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Article

Artificial Intelligence-Enhanced Management Information Systems for Organisational Efficiency, Sustainability and Resilience

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Abstract: Artificial Intelligence (AI)-enhanced Management Information Systems (MIS) are transforming organisational operations by integrating advanced machine learning, predictive analytics, and generative AI into traditional information frameworks. These systems optimise data management, streamline workflows, and enable proactive, data-driven decision-making, enhancing efficiency, sustainability, and organisational resilience. AI-powered data management automates error detection, validation, and pipeline creation, while natural language processing facilitates metadata extraction and conversational data discovery. Predictive analytics allows early identification of potential governance and operational issues. Across industries, AI applications demonstrate diverse benefits: in healthcare, AI improves diagnostic accuracy and patient outcomes; in finance, AI platforms enhance risk management, fraud detection, and advisory efficiency; in e-commerce, generative AI supports marketing, product recommendations, and content creation. Case studies of state-owned enterprises illustrate AI's role in boosting Environmental, Social, and Governance (ESG) performance and organisational agility. Despite these advantages, AI integration presents challenges, including ethical concerns, data privacy, algorithmic bias, job displacement, and the balance between automation and human oversight. Emerging trends such as IoT integration, personalised resource management, explainable AI, and advanced predictive analytics highlight the evolving potential of AI-enhanced MIS for driving innovation and strategic advantage. Organisations that adopt structured implementation frameworks, promote agile cultures, and ensure ethical AI governance are better positioned to leverage these systems for sustainable growth and resilience in dynamic, competitive environments.

Keywords: Artificial Intelligence (AI), Management Information Systems (MIS), Predictive Analytics, Organisational Agility, Generative AI.

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Significance: AI-enhanced MIS improves decision-making, efficiency, and sustainability, enabling organisations to adapt, innovate, and maintain competitive advantage in dynamic environments.

1. Introduction

Artificial Intelligence-Enhanced Management Information Systems (AI-Enhanced MIS) represent a transformative evolution of traditional management information frameworks, integrating AI technologies to improve organisational efficiency, sustainability, and resilience. These systems leverage advanced algorithms and machine learning techniques to analyse vast amounts of data, enabling businesses to make informed decisions, automate processes, and adapt swiftly to dynamic market conditions [1]. The growing adoption of AI-Enhanced MIS reflects a broader shift toward data-driven strategies that enhance operational effectiveness across various sectors, from finance to healthcare, and support long-term organisational objectives. The significance of AI-

Enhanced MIS extends beyond technological advancement; these systems address contemporary challenges such as environmental sustainability and organisational resilience. By aligning data management with strategic goals, AI-Enhanced MIS helps organisations navigate complexity, foster innovation, and maintain agility [2]. Case studies across industries have demonstrated their effectiveness in improving productivity, optimising resource allocation, and enhancing operational performance. Historically, traditional MIS relied primarily on historical data to generate reports explaining past performance. While dependable, this approach proved limited as organisations faced growing volumes and varieties of data, prompting a transition toward dynamic, forward-looking insights. The emergence of AI-powered MIS marked a pivotal shift: these systems not only collect and manage data but also analyse it to enhance decision-making and operational efficiency. Machine learning algorithms enable AI to learn from data, improve predictions, and respond in real time to market changes [3]. The integration of AI also aligns with broader organisational needs for resilience and sustainability. Technologies such as natural language processing and computer vision expand MIS capabilities, allowing process automation, improved customer experiences, and streamlined operations. Ethical considerations—including data privacy, algorithmic bias, and the balance between automation and human oversight—remain critical as organisations adopt these systems [4]. Overall, AI-Enhanced MIS is reshaping organisational practices, driving efficiency, adaptability, and strategic foresight. The continuous evolution of these systems underscores the importance of data-driven decision-making as a cornerstone for achieving competitive advantage and long-term success.

2. Key Components of AI-Enhanced MIS

AI-enhanced Management Information Systems (MIS) integrate multiple artificial intelligence (AI) and machine learning (ML) capabilities to enhance organisational data management, security, workflow efficiency, and decision-making (Table 1). These systems leverage advanced technologies across several key components:

AI-Powered Data Management: Traditional AI handles rule-based tasks, while generative AI supports dynamic content creation and automation. AI-enabled data preparation tools automatically validate and correct errors, reducing manual data cleansing and enabling the creation of high-quality data pipelines that are essential for training specialised AI and ML models tailored to organisational needs [5].

Security and Compliance: Advanced security features, including encryption, role-based access control, and real-time threat detection, safeguard sensitive information. AI-driven tools enforce security policies, detect anomalies, and ensure compliance with regulations such as GDPR and PCI DSS, thereby addressing critical adoption challenges in sectors like finance and healthcare [6].

User Authentication: AI enhances authentication through biometrics and behavioural recognition. Examples include Mastercard's AI-powered fingerprint cards, Apple's Face ID, and HSBC's voice recognition systems in banking [7]. These solutions strengthen security, reduce fraud, and improve user convenience.

Workflow Optimisation: By analysing data from multiple sources, AI-enhanced MIS identifies bottlenecks and inefficiencies, enabling real-time adjustments to workflows. Automation of tasks such as data cleaning and validation ensures accurate information is available for decision-making, improving project delivery times and overall organisational agility [8].

Natural Language Processing (NLP): NLP supports conversational data discovery, automatic generation of business glossary terms, and extraction of metadata from unstructured data. This makes data more accessible to non-technical users, enhancing communication and documentation within the organisation [9].

Predictive Analytics: Predictive analytics enables organisations to forecast data storage needs, detect potential quality issues, and proactively identify governance violations [10]. This enables timely problem remediation, efficient data operations, and sustained compliance.

Together, these components form a comprehensive framework that empowers AI-enhanced MIS to manage data intelligently, streamline operations, and support proactive, informed decision-making across the organisation.

Table 1. Key Components and Functions of AI-Enhanced MIS.

Component	Description and Primary Functions	Organisational Impact	References
AI-Powered Data Management	Automates error detection, validation, and the creation of high-quality data pipelines.	Reduces manual data cleansing and supports specialised model training.	[3]
Predictive Analytics	Forecasts storage needs, identifies quality issues, and detects potential governance violations.	Enables proactive problem remediation and efficient data operations.	[5]
Natural Language Processing (NLP)	Facilitates conversational data discovery and metadata extraction from unstructured data.	Makes data accessible to non-technical users and improves documentation.	[6]
Security & Authentication	Utilises encryption, real-time threat detection, and biometrics (Face ID, voice recognition).	Strengthens information safeguarding, reduces fraud, and ensures regulatory compliance.	[8], [9]
Workflow Optimisation	Identifies bottlenecks through multi-source data analysis for real-time adjustments.	Improves project delivery times and overall organisational agility.	[11]

3. Applications of AI in Organisations

Artificial intelligence (AI) has become a transformative force in organisations, enhancing Management Information Systems (MIS) to improve efficiency, sustainability, and resilience. By automating routine tasks, analysing complex data patterns, and generating actionable insights, AI enables organisations to optimise workflows, increase productivity, and reduce errors across operational processes [11]. This transition allows businesses to move beyond traditional automation, which relies on static, rule-based workflows, toward adaptive, intelligent task execution that handles complex processes in dynamic environments. AI integration into workflow management enables organisations to capture, analyse, and refine processes that are often difficult to observe manually. Intelligent automation powered by AI can handle repetitive tasks such as data entry, report generation, and scheduling, freeing employees to focus on strategic, creative, and value-added work [12]. Machine learning algorithms enhance the system's ability to identify patterns, predict outcomes, and recommend optimal actions, thereby supporting faster and more informed decision-making. Context-aware AI can adjust workflows in real time in response to changing organisational priorities, resource availability, or external conditions, enabling businesses to maintain agility and responsiveness in an increasingly competitive landscape [13]. Generative AI applications are expanding across industries, from healthcare and finance to manufacturing, advertising, and software development. In healthcare, AI assists in diagnostics, treatment planning, patient management, and predictive modelling, improving both accuracy and efficiency in clinical operations. In finance, AI supports risk assessment, fraud detection, algorithmic trading, and predictive analytics, providing deeper insights and reducing operational vulnerabilities. In

manufacturing and supply chain management, AI-driven MIS facilitate predictive maintenance, demand forecasting, and resource optimisation, improving operational resilience and reducing costs [14]. Marketing, advertising, and customer service benefit from AI-powered content generation, personalised recommendations, and enhanced consumer insights, enabling organisations to deliver tailored solutions that improve engagement and satisfaction. Beyond operational efficiency, AI-enhanced MIS contribute to strategic decision-making by providing predictive and prescriptive insights, enabling organisations to anticipate challenges, identify growth opportunities, and align business strategies with long-term objectives [15]. The scalability and adaptability of AI systems enable organisations to respond rapidly to market disruptions, regulatory changes, or shifts in consumer behaviour, thereby reinforcing resilience and competitiveness. Furthermore, as AI technologies evolve, organisations can leverage continuous learning models to enhance predictive accuracy, optimise resource allocation, and foster innovation across all levels of operation. Overall, the integration of AI into organisational MIS represents not only a technological advancement but also a fundamental shift in how businesses conceptualise and utilise data [16]. By combining automation, predictive intelligence, and generative capabilities, AI empowers organisations to operate more efficiently, respond proactively to emerging challenges, and deliver innovative solutions that drive sustainable growth and long-term success.

4. Case Studies of AI Implementation in Organisations

Research employing qualitative case study methods highlights the integration of artificial intelligence (AI) technologies within central state-owned enterprises and major financial institutions, demonstrating how AI adoption can drive both operational efficiency and strategic value. State-owned enterprises, which operate across diverse sectors such as energy, transportation, and utilities, show a strong correlation between AI implementation and improved Environmental, Social, and Governance (ESG) performance [17]. Through in-depth interviews and document analyses, these organisations reveal that AI enables better monitoring of ESG metrics, facilitates compliance reporting, and supports sustainable decision-making, thereby positioning these enterprises as leaders in responsible and innovative governance. The incorporation of AI into Management Information Systems (MIS) not only streamlines operational processes but also strengthens organisational agility. By leveraging AI-driven analytics and machine learning models, organisations can anticipate market trends, identify emerging risks, and respond proactively to strategic opportunities [18]. This capability allows enterprises to eliminate operational silos, optimise resource allocation, and implement more effective change management strategies. Predictive insights from AI enhance decision-making at both tactical and strategic levels, ensuring that actions align with long-term business objectives while maintaining flexibility in a dynamic environment (Table 2). In the financial sector, practical implementations of AI provide clear evidence of its transformative impact. JPMorgan Chase has integrated the Contract Intelligence (COiN) platform, which uses machine learning to analyse legal documents and extract critical information [19]. This implementation has reduced document review time from 360,000 hours annually to mere seconds, while significantly improving accuracy in identifying fraudulent activities, generating substantial cost savings and operational efficiency. Morgan Stanley has leveraged generative AI to enhance internal research processes. Financial advisors use AI tools to analyse large volumes of financial data, streamlining research workflows, reducing errors, and increasing productivity [20]. By automating routine tasks, these systems allow employees to focus on higher-value strategic analysis and client advisory functions. Beyond finance, state-owned enterprises illustrate AI's broader applicability in enhancing organisational performance. AI-driven predictive maintenance in the energy and utilities sectors reduces downtime, optimises

operational costs, and extends asset lifecycles. In transportation and logistics, AI-powered MIS improves route optimisation, demand forecasting, and supply chain resilience [21]. These implementations not only improve operational efficiency but also contribute to sustainability by minimising resource waste and energy consumption. The strategic benefits of AI-enhanced MIS extend to innovation and competitive positioning. Organisations that adopt AI are better equipped to anticipate market disruptions, evaluate strategic options, and implement evidence-based solutions. Furthermore, the integration of AI fosters a culture of continuous learning and process improvement, enabling enterprises to adapt to evolving technological, regulatory, and social landscapes [22]. These case studies collectively demonstrate that AI implementation is not solely a technological upgrade; it represents a fundamental shift in how organisations operate, make decisions, and create value. Overall, AI adoption across state-owned and private organisations highlights its role in enhancing operational efficiency, organisational agility, ESG performance, and strategic foresight. As AI technologies continue to evolve, their integration into MIS will become increasingly essential for enterprises seeking sustainable growth, resilience, and a competitive edge in complex, rapidly changing business environments.

Table 2. Industry Applications and Practical Case Studies.

Sector / Organisation	Application of AI-Enhanced MIS	Key Outcomes & Benefits	References
Healthcare	Diagnostics, treatment planning, and patient management.	Improved diagnostic accuracy and better patient care outcomes.	[12]
Finance (JPMorgan Chase)	Contract Intelligence (COiN) platform for legal document analysis.	Reduced review time from 360,000 hours to seconds; improved fraud detection.	[16]
Finance (Morgan Stanley)	Generative AI for internal research and data analysis.	Streamlined research workflows and increased advisor productivity.	[22]
State-Owned Enterprises	Monitoring Environmental, Social, and Governance (ESG) metrics.	Improved ESG performance and enhanced organisational agility.	[25]
E-commerce (Shopify)	Generative AI for marketing, product recommendations, and content creation.	Democratises access to AI for small businesses and improves engagement.	[32]
Energy & Logistics	Predictive maintenance, route optimisation, and demand forecasting.	Reduced downtime, optimised operational costs, and improved supply chain resilience.	[33]

5. Impact of AI Across Various Industries

Artificial intelligence (AI) has generated transformative effects across multiple industries, enhancing efficiency, innovation, and organisational performance. In healthcare, AI applications have driven significant advancements in diagnostics, patient management, and treatment planning. Machine learning algorithms analyse complex patient data to improve diagnostic accuracy, identify risk factors, and suggest personalised treatment protocols [23]. The deployment of these AI systems has reduced diagnosis times, minimised errors, and improved overall patient care outcomes, contributing to more efficient and effective healthcare delivery. In the e-commerce sector, platforms such as Shopify have adopted generative AI to empower small and medium-sized businesses with advanced tools for marketing, product management, and customer engagement (Figure 1). AI-driven systems generate personalised product recommendations, marketing content, and sales strategies, allowing businesses to innovate quickly without requiring

specialised technical expertise [24]. By democratising access to AI capabilities, these platforms help smaller enterprises compete effectively in a fast-paced, highly competitive digital marketplace, fostering creativity and operational efficiency. Beyond specific applications, AI integration also strengthens organisational agility. Research indicates that combining AI technologies with principles of open communication, adaptability, and transparent decision-making enables organisations to respond quickly to market fluctuations and emerging opportunities [25]. AI-powered systems provide predictive insights and real-time analytics, allowing enterprises to make data-driven decisions, anticipate customer needs, and proactively address operational challenges. Organisations that adopt agile practices alongside AI technologies experience benefits such as enhanced customer satisfaction, faster adaptation to changing environments, and improved overall performance. Across industries, the impact of AI is multifaceted: it enhances operational efficiency, supports innovation, improves decision-making, and fosters organisational resilience [26]. By enabling personalised, predictive, and automated processes, AI empowers businesses to navigate complex environments, optimise resource utilisation, and maintain a competitive edge in increasingly dynamic markets.

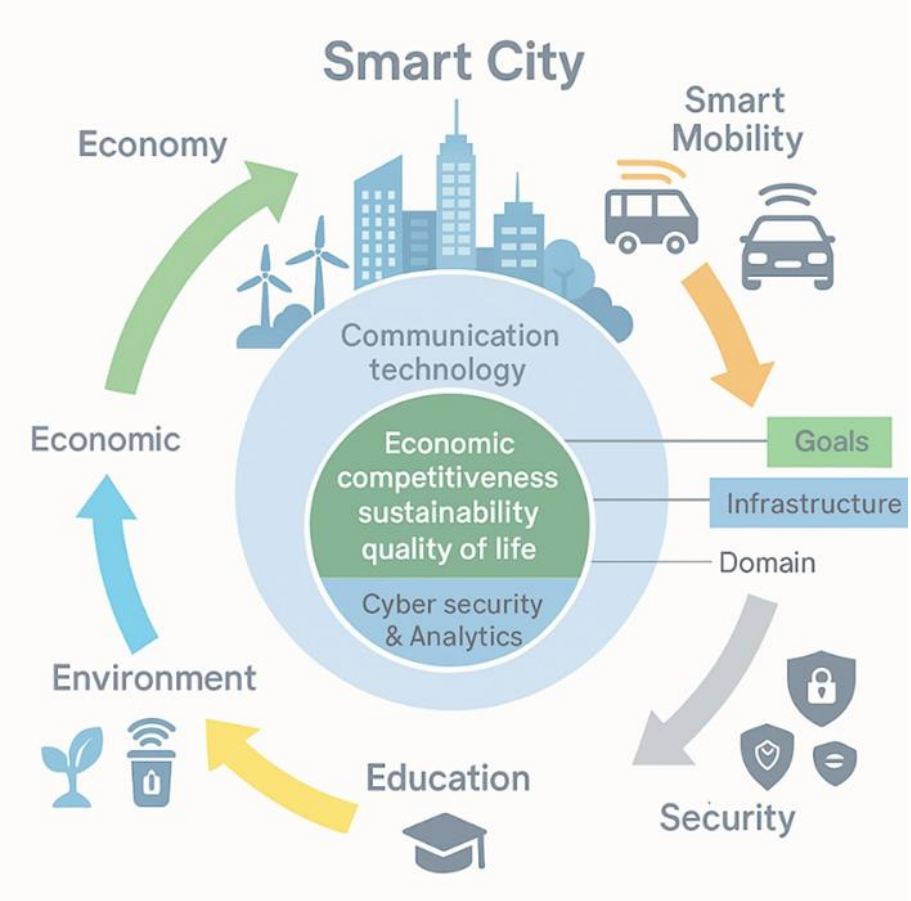

Figure 1. Leveraging artificial intelligence to enable sustainable urban development [44].

6. Challenges, Considerations, and Future Trends in AI-Enhanced MIS

The implementation of artificial intelligence (AI) in management information systems (MIS) offers substantial potential to enhance organisational efficiency, sustainability, and resilience. However, organisations face multiple challenges and considerations when integrating these technologies. A key challenge is fostering organisational agility and maturity. While central state-owned enterprises often excel in executing large-scale AI projects and Environmental, Social, and Governance (ESG) initiatives, they may struggle with decision-making flexibility and responsiveness compared to private enterprises. Bureaucratic structures, rigid hierarchies, and regulatory

constraints can hinder innovation, making it essential for organisations to cultivate a culture that supports adaptability, rapid change, and continuous learning (Figure 2) [27]. Barriers to organisational agility include limited executive engagement, cultural mindsets resistant to change, ineffective interdepartmental communication, slow decision-making processes, and an unclear strategic vision. Overcoming these barriers requires strong leadership, targeted change management practices, and structures that foster communication, collaboration, and responsiveness. Ethical considerations are equally critical. The deployment of AI raises concerns regarding data privacy, consumer consent, algorithmic bias, and potential job displacement. Misuse of AI can exacerbate societal risks, including cyberattacks, misinformation, and discriminatory outcomes [28]. Organisations must implement responsible AI policies, ensure transparency in decision-making, and prioritise explainability to maintain trust and accountability among stakeholders. Balancing automation with human oversight is essential, as AI systems, while efficient, lack emotional intelligence and contextual judgment required for sensitive decision-making. Human involvement remains vital in critical operations, ensuring ethical, informed, and empathetic outcomes. To effectively implement AI-enhanced MIS, organisations should adopt a structured framework that integrates change management, organisational maturity assessments, and ongoing evaluations of both internal and external environments [29]. This approach helps identify gaps, optimise processes, and promote a culture of continuous improvement, ensuring sustainable growth and resilience in dynamic markets. Looking ahead, several emerging trends are poised to reshape AI integration within MIS. Increased automation allows AI systems to handle routine tasks, freeing human managers to focus on strategic planning, complex problem-solving, and creative decision-making. Personalised resource management leverages AI to optimise workforce allocation by tailoring project assignments and team formations to individual skills, experience, and preferences, thereby enhancing productivity and aligning capabilities with organisational goals. The integration of AI with the Internet of Things (IoT) is creating intelligent ecosystems that enable real-time monitoring, predictive maintenance, and operational optimisation [30]. For example, smart factories use AI-driven IoT analytics to anticipate equipment failures, reduce downtime, and improve efficiency, yielding significant cost savings. Explainable AI (XAI) is emerging as a vital trend, ensuring that AI-driven decisions are transparent, understandable, and auditable, thereby fostering stakeholder trust and facilitating smoother adoption. Advanced predictive analytics, combined with technologies such as digital twins—virtual replicas of physical assets—allow organisations to simulate scenarios, forecast outcomes, and implement proactive interventions before issues arise [31]. Despite these advances, organisations must continue to address ethical and regulatory challenges. Ensuring data privacy, minimising algorithmic bias, mitigating workforce impacts, and navigating evolving legal frameworks remain critical to the responsible adoption of AI technologies. Successfully balancing innovation with ethical oversight and organisational adaptability will determine how effectively enterprises leverage AI-enhanced MIS to achieve sustainable growth, resilience, and long-term strategic advantage.

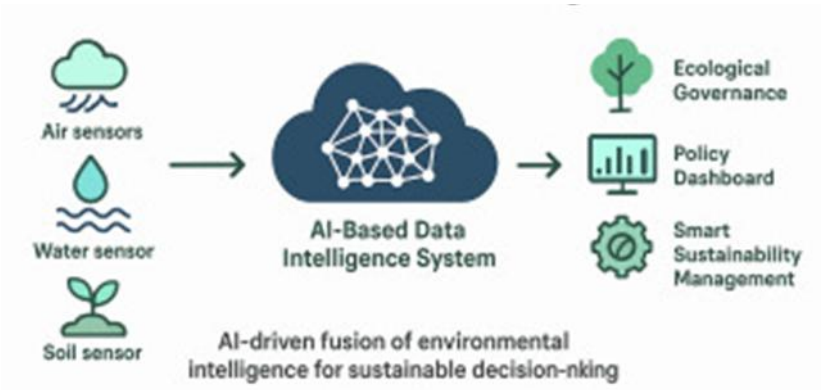

Figure 2. AI-based data intelligence system for sustainable ecological governance and smart environmental management [45].

7. Discussion

Artificial Intelligence (AI) has emerged as a transformative force within Management Information Systems (MIS), reshaping how organisations manage data, make decisions, and achieve strategic objectives. The integration of AI into MIS extends beyond automation, providing advanced capabilities in predictive analytics, workflow optimisation, natural language processing, and generative intelligence. The discussion below synthesises insights from existing literature, practical applications, and case studies to examine the implications of AI-enhanced MIS for organisational efficiency, sustainability, resilience, and strategic growth [32]. One of the primary impacts of AI-enhanced MIS is improved organisational efficiency. By automating routine and repetitive tasks, such as data entry, document review, and validation, organisations can allocate human resources to strategic, creative, and value-added functions. The implementation of AI-driven tools in financial institutions such as JPMorgan Chase and Morgan Stanley clearly illustrates this shift [33]. JPMorgan Chase's Contract Intelligence (COiN) platform significantly reduced legal document review time while increasing fraud-detection accuracy, highlighting how AI can optimise operational workflows and enhance productivity. Similarly, Morgan Stanley leveraged generative AI to streamline research processes, enabling financial advisors to analyse extensive data quickly and reduce errors. These examples indicate that AI integration not only accelerates task completion but also enhances the quality of outcomes, reduces human error, and improves the reliability of decision-making. Beyond operational efficiency, AI-enhanced MIS fosters organisational agility, enabling enterprises to respond dynamically to rapidly changing market conditions [34]. Agile organisations leverage AI to anticipate disruptions, predict operational risks, and implement proactive strategies. State-owned enterprises, although often constrained by bureaucratic structures and regulatory requirements, demonstrate that integrating AI with a culture of adaptability and open communication can improve responsiveness. Predictive insights from AI enable organisations to anticipate market fluctuations and operational challenges, thereby aligning decision-making with long-term strategic goals [35]. Barriers such as slow decision-making, lack of executive engagement, and rigid cultural mindsets can impede the realisation of these benefits, underscoring the need for targeted change management and leadership commitment to foster agility. The role of AI in enhancing data management is central to its impact on organisational performance. AI-powered systems can automate error detection, data validation, and the generation of high-quality data pipelines necessary for training machine learning models. Natural language processing (NLP) further enables the extraction of metadata from unstructured data, the automated creation of glossaries, and the discovery of conversational data [36]. These features not only improve data accessibility for non-technical users but also enhance communication and documentation across departments.

Predictive analytics complements these capabilities by enabling organisations to identify potential data quality issues, optimise storage requirements, and proactively detect governance violations. Together, these components create a robust framework for informed, data-driven decision-making, supporting both operational and strategic goals [37]. AI applications span multiple industries, each with distinct benefits and challenges. In healthcare, AI algorithms improve diagnostic accuracy, suggest personalised treatment plans, and reduce the time required for patient assessment, contributing to better clinical outcomes. In e-commerce, platforms like Shopify use generative AI to provide small businesses with marketing tools, personalised recommendations, and content creation capabilities, democratizing access to advanced AI technologies. Financial services leverage AI for risk management, fraud detection, and data analysis, while manufacturing and logistics benefit from predictive maintenance, demand forecasting, and supply chain optimisation [38]. Across sectors, AI enhances productivity, innovation, and competitiveness while simultaneously supporting ESG initiatives by reducing resource waste and improving operational transparency. Case studies of state-owned enterprises further highlight the strategic implications of AI-enhanced MIS. These organisations demonstrate that AI adoption can significantly strengthen ESG performance, improve process efficiency, and enhance leadership in emerging technologies. AI integration supports resource optimisation, predictive insights, and operational resilience, even within large, complex institutional structures. Financial institutions provide additional evidence of AI's transformative potential; JPMorgan Chase and Morgan Stanley exemplify how AI can reduce operational costs, streamline workflows, and enable employees to focus on strategic decision-making rather than repetitive tasks [39]. These practical examples illustrate that AI adoption is not merely a technological upgrade but represents a paradigm shift in organisational management and operational strategy. Despite the clear advantages, integrating AI into MIS presents challenges that must be addressed to ensure responsible and effective deployment. Ethical considerations, including data privacy, consent, algorithmic bias, and potential workforce displacement, require structured governance and oversight. Organisations must balance automation with human judgment, particularly in sensitive decision-making areas where AI lacks emotional intelligence and contextual understanding. Explainable AI (XAI) has emerged as a critical tool for enhancing transparency, accountability, and stakeholder trust by making AI decisions interpretable for managers, employees, and customers alike [40]. Furthermore, the organisation's maturity and its ability to embrace change strongly influence the success of AI integration. Effective implementation requires leadership commitment, a clear strategic vision, interdepartmental communication, and a culture that supports continuous learning and agility. Looking forward, several trends are shaping the future of AI-enhanced MIS. Increased automation allows organisations to shift human resources toward complex and strategic functions. Personalised resource management leverages AI to optimise team formation, project assignment, and workforce deployment based on individual skills and preferences. Integration with the Internet of Things (IoT) is enabling intelligent, data-driven ecosystems that monitor equipment performance, predict maintenance needs, and optimise operations in real time [41]. Advanced predictive analytics and digital twins further support scenario planning, risk mitigation, and proactive decision-making, allowing organisations to simulate outcomes before committing to real-world actions. Collectively, these trends point to a future in which AI not only supports efficiency but also drives innovation, resilience, and strategic foresight. The implications of AI-enhanced MIS extend beyond operational and strategic benefits to include competitive positioning and long-term sustainability. Organisations that effectively leverage AI gain a significant advantage in anticipating market disruptions, optimising resource utilisation, and responding quickly to evolving business environments [42]. The convergence of AI with sustainability initiatives enhances ESG performance, reduces resource consumption, and fosters responsible corporate behaviour. However, organisations must remain vigilant

about ethical concerns, regulatory compliance, and workforce impacts to ensure that AI adoption contributes positively to both business outcomes and societal welfare. AI-enhanced MIS represent a paradigm shift in organisational management, integrating automation, predictive intelligence, and generative capabilities to optimise performance, agility, and sustainability. Case studies across finance, state-owned enterprises, healthcare, and e-commerce illustrate the tangible benefits of AI in improving efficiency, decision-making, and ESG outcomes [43]. At the same time, challenges related to ethics, human oversight, organisational maturity, and regulatory compliance underscore the importance of structured implementation frameworks. As AI technologies continue to evolve, their integration into MIS will play an increasingly central role in shaping the future of organisational strategy, operational resilience, and sustainable growth. By balancing innovation with ethical responsibility and fostering a culture of continuous learning, organisations can fully harness the potential of AI to achieve long-term competitiveness and deliver stakeholder value in complex, dynamic environments.

8. Conclusion

AI-enhanced MIS represent a fundamental shift in organisational management, combining automation, predictive analytics, and generative intelligence to improve efficiency, agility, and sustainability. Applications across healthcare, finance, e-commerce, and state-owned enterprises demonstrate tangible operational and strategic benefits, from improved diagnostics and fraud detection to resource optimisation and ESG performance. However, challenges such as ethical concerns, algorithmic bias, and workforce impacts must be carefully managed. By fostering a culture of agility, implementing responsible AI frameworks, and integrating emerging technologies such as IoT and explainable AI, organisations can harness AI-enhanced MIS to achieve long-term competitiveness, resilience, and stakeholder value.

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