall, this data reflects the ongoing evolution of research in digital technologies and strategic planning, with a diverse array of contributions still developing since its inception.

To validate the identification of the top journals (Figure 2), we employed Bradford's Law test (Bradford, 1934), following Bookstein's (1980) methodology. This test assesses the impact of sources based on an exponential diminishing return criterion to determine the most influential journals in Information Systems Management and Strategic Planning (Figure 3). According to Bradford's Law, the top five journals identified through our cumulative production analysis are "Information Systems Management," "Information Technology & Management," "Communications of the Association for Information Systems," "Journal of Strategic Information Systems," and "Journal of Computer Information Systems," all classified in Zone 1 of Bradford's distribution.

These journals have collectively produced 15, 12, 6, 6, and 3 articles, respectively, reflecting their pivotal role in the research landscape. However, it is noteworthy that 45 out of 64 journals (70.3%) have only published one article each as of August 2024,

Figure 3 ***Bradford's law: core journal composition by article number.***



indicating an early stage of development in the literature. The observed growth trend in scientific production further confirms a rising interest in the subject, suggesting that no dominant propositions in Information Systems Management and Strategic Planning have emerged thus far. This distribution aligns with Bradford's Law, illustrating the absence of a single dominant source and highlighting a broad, diversified approach in the current research landscape.

Examining Co-occurrence of keywords in the first sample

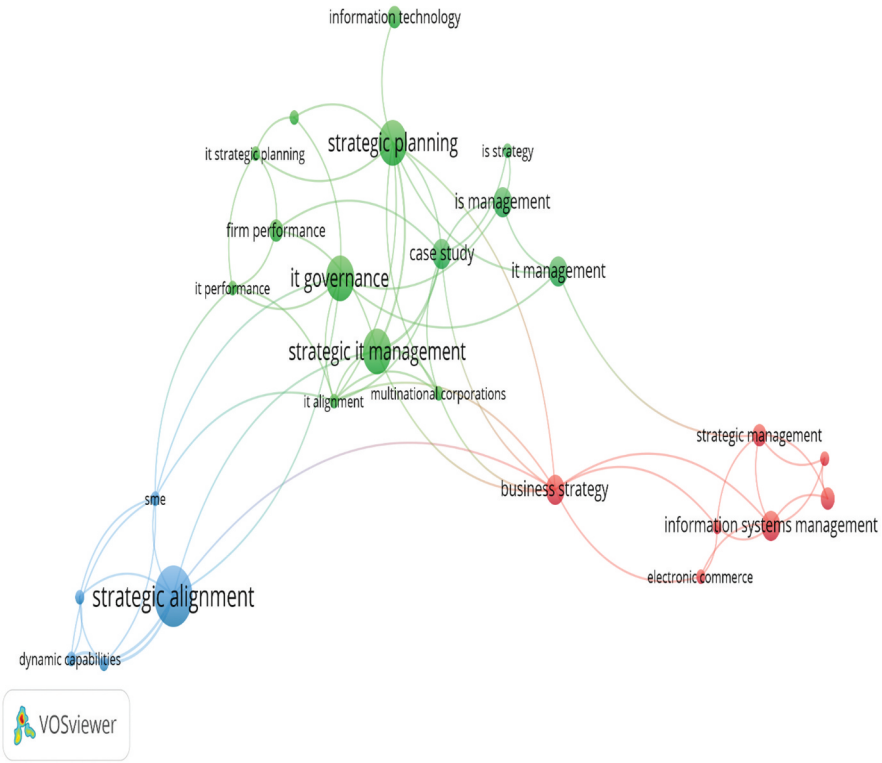
To understand the thematic configuration of research on integration within Information Systems Management and Strategic Planning, particularly focusing on risk management, business continuity, and organizational development, an exploration of author keyword co-occurrence is essential (H. Qudah et al., 2023). Given the relatively recent development of this literature and the need for a clear conceptual framework, we applied a co-occurrence threshold of at least two for all author keywords. This

approach enabled us to filter out less frequent keyword combinations while maintaining a robust taxonomy process.

Figure 4 illustrates the overall conceptual framework based on the keywords used by authors in the 105 studies within our sample. The keyword co-occurrence structure comprises 26 terms (i.e., nodes) categorized into three color-coded clusters: red, green, and blue. There are 70 links connecting these nodes, representing the co-occurrence combinations found in the literature. The thickness of the lines indicates the total link strength (TLS) between keywords, with thicker lines signifying higher co-occurrence frequencies. The distance between nodes reflects the strength of their relationships, while the size of the nodes indicates the frequency of individual keyword occurrences.

The keyword co-occurrence analysis reveals a complex network in integration within Information Systems Management and Strategic Planning, particularly focusing on risk management, business continuity, and organizational development. The most frequent terms in this network are strategic alignment (8 occurrences, 9 connections), IT governance (6 occurrences, 7 connections), strategic planning (6 occurrences, 10 connections), and strategic IT management (6 occurrences, 9 connections). These findings help in structuring the literature relevant to our research focus. Figure 4 shows that the term "risk management" is significantly more prevalent than terms related to business continuity or organizational development. Consequently, these topics are categorized into

Figure 4 ***Keyword co-occurrences.***



strategic alignment (blue cluster), strategic planning (green cluster), and business strategy (red cluster).

The blue thematic cluster

In the context of integration within Information Systems Management and Strategic Planning, the blue cluster emphasizes the intersection of strategic alignment, dynamic capabilities, and organizational development. This cluster highlights how concepts such as strategic alignment and project management are applied within small and medium-sized enterprises (SMEs) across various sectors, including manufacturing. Key terms in this cluster include "strategic alignment" and "SMEs," serving as central nodes that link broader themes of organizational resilience. The emphasis on "strategic alignment" underscores the importance of aligning business objectives with IT strategies to ensure stability and continuity. Similarly, "SMEs" reflects how these strategic principles are adapted and implemented in smaller business environments.

The term "dynamic capabilities" is crucial, emphasizing the need for organizations to adapt and innovate to maintain operational effectiveness during disruptions. This is particularly relevant to safeguard against potential risks. The inclusion of "strategic IS management" and "strategic IS planning" further connects to how organizations can leverage digital technologies to enhance strategic outcomes. Although "project management" is less frequently cited, its presence in the cluster underscores the relevance of managing projects to support strategic initiatives. Overall, the blue cluster illustrates a strong focus on integrating strategic alignment, dynamic capabilities, and organizational development. However, there is a need for further exploration of how these concepts can be effectively combined with digital technologies to enhance organizational resilience and risk management.

The green thematic cluster

The green cluster in the context of Information Systems Management and Strategic Planning primarily focuses on IT governance, strategic IT management, and the implications of the Fourth Industrial Revolution, emphasizing theoretical models and their application in understanding and managing organizational risks. Unlike other clusters that may prioritize practical implementations, the green cluster is deeply rooted in theoretical frameworks, particularly Structural Equation Modeling (SEM), which is essential for analyzing and interpreting complex risk scenarios. Key terms in this cluster include "IT governance" and "strategic IT management," highlighting a strong emphasis on evaluating and addressing potential risks within organizational contexts. The presence of "case study" suggests an interest in applying theoretical models to real-world scenarios, further reinforcing the cluster's focus on comprehensive risk management strategies. The term "Fourth Industrial Revolution" indicates an exploration of how emerging

technologies and shifts in industrial practices influence risk management approaches.

Additionally, "strategic planning" and "firm performance" are significant nodes within this cluster, showcasing the relationships between strategic decisions and organizational outcomes. The inclusion of "IT alignment" emphasizes the necessity of synchronizing IT strategies with business goals to effectively manage risks. While SEM provides valuable insights into risk analysis, its practical application may not be as prominent compared to other elements within the cluster. The mention of "multinational corporations" adds a geographical and contextual dimension to the research, suggesting that the findings may have specific implications for global organizations. Overall, the green cluster underscores the importance of theoretical approaches in analyzing and managing organizational risks, particularly through detailed assessment and strategic alignment. However, there are opportunities for further exploration of how these theoretical models can translate into practical risk management strategies and outcomes, enhancing the integration of these insights into actionable frameworks.

The red thematic cluster

The red cluster in the context of Information Systems Management and Strategic Planning primarily centers on business strategy, information systems management, and strategic management, highlighting the practical application of these concepts in organizational settings. Unlike other clusters that may focus more on theoretical frameworks, the red cluster emphasizes actionable strategies and the development of competencies essential for effective organizational management. Key terms in this cluster include "business strategy" and "information systems management," underscoring the importance of strategically managing resources and aligning technology with business objectives. These terms reflect a strong focus on developing and applying practical skills and strategies to enhance organizational performance. "Strategic management" also plays a crucial role, emphasizing the integration of these competencies into broader organizational strategies.

Additionally, terms such as "policy" and "business models" indicate a growing recognition of the need for structured approaches to guide decision-making and adapt to changing environments. The inclusion of "electronic commerce" and "outsourcing" illustrates the practical implications of these strategies in today's business landscape, highlighting how organizations leverage technology and external partnerships to enhance efficiency and effectiveness. The term "risk management" is also present, signifying the importance of identifying and addressing potential risks in business strategies. The practical orientation of this cluster suggests a focus on hands-on applications that meet the real-world needs of organizations seeking to enhance their capabilities through targeted management practices. Overall, the red cluster is defined by its focus on practical approaches to business strategy, information systems management, and strategic implementation, emphasizing the utilization of actionable insights and strategies to advance organizational effectiveness. See detail in the Table 2.

Table 2 *Cluster characteristics and limitations.*

Cluster	Keywords	Peculiarities	Limitations
Blue	Strategic alignment, dynamic capabilities, SMEs, project management, strategic IS management	Focus on the intersection of strategic alignment and organizational development in SMEs.	Limited exploration of how these concepts integrate with digital technologies for resilience.
Green	IT governance, strategic IT management, Fourth Industrial Revolution, SEM, case study	Emphasizes theoretical frameworks, particularly SEM, for risk analysis and management.	Practical application of theoretical models may not be as pronounced as other elements.
Red	Business strategy, information systems management, strategic management, policy, electronic commerce	Highlights actionable strategies and competencies for effective organizational management.	Less integration with broader management theories; focuses primarily on practical applications.

CONTENT ANALYSIS

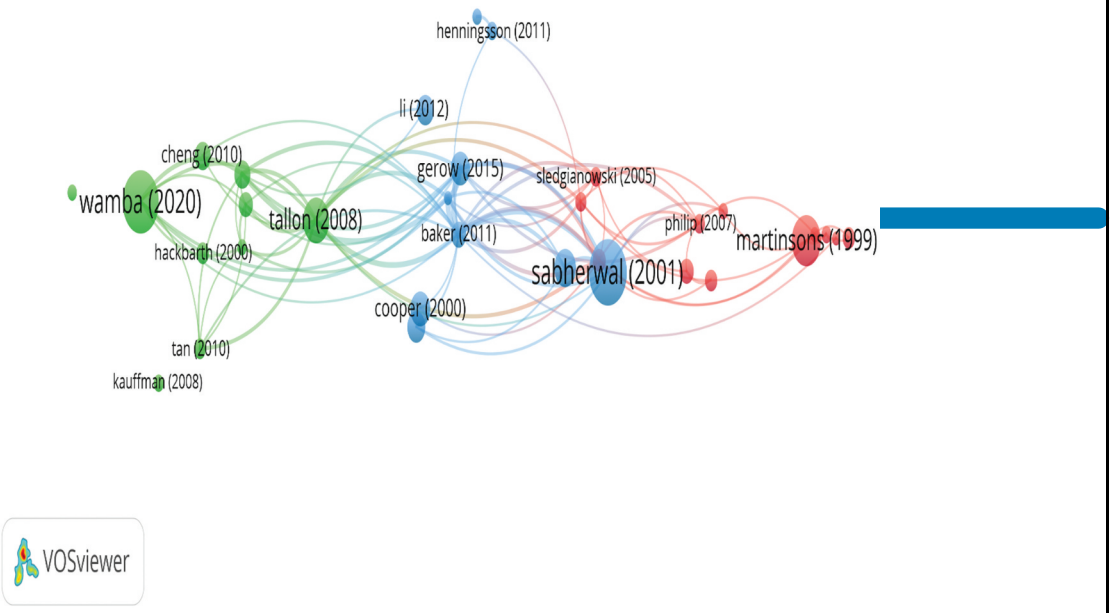
Study of bibliographic coupling in the last sample

Starting with the initial sample, we conducted a final screening phase based on Total Global Citations (TGCs) to identify the most relevant contributions from the 105 studies initially selected. This process resulted in 32 papers with TGCs ranging from a minimum of 20 to a maximum of 416, forming our final dataset. This dataset was then used for bibliometric coupling analysis, a method that organizes articles based on shared citations within the final sample. Unlike keyword co-occurrence analysis, which identifies connections based on common keywords, bibliometric coupling analysis uses common references to delineate relationships between contributions.

This approach allowed us to map out the clusters based on how frequently and in what context the articles referenced each other, reflecting the progression of literature in Information Systems Management and Strategic Planning, including risk management and business continuity. The TGC criteria highlighted the most frequently cited works, providing a robust basis for understanding the development of theories and practices over time. As demonstrated in the keyword co-occurrence analysis, bibliometric coupling analysis also generated three distinct clusters (see Figure 5). These clusters illustrate how the literature on Information Systems Management and Strategic Planning has evolved, highlighting significant contributions and the interplay between risk management and business continuity within the field (ALShanti et al., 2024; Alqudah, Ferruz, et al., 2023).

In the bibliometric coupling analysis of the final sample of 32 articles, each node represents one article, with larger nodes indicating a higher number of global citations, thus reflecting greater impact. The connections between nodes, represented by lines, show the Total Link Strength (TLS), which measures the number of shared references—thicker lines indicate more shared citations. This analysis identified seven thematic clusters: Red (12 articles), Green (10 articles), and Blue (10 articles). The top 10 most globally cited documents, detailed in Table 3, account for 53.78% of the total global citations within the final sample, amounting to 1852 TGCs out of 2732. This

Figure 5 ***Final bibliometric coupling in sample.***



signifies that these highly cited papers are pivotal in the field of HRM and IS integration, particularly concerning risk management, business continuity, and organizational development. Compared to the initial sample of 105 studies, which had 890 TGCs, the final 32 papers represent 23.14% of the original studies but account for 91.91% of the global citations, demonstrating their substantial relevance and impact for comprehensive content analysis.

Red cluster: business strategy and information systems management in modern organizations

Business and IS strategy and organizational success have been widely researched (Gerow et al., 2015; Sabherwal & Chan, 2001). Strategic coherence may help prospectors, analysts, and defenders (Sabherwal & Chan, 2001). Big data analytics has revolutionized complex company settings. When environmental dynamism moderates, it boosts supply chain ambidexterity and organizational effectiveness (Wamba et al., 2020). Strategic management tools like the balanced scorecard have helped align IT and business strategy (Huang & Hu, 2007; Martinsons et al., 1999). It helps organizations evaluate performance and link departments with strategic goals. Business process agility requires IT expertise. Tallon (2008) says these skills help organizations adjust in today's fast-changing business climate. Optimizing IT spending, particularly via strategic fit, promotes efficiency and innovation, according to Bergeron et al. (2001). With these strategic tools, data warehousing assists company decision-making. First American Corporation enhanced performance using data

Table 3 ***Out of the seven groups, top 10 most commonly mentioned articles.***

Author(s)	Year	Title	Journal	SJR	TGCs
Gemünden et al.	2018	The project-oriented organization and its contribution to innovation	International Journal of Project Management	1.654	104
Rojon et al.	2021	Utilization and development of systematic reviews in management research: What do we know and where do we go from here?	International Journal of Management Reviews	2.368	80
Holbeche	2018	Organisational effectiveness and agility	Journal of Organizational Effectiveness: People and Performance	0.587	55
Demirkesen & Ozorhon	2017	Measuring project management performance: Case of construction industry	Engineering Management Journal	0.62	45
van den Oever et al.	2017	Cardiovascular risk management in rheumatoid arthritis patients still suboptimal: the Implementation of Cardiovascular Risk Management in Rheumatoid Arthritis project	Rheumatology	0.7	28
Rozsa et al.	2021	Corporate social responsibility and essential factors of personnel risk management in SMEs	Polish Journal of Management Studies	0.362	27
Obeidat	2017	The impact of knowledge management practices on organizational performance	International Journal of Knowledge Management	0.511	26
Urban & Gaffurini	2018	Social enterprises and organizational learning in South Africa	Journal of Entrepreneurship in Emerging Economies	0.291	26
Kumar et al.	2022	The adoption of artificial intelligence powered workforce management for effective revenue growth of micro, small, and medium scale enterprises (MSMEs)	Production Planning & Control	0.498	13
Lepistö et al.	2024	Enhancing customer satisfaction, personnel satisfaction and company reputation with total quality management: combining traditional and new views	Benchmarking: An International Journal	0.287	13

warehousing, according to Cooper et al. (2000). As Kaiser et al. (2015) illustrate, aligning IS initiatives with corporate strategy may have significant benefits, particularly where structural alignment is crucial. This alignment ensures IT projects are selected and managed to meet business objectives.

Dynamic IT skills are becoming critical for strategic decision-making, especially in fast-changing contexts like the IoT (T. C. Li & Chan, 2019). These traits may help companies adjust to environmental changes and stay competitive. Tan et al. (2009) say strategic web technology use may increase organizational performance. When incorporated into strategic frameworks, these technologies help companies innovate and respond quicker to market requirements. Reverse logistics outsourcing is essential in high-tech manufacturing. TFT-LCD producers in Taiwan indicate that rigorous reverse logistics outsourcing decision-making may provide them an advantage, Cheng and Lee (2010). These organizations have used reverse logistics technologies to boost performance and sustainability. Experts also analyze corporate performance management success factors. Ariyachandra and Frolick (2008) say companies need clear performance indicators to flourish. Frolick and Ariyachandra (2006) recommend "one truth" in performance evaluation to help firms track and improve performances. Properly implemented, such methods relate performance management to long-term strategic goals. IS management cybersecurity must adapt in today's digital and networked

world (Maleh et al., 2022; Mitchell, 2020). Organizations must protect against external threats and align security policies with strategic goals. Allen (1995) says security in an open systems environment with rising risks is tough. Maleh et al. (2022) created information security policy maturity models to assist organizations evaluate existing practices and design complete security frameworks that support business objectives. As the digital world advances, IT and control become increasingly important. Bibliometric study shows IT is rising, according to Al Karabsheh et al. (2024). In addition, Qabajeh et al. (2024) analyzed COSO-related study, indicating new patterns and future opportunities. Their results underline the need to integrate IT approaches with corporate governance goals to mitigate risks. Finally, IT-business strategy alignment is necessary for long-term organizational success (Gerow et al., 2015; Sabherwal & Chan, 2001). To improve performance, companies need dynamic IT skills and big data analytics (Y. Li et al., 2012; Wamba et al., 2020). Balanced scorecards and data warehousing may enhance decision-making and integrate firm strategy to IT initiatives (Cooper et al., 2000; Martinsons et al., 1999). In an increasingly complex and fast-paced business environment, firms' success relies on using these tools and approaches.

Green cluster: IT governance and strategic planning for risk management

The Sabherwal and Chan (2001) method aligns business and IS strategy. Organizational effectiveness depends on alignment, particularly for strategic types like prospectors, analysts, and defenders. Wamba et al. (2020) explore big data analytics' performance effects and suggest that supply chain ambidexterity and environmental dynamism may considerably affect dynamic marketplace outcomes. According to Martinsons et al. (1999), the balanced scorecard supports strategic information system management. IT capabilities boost business process agility, highlighting the necessity for flexible organizational structures, according to Tallon (2008). Bergeron et al. (2001) demonstrate the nuanced fit required for effective strategic IT management by empirically comparing techniques. Cooper et al. (2000) show how data warehousing helps First American Corporation do business. This confirms Gerow et al. (2015), who established six IT-business strategic alignment types and their evaluation. Kaiser et al. (2015) also stress the need of structural alignment in project portfolio management, saying execution requires expertise beyond selection tactics. Y. Li et al. (2012) propose an Internet of Things strategic decision-making framework in addition to these methods. Their results validate Cheng and Lee (2010)'s systematic decision-making method in high-tech manufacturing, suggesting that other industries may use similar frameworks.

As the discourse continues, T. C. Li and Chan (2019) explain how organizations may remain competitive with dynamic IT capabilities. Ariyachandra and Frolick (2008) feel clear performance metrics are essential for firm performance management. Palvia et al. (2010) theoretically model offshore IS vendors' skills,

quality, and performance. This strategy enables Hu'sang and Hu (2007) enterprise-wide balanced scorecard implementation to align IT and business objectives and show their interconnectedness. Frolick and Ariyachandra (2006) emphasize business performance management's single truth, whereas Hackbarth and Kettinger (1999) examine e-business strategy imperatives. Scott (2000) agrees with the notion that technology management in high-tech new product development is essential to innovation. Tan et al. (2009) demonstrate how web technologies boost organizational efficiency using a process model. Sledgianowski and Luftman (2005) apply their notion to IT-business strategic alignment maturity using a case study. Teubner (2007) improves strategic information systems planning using a financial services case study. To improve operational efficiency, Philip (2007) relates IS strategic planning to organizational effectiveness. Henningsson and Carlsson (2011) propose the DySIIM IS integration model for mergers and acquisitions. Kauffman and Wang (2008) complicate strategic alignment discussions with Internet firm survival business model elements. Gottschalk (2000) helps organizations understand global IS management issues. By investigating information systems security in open systems environments, Allen (1995) highlights safe procedures. Zarina Abdul Jabar et al. (2022) provide an expert-validated public sector big data analytics application model, highlighting IS management's dynamic environment. Mitchell (2020) covers information system security and business cyberespionage prevention. Maleh et al. (2022) present a realistic maturity model for company information security policies, highlighting the requirement for good governance. Al Karabsheh et al. (2024) quantify IT and control approaches using bibliometrics to illustrate trends. Qabajeh et al. (2024) suggest upgrading strategic using bibliometric study of COSO-related auditing research trends. Abu Anzeh et al. (2024) map future information systems and marketing strategy trends, demonstrating their dynamic nature. Perez Calderón and Alrahamneh (2024) evaluate information technology conceptual framework using bibliometrics, underlining the necessity for more research. Alrahamneh (2024) evaluates Jordanian insurance corporations' internal audits using COSO. These studies provide significant insights on strategy alignment, performance management, and information system development. These interconnected stories show that competitive organizations require a broad approach.

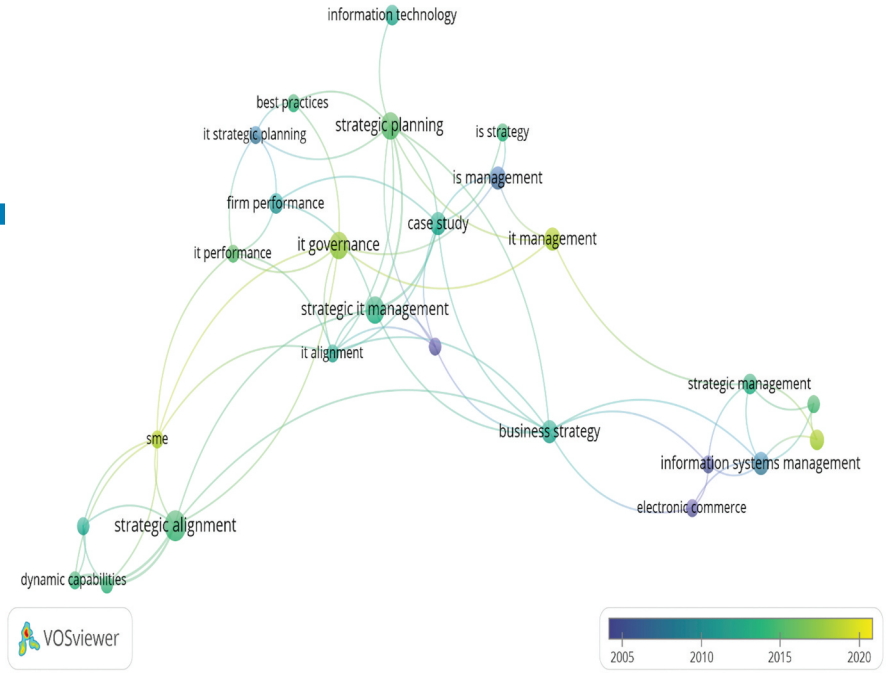
Blue cluster: strategic alignment and dynamic capabilities in information systems for SMEs

Aligning business strategies with information systems is crucial for organizational success, particularly for firms adopting various strategic orientations, such as prospectors, analyzers, and defenders (Sabherwal & Chan, 2001). Moreover, the performance outcomes of implementing big data analytics in conjunction with supply chain ambidexterity reveal significant benefits, especially when moderated by environmental dynamism (Wamba et al., 2020). This synergy highlights the importance of a balanced scorecard approach, which serves as a foundational

framework for the strategic management of information systems (Martinsons et al., 1999). Consequently, organizations must cultivate IT capabilities that enhance business process agility, facilitating adaptability in a dynamic market landscape (Tallon, 2008). Furthermore, research underscores the importance of "fit" in strategic IT management, emphasizing empirical comparisons across different perspectives to guide effective alignment (Bergeron et al., 2001). In this context, data warehousing emerges as a vital enabler of corporate strategy, demonstrating its strategic value at organizations like First American Corporation (Cooper et al., 2000). Notably, the investigation into six types of IT-business strategic alignment provides a nuanced understanding of the constructs involved and their measurement (Gerow et al., 2015).

In addition, successful project portfolio management extends beyond mere selection techniques; it necessitates an understanding of structural alignment within the organization (Kaiser et al., 2015). This alignment is further reinforced by a theoretical framework for strategic decision-making, particularly in the context of the Internet of Things (Y. Li et al., 2012). For instance, the systematic decision-making approach employed in outsourcing reverse logistics demonstrates how firms in high-tech sectors can enhance their operational efficiency (Cheng & Lee, 2010). As such, developing dynamic IT capabilities is essential for organizations to navigate complex environments and ensure sustained competitiveness (T. C. Li & Chan, 2019). The exploration of critical success factors in business performance management reveals that striving for success hinges on understanding these multifaceted relationships (Ariyachandra & Frolick, 2008). Consequently, establishing a theoretical framework that addresses the capabilities, quality, and performance of offshore IS vendors can illuminate the pathways toward improved decision-making processes (Palvia et al., 2010). Ultimately, achieving IT-business strategic alignment through enterprise-wide balanced scorecard implementation not only fosters alignment but also promotes enhanced organizational performance (Huang & Hu, 2007). In summary, addressing the challenges of technology management requires a comprehensive understanding of the interplay between information systems and business strategies. As the digital landscape continues to evolve, the necessity for organizations to build robust e-business strategies becomes increasingly paramount (Hackbarth & Kettinger, 1999). The integration of web technologies also presents strategic implications that significantly enhance organizational performance, further emphasizing the need for a process-oriented approach (Tan et al., 2009). Lastly, case studies of IT-business strategic alignment maturity illustrate the various stages organizations undergo in optimizing their IT resources to support overarching business goals (Sledgianowski & Luftman, 2005). This exploration culminates in an understanding of strategic information systems planning within the financial services sector, where aligning IT with business strategy is crucial for success (Teubner, 2007). Consequently, achieving operational efficiency through IS

Figure 6 *Overlay of January 2005 to December 2020.*



strategic planning not only fosters growth but also sustains competitive advantage (Philip, 2007).

Overlay visuals and evolution of trends

Figure 6 presents a network visualization of keyword co-occurrence in academic literature related to Information Systems Management (ISM) and IS integration from January 2005 to December 2020 (S. Qudah et al., 2022). The visualization reveals significant themes and trends during this period, such as the growing importance of risk management and business continuity in the integration of ISM and IS practices. The COVID-19 pandemic appears to have heightened the focus on these areas, underscoring the need for robust risk management frameworks and continuity planning. Other prominent themes include organizational development and the application of theoretical models like the Risk Management Framework (RMF) and the Control Objectives for Information and Related Technologies (COBIT) to enhance the integration of ISM functions.

CONCLUSIONS

Our comprehensive review, derived from a sample of 338 papers, aimed to investigate the relationship between Information Systems Management (ISM) and Strategic Planning (SP), with a particular focus on their implications for risk management,

business continuity, and organizational development. In doing so, our investigation revealed a significant gap in the literature: consistent and substantial evidence supporting the impact of ISM and SP integration on organizational outcomes was notably absent. This gap highlights the pressing need for further research in this area, thereby providing a foundation for future studies.

To begin with, our review uncovered a recent and rapidly evolving body of literature, marked by diverse author contributions and a growing number of journal publications. This literature was categorized into four primary clusters based on keyword associations: Risk Management Strategies in ISM (red cluster), Business Continuity Planning through ISM (blue cluster), Organizational Development and ISM Integration (green cluster), and Strategic Risk Management in ISM (yellow cluster). Furthermore, the majority of studies employed quantitative methods, including various experimental and survey-based approaches.

However, several methodological issues were identified. Firstly, some models incorporated variables that potentially violated independence assumptions, as multicollinearity tests were frequently omitted. This oversight may have led to overlap effects, which could impact the interpretation of results. Additionally, the measurement of ISM integration varied across studies, reflecting alignment with different theoretical frameworks but complicating comparability between studies. Moreover, the breadth of theories applied in this field was substantial. Although we aimed to classify each document according to the most relevant frameworks, many studies utilized a mix of theories. This suggests the absence of a dominant theoretical approach specifically designed to explain the relationship between ISM, SP, and organizational outcomes. This point is reinforced by the observation that some studies did not directly address the impact of ISM and SP on organizational outcomes, with 13.14% of papers classified as having an "uncertain" relationship.

In addition, our review highlighted that many studies focused on anticipated enhancements in engagement and performance rather than directly addressing organizational outcomes. Specifically, 71.42% of the studies in the red cluster aimed to explain improvements in risk management and business continuity rather than measuring actual outcomes. Conversely, the green cluster indicated that while certain digital tools might enhance performance, their effectiveness is influenced by other variables such as organizational structure and strategy. Given these findings, it is evident that the literature has not yet sufficiently addressed key research questions regarding ISM and SP integration. The varied methodologies and implementation approaches across studies complicate the comparison of results. Some digital tools yielded positive effects, while others did not, illustrating the complexity and context-dependence of integrating ISM and SP practices.

Consequently, our review validated the shift in focus from examining outcomes retrospectively to understanding the integration of ISM and SP practices prospectively. This shift aims to clarify the implementation of these tools and their potential impacts on organizational outcomes. Future research should therefore explore various drivers of ISM and SP integration and investigate the implications of tool diversity on organizational

performance. To our knowledge, there is no other review specifically addressing the integration of ISM and SP in the context of risk management, business continuity, and organizational development. While there are existing reviews on broader topics such as risk management and organizational performance, our research provides a unique perspective by focusing specifically on the intersection of ISM and SP. By employing bibliometric tools such as the Bibliometrix R package and VOSviewer, we offer valuable insights and guide future inquiries in this critical field.

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