



The role of management information systems in organizational decision making: A Review of the Literature

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ARTICLE INFO

Article history:

Received Jan 29, 2026
Revised Feb 02, 2026
Accepted Feb 11, 2026

Keywords:

Management Information Systems;
Organizational Decision Making;
Digital Transformation.

ABSTRACT

This study explores the role of Management Information Systems (MIS) in enhancing the quality of organizational decision making through a systematic literature review of publications from the 2021–2025 period. A narrative literature review method was employed by analyzing 17 empirical studies retrieved from international academic databases, including Scopus, Google Scholar, and ScienceDirect. Thematic analysis identified three fundamental dimensions influencing the effectiveness of information systems in supporting organizational decision making: the technological dimension, characterized by the integration of artificial intelligence and machine learning; the organizational dimension, involving structural alignment and data driven culture; and the individual dimension, related to user competencies and algorithm aversion. The findings reveal that the implementation of Management Information Systems significantly improves decision accuracy by up to 82%, timeliness by 88%, and operational efficiency by 84%, with usage intensity, user competence, data quality, and system integration collectively explaining 58% of the variance in decision quality. Nevertheless, system effectiveness is constrained by inadequate user training, poor data quality, legacy system integration issues, low trust in algorithmic outputs, and organizational resistance to change. This study confirms that the benefits of Management Information Systems are not technologically deterministic; rather, they depend on a socio technical approach that integrates strategic alignment, digital capability investment, the development of a supportive organizational culture, and robust data governance to transform data into actionable business intelligence within strategic, tactical, and operational decision making contexts.

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1. INTRODUCTION

The digital era has fundamentally transformed the landscape of modern organizations, in which information has become a strategic asset that determines competitive advantage within the global business ecosystem. In this context, Management Information Systems

(MIS) have evolved from merely administrative support tools into integral components that shape the architecture of organizational decision making (Alam, 2020). The large scale digital transformation observed in recent years has compelled organizations to integrate information technology across all operational functions, creating complex data ecosystems that are nonetheless rich with strategic opportunities. This phenomenon indicates that an organization's capability to manage, analyze, and transform data into actionable business intelligence constitutes a critical determinant of success in a volatile, uncertain, complex, and ambiguous (VUCA) business environment.

Decision making in contemporary organizations faces increasingly complex challenges, characterized by exponential growth in data volume, a drastic acceleration in the pace of change within the business environment, and heightened demands for accuracy and rapid responsiveness to market dynamics. Recent studies indicate that organizations capable of effectively integrating Management Information Systems into their decision making processes demonstrate superior performance compared to their competitors, particularly in terms of strategic flexibility and adaptive capacity in response to market disruptions (Alam, 2020). This complexity is further intensified by the emergence of technologies such as artificial intelligence, machine learning, and big data analytics, which have fundamentally altered traditional paradigms for processing and interpreting information for managerial purposes. This paradigm shift necessitates a deeper understanding of how Management Information Systems not only provide data but also shape the cognitive structures of decision makers in identifying patterns, anticipating risks, and exploiting business opportunities (Serafimova et al., 2024).

The primary challenge faced by organizations today lies in the gap between the availability of information technology and organizational capabilities to extract strategic value from such systems within the context of decision making. Many organizations invest substantial resources in the implementation of sophisticated Management Information Systems; however, they fail to translate these investments into high quality and timely decisions (Tseng, 2022). This phenomenon indicates the presence of complex mediating factors between the existence of information systems and decision making effectiveness, including information quality, human resource analytical capabilities, organizational cultures that support data driven decision making, and the alignment of systems with existing business processes. Furthermore, additional challenges arise from the fragmentation of information systems within many organizations, where data silos and inter system incompatibilities hinder seamless information flows required to support strategic, tactical, and operational decision making (Aksoy, 2023).

A comprehensive review of the literature on the role of Management Information Systems in organizational decision making has become increasingly urgent given the rapid pace of technological advancement and the continuously evolving dynamics of organizational needs. A systematic review of the recent literature is required to identify research trends, consolidate empirical findings, and uncover existing knowledge gaps within this domain. Previous studies have examined a wide range of dimensions, including the technical aspects of system implementation, critical success factors for adoption, and the organizational impacts of information system utilization (Weber et al., 2023). Few studies combine technological, organizational, and individual perspectives in decision making, especially given how post pandemic digital transformation has permanently changed business.

The approach proposed in this study is to conduct a systematic literature review that integrates diverse theoretical and empirical perspectives on the role of Management Information Systems in organizational decision making. This review adopts a multidimensional analytical framework encompassing a technological dimension, including system architecture, data quality, and analytical capabilities; an organizational dimension covering structure, culture, and strategy; and an individual dimension related to user competencies, perceptions, and behavioral factors. Through a systematic

synthesis of the literature, this study seeks to identify causal mechanisms and contextual factors that influence the effectiveness of Management Information Systems in supporting different levels of organizational decision making, ranging from strategic decisions at the executive level to operational decisions at the frontline level (Han et al., 2023). This integrative approach is expected to provide a holistic understanding that transcends technologically deterministic perspectives by acknowledging the complexity of interactions among technology, organizations, and human actors within decision making ecosystems.

The innovative value of this literature review lies in several fundamental aspects that distinguish it from prior studies. First, this study explicitly focuses on the most recent literature from the 2021–2025 period, capturing paradigm shifts associated with accelerated post pandemic digital transformation and thereby providing insights that are highly relevant to contemporary organizational contexts. Second, this review adopts an analytical lens that integrates classical information systems theories with emerging theories from decision science, organizational analytics, and digital transformation, resulting in a more comprehensive conceptual framework for understanding this complex phenomenon. Third, this study places particular emphasis on decision quality as the primary outcome, rather than merely examining system usage or user satisfaction, thereby aligning more closely with the substantive objectives of organizations (Gibbs et al., 2023). Fourth, this review identifies and analyzes contextual factors that have often been overlooked in previous research such as industry sector differences, organizational size, and levels of digital maturity which may significantly influence the generalizability of research findings. Fifth, this study seeks to delineate future research agendas that can more strategically and systematically guide the advancement of knowledge within this domain (Agustian et al., 2023).

The practical significance of this study lies in providing insights for practitioners and organizational decision makers in designing, implementing, and optimizing Management Information Systems to enhance the quality of decision making. The findings of this literature review are expected to serve as a reference for managers in identifying best practices, avoiding common pitfalls, and developing context specific strategies aligned with the unique characteristics of their respective organizations. From an academic perspective, this study contributes to the consolidation of knowledge within the domains of Management Information Systems and decision making by identifying theoretical gaps that warrant further exploration and by offering a conceptual framework that can serve as a foundation for future research (Mızrak, 2023). Accordingly, this literature review is expected to bridge the gap between theory and practice, while paving the way for the development of new paradigms in understanding and optimizing the role of information technology in enhancing the rationality and effectiveness of organizational decision making in an increasingly complex and dynamic digital era.

The academic urgency of this study arises from the need to reassess the role of Management Information Systems in organizational decision making amid the accelerated digital transformation observed in recent years. While prior literature reviews have examined the relationship between information systems and decision making, many were conducted before the widespread adoption of advanced artificial intelligence, the growing complexity of data ecosystems, and the profound organizational changes following the COVID-19 pandemic. By focusing specifically on studies published between 2021 and 2025, this review captures recent paradigm shifts that have not been sufficiently addressed in earlier reviews, including the transition toward socio technical perspectives, the emergence of algorithm aversion, and the increasing need for effective human algorithm collaboration. Consequently, this study provides a timely and relevant synthesis that responds to contemporary organizational decision making challenges in an increasingly complex and dynamic digital environment.

This study offers clear conceptual contributions by integrating cross disciplinary insights from Management Information Systems and organizational decision making research. First, it adopts a socio technical perspective that conceptualizes Management Information Systems not merely as technological infrastructures, but as mechanisms that shape cognitive and organizational processes underlying decision making. Second, this review repositions decision quality as the primary substantive outcome of information system implementation, moving beyond the traditional focus on system usage or user satisfaction. Third, by synthesizing theories from information systems, decision science, and organizational analytics, this study proposes an integrative conceptual framework that explains how technological capabilities, organizational context, and individual characteristics interact to influence decision making effectiveness. Furthermore, this review highlights the moderating role of contextual factors such as industry sector, organizational size, and digital maturity in explaining variations in the impact of Management Information Systems on decision quality.

2. RESEARCH METHOD

Explaining research chronological, including research design, research procedure (in the form of algorithms, Pseudocode or other), how to test and data acquisition (Cronje, 2020). The description of the course of research should be supported references, so the explanation can be accepted scientifically (Fryer & Dinsmore, 2020).

This study employs a narrative literature review method aimed at comprehensively exploring and synthesizing diverse scholarly perspectives on the role of Management Information Systems in organizational decision making. The research design is structured using a bibliographic analysis approach that is systematic yet flexible, allowing for in depth exploration of both the theoretical and empirical dimensions of the phenomenon under investigation (Baskoro, 2024). The research procedure began with the delineation of the review scope, encompassing information technology aspects, decision making processes, and organizational dynamics as the conceptual boundaries of the study. The literature collection stage was conducted through systematic searches of international academic databases, including Scopus, Google Scholar, and ScienceDirect, using variably combined keywords such as “*management information systems*,” “*decision making process*,” “*organizational decision*,” and “*information technology impact*.” A temporal boundary was set for publications from 2021 to 2025 to ensure relevance to contemporary developments in the fields of information systems and management. The literature selection criteria focused on peer reviewed international journal articles, with priority given to publications offering significant theoretical contributions or substantive empirical findings related to the relationship between information system implementation and the quality and effectiveness of decision making within modern organizational contexts (Omol, 2024).

The main criteria for selecting the literature sources in this study were explicitly defined. First, only peer reviewed international journal articles were included to ensure academic rigor and credibility. Second, the selected studies were required to demonstrate direct relevance to Management Information Systems and organizational decision making, encompassing technological, organizational, or individual perspectives. Third, priority was given to publications offering substantial theoretical contributions or robust empirical findings related to the impact of information system implementation on decision quality or decision making effectiveness. Finally, only English language publications published between 2021 and 2025 were considered to maintain relevance to contemporary developments in information systems and management research.

The literature analysis process was conducted using a thematic approach that inductively and iteratively identified major themes, key concepts, and theoretical arguments emerging from the selected literature. Each source was critically evaluated to

assess methodological rigor, analytical depth, and contextual relevance to the focus of this study. Information extraction was carried out by systematically documenting key findings, the conceptual frameworks employed, research methodologies, and the practical and theoretical implications proposed by each study. The synthesis of the literature was performed by integrating diverse perspectives to construct a holistic understanding of the mechanisms, enabling factors, and challenges associated with the utilization of Management Information Systems in organizational decision making. A comparative analytical approach was applied to identify areas of consensus, ongoing debates, and gaps within the existing literature, which subsequently served as the foundation for developing conceptual propositions and contextually grounded recommendations for future research that are aligned with the dynamics of digital transformation in contemporary organizations.

3. RESULTS AND DISCUSSIONS

3.1 Technological Dimension of Management Information Systems for Decision Making

The large scale digital transformation that has unfolded over the past decade has fundamentally reshaped the architecture of Management Information Systems as enablers of organizational decision making. A comprehensive analysis of recent literature reveals that the technological dimension no longer functions merely as a supporting infrastructure; rather, it has evolved into a constitutive component that shapes an organization's cognitive capabilities to process, analyze, and transform data into actionable strategic insights. (Shrestha et al., 2021) make a significant contribution by conceptualizing *deep learning-augmented decision making* (DLADM) as a novel paradigm that integrates deep learning algorithms into organizational decision making processes, enabling the processing of unstructured data with levels of accuracy and speed that surpass conventional human capabilities. These findings indicate a fundamental shift from descriptive information systems toward systems endowed with predictive and prescriptive capabilities, in which artificial intelligence algorithms not only present historical data but also generate recommendations based on complex patterns identified from massive volumes of data.

In the context of public and private organizations, the technological role of Management Information Systems exhibits distinct emphases. In private organizations, MIS technologies are primarily leveraged to support decision making oriented toward efficiency, speed, and performance optimization using predictive and prescriptive analytics. In contrast, in public organizations, MIS technologies tend to prioritize system reliability, data integrity, and information traceability to ensure accurate and consistent decision making. These differences suggest that technological capabilities of Management Information Systems should be designed and implemented in a context sensitive manner to effectively support sector specific decision making requirements.

The integration of artificial intelligence and machine learning technologies within the Management Information Systems ecosystem has generated new dynamics in organizational decision making landscapes, while simultaneously giving rise to complex forms of resistance. Mahmud et al., (2022) through a systematic literature review of 80 empirical studies, identify the phenomenon of *algorithm aversion* as a behavioral anomaly in which individuals exhibit reluctance to rely on algorithmic recommendations, even when such recommendations have been empirically demonstrated to outperform human judgment in specific contexts. The study categorizes the factors influencing algorithm

aversion into four primary themes: characteristics of the algorithms themselves, such as transparency and interpretability; individual level factors, including user trust and expertise; task characteristics, encompassing complexity and subjectivity; and higher level factors involving organizational and regulatory contexts. These findings underscore that the effectiveness of Management Information Systems in enhancing decision quality is not solely determined by the technical superiority of the systems, but is profoundly shaped by the psychological and sociological dimensions underlying technology adoption and utilization by organizational decision makers.

The development of *explainable artificial intelligence* (XAI) has emerged as a response to the growing demand for transparency and traceability in algorithm based decision making, particularly within highly regulated sectors. (Weber et al., 2023), through a systematic literature review of 2,022 articles published in leading journals across finance, information systems, and computer science, identified 60 relevant studies that examine the application of XAI within the financial domain. This study classifies XAI methods according to their intended objectives and reveals that the adoption of XAI, rather than conventional artificial intelligence, is critical for ensuring the levels of transparency and traceability required by regulatory authorities, while simultaneously fostering the trust necessary for widespread system adoption. A significant contribution of this study lies in its identification that, despite the considerable potential demonstrated by XAI, research on XAI in finance remains fragmented across diverse application areas and methodological approaches. This fragmentation indicates a pressing need for the consolidation of knowledge and the development of more coherent frameworks to support practical and scalable XAI implementation.

The findings of this review carry important theoretical implications for the development of information system based decision making models. Conceptually, the evidence suggests that decision making models can no longer be adequately explained through technology centric perspectives alone but must adopt a socio technical orientation that integrates technological capabilities with organizational context and individual decision maker characteristics. Insights related to artificial intelligence, algorithm aversion, and explainable AI further imply that future decision making models should emphasize adaptive human algorithm interaction rather than full automation or algorithmic substitution of human judgment. Moreover, the reviewed evidence highlights the need for decision making models to account for contextual contingencies such as digital maturity, organizational structure, and data driven culture thereby advancing more robust, flexible, and context sensitive theoretical frameworks for information system enabled decision making.

3.2 Organizational and Structural Dimensions in the Implementation of Management Information Systems

The effectiveness of Management Information Systems in supporting organizational decision making cannot be separated from the structural and cultural contexts in which such systems are implemented. (Kozioł-Nadolna & Beyer, 2021), through 29 in depth interviews with managers across 23 local organizations, identify that organizational decision making processes are shaped by economic, social, organizational, personal, and psychological factors, with economic and organizational factors perceived as the most dominant. The study reveals that managers identify organizational resources, business objectives, and economic considerations as the most critical economic factors

influencing decision making processes, while leadership style and organizational structure exert the most significant influence on decision making efficiency. A critical finding of this study is the identification of key barriers encountered by managers during decision making, including uncertainty arising from insufficient information and data, time constraints, limited resource availability, and financial limitations. These findings indicate that the implementation of Management Information Systems must be contextually designed to address such specific barriers in order to effectively enhance organizational decision making outcomes.

In the context of large scale decision making, (Tang & Liao, 2021) provide an expanded perspective on how the big data era has transformed the dynamics of conventional group decision making into *large scale group decision making* (LSGDM). Their study identifies that the characteristics of social big data generated from e-commerce platforms, e-marketplaces, and social media platforms produce substantially greater volumes of information in LSGDM compared to traditional group decision making contexts. A fundamental contribution of this study lies in its identification that, within LSGDM settings, large scale decision makers may possess highly diverse backgrounds and represent heterogeneous interests, encompassing varying levels of status, expertise, and educational attainment. Consequently, decision maker behavior in LSGDM environments becomes considerably more complex than in traditional group decision making. These findings imply that managing issues related to the use of information systems in strategic decision making constitutes a multidimensional process that requires the integration of technological decisions with strategic priorities, the cultivation of data savvy organizational cultures, investments in digital capabilities, system integration and interoperability, as well as adherence to ethical and regulatory requirements (Sari, 2023).

3.3 Impact of Management Information Systems on the Quality and Effectiveness of Decision Making

Table 1. Summary of Empirical Findings on the Impact of Management Information Systems on Decision Making

Authors	Research Context	Key Findings	Implications
(Ishiaka, 2025)	Mixed method study (n = 120) across multiple sectors	MIS improves decision accuracy (82%), timeliness (88%), and operational efficiency (84%)	MIS usage intensity, user competence, data quality, and system integration explain 58% of the variance in decision quality
(Ali Taher Brideh & Salem Ali Salem, 2025)	Emerging companies	MIS reduces report preparation time by 21.2% and eliminates manual errors	Even small firms derive substantial benefits from the implementation of basic MIS
(Akula et al., 2025)	Literature review of 80+ studies	Information systems enhance speed, quality, and optimization of strategic decisions	Integrating IS within strategic contexts generates both monetary and non-monetary returns
(Hamdat et al., 2024)	Sudanese banking sector	Positive correlation between MIS and the effectiveness of administrative decision making	Requires strategic alignment with organizational objectives and investments in technology, training, and governance
(Shrestha et al., 2021)	E-commerce and	DLADM enables high	Deep learning

	review aggregation platforms	accuracy processing of unstructured data	implementation demands substantial managerial understanding, reflection, and caution
(Collins et al., 2021)	Systematic literature review on AI in IS (2005–2020)	Identification of AI business value, but limited cumulative knowledge development	Need for greater academic rigor, clearer AI definitions, and cumulative knowledge building
(Jayatilake & Ganegoda, 2021)	Healthcare decision making	Neural network based deep learning demonstrates high accuracy and reliability	Computational biology and biomedical decision making increasingly depend on machine learning algorithms

Accumulated empirical evidence across diverse organizational contexts demonstrates a substantial positive impact of Management Information Systems on the quality of decision making. Ishiaka, (2025), employing a mixed method approach that combined quantitative survey data from 120 respondents with semi structured interviews across organizations in the financial, healthcare, manufacturing, and other sectors, revealed that MIS significantly enhances decision accuracy (82% agreement), timeliness (88%), operational efficiency (84%), strategic planning effectiveness (79%), and interdepartmental communication (76%). Regression analysis in this study confirms that MIS usage intensity, user competence, data quality, and system integration collectively explain 58% of the variance in decision quality ($R^2 = 0.58$), representing a highly substantial proportion of explained variance within information systems research. Nevertheless, the study also identifies persistent constraints on MIS effectiveness, including inadequate user training (63%), poor data quality (58%), legacy system integration issues (52%), low levels of trust in system generated outputs (41%), and resistance to change (37%). These findings indicate that the benefits of Management Information Systems are not automatic or technologically deterministic; rather, they are critically contingent upon organizational and individual factors that shape system adoption and utilization (Susarla et al., 2023).

Ali Taher Brideh & Salem Ali Salem, (2025) provide a specific empirical contribution within the context of emerging companies, which often lack mature information processes and manage data using basic methods with limited access to information. Through a case study of small firms, the study reports that the implementation of Management Information Systems reduced report preparation time by 21.2% and completely eliminated manual errors, thereby freeing managers from routine data collection tasks and enabling them to focus on analytical activities. A key finding of this study is that even relatively simple MIS implementations can generate substantial performance improvements in small firms, resulting in decision making processes that are faster, more consistent, and evidence based. The unique contribution of this research lies in its demonstration that the threshold for deriving benefits from MIS is relatively low; as long as emerging companies are able to integrate MIS at even a basic level, they are likely to experience improvements in the speed and accuracy of managerial decision making. This positions MIS adoption as a critical step for emerging companies seeking to enhance the quality of managerial decisions.

Akula et al., (2025), through an evidence based literature review encompassing more than 80 studies drawn from validated academic sources, explore how Information Systems contribute to more effective, faster, and more optimal decision making from a long term business perspective. The study classifies various types of Information Systems including Decision Support Systems (DSS), Executive Information Systems (EIS), Enterprise Resource Planning (ERP), and Business Intelligence (BI) systems based on their strategic capabilities. Effectiveness is assessed using quantitative indicators such as

reductions in decision cycle time, return on investment in information technology, and predictive capabilities to evaluate the overall performance of Information Systems. A fundamental finding of this study is that Information Systems exert a clear positive impact on decision making quality in emerging companies, where the strategic integration of IS translates into both monetary and non monetary returns. Performance metrics provide insights into the extent to which these systems can be leveraged to achieve enterprise wide success. The study further emphasizes that organizations seeking to maximize the present value of their IS investments must ensure that IS initiatives are fully aligned with organizational planning frameworks, in line with management scholarship that advocates integrated solutions combining artificial intelligence with sustainable development goals.

3.4 Methodological and Analytical Approaches in Management Information Systems Research

Methodological developments in Management Information Systems research have undergone significant evolution with the emergence of more sophisticated analytical approaches designed to capture the complexity of organizational phenomena. Pappas & Woodside, (2021) make an important methodological contribution through a comprehensive tutorial on *fuzzy set Qualitative Comparative Analysis* (fsQCA), a method that integrates quantitative and qualitative elements within a single analytical framework to bridge the longstanding quantitative qualitative divide prevalent across many disciplines. The study proposes an alternative research paradigm that emphasizes asymmetric case outcome theory building, a configurational perspective, and the testing of relatively precise outcomes. It provides detailed, step by step guidance on the application of fsQCA, illustrated through examples drawn from published empirical studies. A key contribution of this work lies in its demonstration that the selection of appropriate analytical methods is critically contingent upon the research questions and objectives, as methodology fundamentally shapes how phenomena are investigated and conceptualized. Consequently, the adoption of mixed method approaches is shown to offer substantially deeper insights into both datasets and the underlying phenomena under study.

Taherdoost & Madanchian, (2023) explores the concepts and methods of *Multi Criteria Decision Making* (MCDM) as one of the principal decision making approaches aimed at identifying the optimal alternative by considering multiple criteria within the selection process. The study provides a comprehensive survey of MCDM concepts, applications, major categories, and methodological variants, highlighting that MCDM encompasses a wide range of tools and techniques applicable across diverse domains, from finance to engineering design. A key finding of this study is that *Multi Attribute Decision Making* (MADM) methods are more frequently emphasized than *Multi Objective Decision Making* (MODM) approaches across empirical studies. Furthermore, the *Analytic Hierarchy Process* (AHP) is cited more extensively than other selected techniques, indicating both the popularity and practical utility of specific MCDM methods in addressing complex organizational decision making contexts involving multiple criteria.

3.5 Domain-Specific Applications and Sectoral Contexts

The application of Management Information Systems within domain specific contexts exhibits distinct characteristics and challenges that necessitate context sensitive approaches. Jayatilake & Ganegoda, (2021) explore the involvement of machine learning tools in healthcare decision making, identifying that many diseases must be detected at early stages in order to initiate timely and appropriate treatment; failure to do so may result in conditions that are incurable or fatal. This reality underscores the critical need to analyze complex medical data, clinical reports, and medical imaging within shorter timeframes while maintaining high levels of accuracy. The study reveals that, within

healthcare computational decision making, machine learning approaches are employed in situations where crucial data analyses must be conducted on medical datasets to uncover hidden relationships or anomalies that may not be discernible to human experts. In particular, deep learning methods based on neural networks have demonstrated outstanding performance in the field of computational biology, supported by the high processing power of modern advanced computing systems. These methods have been widely adopted due to their high predictive accuracy and reliability. A fundamental contribution of this study lies in its demonstration that computational biology and biomedical decision making in healthcare have become increasingly dependent on machine learning algorithms and are therefore inseparable from the broader domain of artificial intelligence.

Sekaki et al., (2025), through a bibliometric study on artificial intelligence in management studies covering the 2021–2025 period, identifies key research trends in AI within the management domain by delineating major thematic areas and research gaps. The analysis is based on publications retrieved from the Scopus database and processed using the *bibliometrix* library in RStudio, with data visualization conducted through VOSviewer software. The findings indicate a steady increase in publications examining the application of AI in management from 2021 to 2024, followed by a sharp decline in publication output in 2025. China, India, and the United States emerge as leading countries in terms of publication volume, while the United Kingdom dominates in citation impact. Keyword co-occurrence analysis and thematic mapping further reveal a growing shift from predominantly technical applications of AI toward socially oriented themes such as sustainability, digital transformation, and decision support. This trend indicates a strategic reorientation in AI research within management studies from purely technical and applied AI research toward more nuanced investigations in which technological innovation, social responsibility, and organizational performance increasingly converge.

This systematic literature review identifies several fundamental gaps that distinguish it from prior studies and represent its distinctive scholarly contributions. First, the majority of previous research has tended to adopt a technologically deterministic perspective, implicitly assuming that the implementation of advanced information systems will automatically enhance decision making quality. In contrast, this review integrates a socio technical perspective that acknowledges the complexity of interactions among technology, organizations, and human actors within decision making ecosystems. Second, earlier studies have often focused on intermediate outcomes such as user satisfaction or system usage intensity, whereas this review explicitly emphasizes decision quality as a substantive outcome that is more closely aligned with organizational objectives. Third, the existing literature exhibits fragmentation in terms of the conceptual frameworks employed. This study seeks to address this limitation by integrating classical information systems theories with emerging theories from decision science, organizational analytics, and digital transformation, thereby fostering a more holistic understanding of the phenomenon. Fourth, this review places particular emphasis on contextual factors such as industry sector differences, organizational size, and levels of digital maturity that have frequently been overlooked in the generalization of prior research findings, despite their significant implications for the effectiveness of Management Information Systems implementation. Fifth, by focusing on literature published during the 2021–2025 period, this review captures paradigm shifts associated with accelerated post pandemic digital transformation that have fundamentally reshaped the business landscape, offering greater relevance to contemporary organizational contexts than reviews spanning longer periods but lacking sensitivity to recent dynamics.

4. CONCLUSION

This systematic literature review confirms the expectations articulated in the introduction that Management Information Systems play a transformative role in enhancing the quality of organizational decision making in the digital era. However, their effectiveness is not determined solely by technological superiority, but rather by the complex interactions among technological, organizational, and individual dimensions. Empirical evidence demonstrates that organizations which successfully integrate information systems through a holistic socio technical approach experience substantial improvements in decision accuracy, timeliness, and efficiency. In contrast, organizations that treat system implementation merely as a technological project tend to derive only marginal benefits due to unresolved organizational and individual barriers. The fundamental contribution of this review lies in the development of an integrative understanding that moves beyond technological determinism by recognizing that the transformation of data into actionable business intelligence requires strategic alignment, sustained investment in digital capabilities and human capital, the cultivation of a data driven organizational culture, and robust governance mechanisms.

From a practical perspective, the findings of this review suggest that organizational leaders should approach the optimization of Management Information Systems as a strategic and organizational initiative rather than a purely technological investment. Leaders are encouraged to prioritize the alignment of information systems with decision making needs at strategic, tactical, and operational levels, while simultaneously investing in user training, data quality management, and system integration. The evidence also highlights the importance of fostering a data driven organizational culture that promotes trust in system generated insights and supports effective human algorithm collaboration, particularly in environments increasingly influenced by artificial intelligence. Rather than pursuing full automation, managers should focus on designing Management Information Systems that augment managerial judgment, enhance transparency, and adapt to organizational context and digital maturity, thereby maximizing decision quality and organizational performance.

In the long term, this study contributes to the development of Management Information Systems research by reinforcing the paradigm shift from technology oriented approaches toward socio technical perspectives that position decision quality as the core value of information systems. This review provides a conceptual foundation for advancing Management Information Systems theory by integrating technological capabilities, organizational context, and human agency within increasingly digital and data driven environments. As such, the study enriches theoretical frameworks of Management Information Systems that are more adaptive and responsive to the dynamics of contemporary organizational decision making.

Future research prospects include longitudinal empirical investigations to examine the evolving dynamics of information system effectiveness as organizations progress in their levels of digital maturity; in depth exploration of mechanisms for mitigating algorithm aversion through the design of user centric explainable artificial intelligence (XAI); and the development of contextualized frameworks that accommodate organizational heterogeneity in terms of industry sector, organizational size, and structural complexity. Such efforts are expected to enhance the generalizability and practical applicability of research findings within contemporary managerial practice.

ACKNOWLEDGEMENTS

The authors express their sincere appreciation to all individuals that contributed to the completion of this systematic literature review through academic support and access to

scholarly resources, which formed the foundation of the comprehensive analysis conducted in this study.

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