

## Research Article

# AI-Driven Management Accounting: A New Frontier in Strategic Finance

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## Abstract

This article examines how Artificial Intelligence (AI) is transforming management accounting from a traditionally reactive, backward-looking practice into a proactive, strategic partner in organizational decision-making. The objective is threefold: (1) to analyze the convergence of AI technologies - such as machine learning, natural language processing, and predictive analytics - with management accounting functions; (2) to evaluate their impact on cost control, budgeting, performance measurement, strategic support, and risk management; and (3) to identify implementation challenges, ethical considerations, and future research directions. The study employs a mixed-methods approach: a critical synthesis of contemporary literature (2022–2025) and industry reports, integration of theoretical models - including Dynamic Capabilities, Digital Transformation, and Socio-technical Systems Theory - and multiple global case studies. Case examples include KONE, Nordea, Deloitte, GE, and Vodafone, which illustrate the tangible benefits and challenges of AI integration. The methods provide a robust conceptual and empirical basis for understanding AI's strategic impact on financial processes. Results indicate that AI-driven management accounting significantly enhances forecasting accuracy, operational efficiency, and strategic agility. Machine Learning (ML) reduces manual processing time by up to 80%, predictive analytics supports rolling forecasts and scenario planning, and NLP (Natural Language Processing) provides qualitative insights from unstructured data. These capabilities elevate accountants' roles from data custodians to strategic advisors. However, the findings also reveal critical challenges: high implementation costs, resistance to organizational change, data governance concerns, and ethical issues such as algorithmic bias and transparency. The article underscores the need for continuous professional upskilling, strong IT governance frameworks, and cross-functional collaboration to ensure responsible and effective AI deployment. The study concludes that AI is not merely a technical enhancement but a transformative enabler of strategic finance. By embedding AI within well-aligned socio-technical systems, organizations can achieve faster, more informed decisions and gain competitive advantage. Future research should address longitudinal data gaps, cross-cultural adoption, and regulatory frameworks to shape the ethical and practical foundations of AI-driven management accounting.

## Keywords

Management Accounting, Artificial Intelligence, Strategic Finance, Predictive Analytics, Financial Decision-Making

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Management accounting has long served as a cornerstone of internal business decision-making. Unlike financial accounting, which focuses on reporting to external stakeholders, management accounting is concerned with providing relevant, timely, and forward-looking information to internal managers to facilitate strategic planning, performance evaluation, and operational control [16]. Traditional tools such as variance analysis, budgeting, cost-volume-profit analysis, and performance measurement have underpinned managerial decisions for decades. However, traditional management accounting often suffers from limitations, such as lag in reporting, reliance on historical data, and the subjectivity of cost allocation methods. These challenges reduce its responsiveness in dynamic, complex, and data-rich environments - conditions increasingly common in today's global business landscape [30].

Artificial Intelligence (AI) has emerged as a transformative force across industries, redefining how organizations process information, make decisions, and deliver value. From predictive analytics and machine learning to natural language processing and robotic process automation, AI technologies have proven their ability to process vast datasets, detect patterns, and generate actionable insights at a scale and speed unattainable by humans [45]. In the context of business, AI is already being leveraged in areas such as customer service (e.g., chatbots), supply chain optimization, fraud detection, and financial forecasting. The adoption of AI has not only automated routine tasks but has also enhanced strategic capabilities by providing predictive insights and real-time decision support [11]. This technological evolution is now knocking on the doors of management accounting.

The integration of AI into management accounting represents a paradigm shift - from reactive, backward-looking reporting to proactive, insight-driven strategy formulation. AI-driven management accounting enables real-time data analysis, continuous monitoring of performance metrics, and predictive modeling, thereby enhancing the relevance and timeliness of managerial information. The significance of this transformation lies not only in operational efficiency but also in strategic agility. By embedding AI into accounting processes, organizations can make faster, more informed decisions, reallocate resources dynamically, and identify opportunities or risks before they materialize. This integration redefines the role of management accountants - from data custodians to strategic advisors - requiring them to develop competencies in data science, analytics, and AI governance [15]. This article explores how AI is reshaping the field of management accounting, its implications for strategic finance, and the competencies needed to thrive in this new frontier.

## 2. Literature Review

This chapter critically examines the literature across three

## 1. Introduction

interlinked domains: the evolution of management accounting, artificial intelligence (AI) applications in business, and their convergence within the accounting field. Drawing from some foundational texts - such as *Management Accounting for Professionals* by Neilimo & Tenhunen - as well as empirical and industry sources from 2024-2025, this chapter synthesizes theoretical perspectives and recent advancements. [36]. The objective is to uncover key research gaps and outline the trajectory of management accounting in the age of AI [36].

Management accounting has undergone significant transformation over the past century. Traditional cost-control tools such as standard costing and variance analysis have given way to more strategic instruments like Activity-Based Costing (ABC), the Balanced Scorecard (BSC), and Strategic Management Accounting (SMA) [16, 10, 36]. Neilimo and Tenhunen in *Management Accounting for Professionals* [36] argue that contemporary management accountants must transcend their traditional roles to become strategic partners. This requires integrating theoretical rigor with applied financial tools to support effective decision-making across both corporate and public sectors. Their perspective aligns with the broader trend toward value-creation, business advisory and digital integration.

AI is transforming business operations across industries, offering capabilities that range from automation to advanced analytics. Tools such as Optical Character Recognition (OCR), Natural Language Processing (NLP), Machine Learning (ML), and Robotic Process Automation (RPA) are increasingly integrated into back-office functions, particularly within accounting, audit, and finance [41]. These technologies enable not only task automation but also insights generation and pattern recognition - thereby supporting strategic decision-making. The shift toward AI-driven business models has also introduced new challenges, including ethical considerations, cybersecurity risks, and the need for upskilling.

A comprehensive systematic literature review conducted by the British Accounting Review [6] analyzed 91 studies and concluded that AI - especially machine learning, explainable AI, generative models, and large language models - is redefining information flows, organizational hierarchies, and accounting roles [6]. However, it also warns of associated challenges such as cybersecurity, ethical ambiguity, and the need for significant reskilling.

Jeong et al. [24] present a case study on AI-based automation in corporate expense processing. Their study reveals an 80% reduction in processing time and improved compliance through the integration of Generative AI and Intelligent Document Processing [24]. Similarly, Oweis [40], using data from leading Saudi Arabian firms, finds that AI implementation reduced manual accounting time by 44%, improved reporting accuracy by 20%, and enhanced continuous auditing by 50% - while also improving fraud detection (by 40%) and forecasting (by 25%) [40].

Alimuddin et al. [1] demonstrate that merging SMA with Big Data and AI enhances financial analysis and strategic decision-making. However, the study also highlights key barriers - particularly IT governance, data ethics, and the widening skill gap [1]. Almaqtari [2] further emphasizes the critical role of IT governance frameworks in ensuring AI's responsible integration in accounting systems, underlining the need for transparency, control, and auditability [2].

In the Indonesian context, Pinuji & Khomsiyah [42] analyze AI's impact on Sharia banking accounting systems. Their findings show enhanced reporting efficiency, though success hinges on technical infrastructure and workforce capabilities [42]. A Lebanese study published in *Journal of Risk and Financial Management* [29] reports that AI significantly boosts efficiency and fraud detection while altering skill requirements. Similarly, a Romanian study based on the Technology Acceptance Model finds high receptiveness among accountants, though concerns persist over job displacement and implementation costs [17].

The literature and industry developments indicate several persistent gaps: Contextual Empirical Data: There is a shortage of longitudinal and geographically diverse empirical research, particularly in Small and Middle Size Enterprises (SME) and emerging economies. Ethical and Governance Frameworks: While frameworks are proposed, few have been operationalized at an industry scale. Agentic AI Integration: Little is known about the practical adoption of autonomous AI agents in accounting workflows. Skill Transformation: There is a lack of research into how AI is reshaping competencies and career paths in accounting. Cross-Cultural Adoption: Few comparative studies explore AI adoption across regions, cultures, and firm sizes.

This chapter has synthesized both foundational theories and cutting-edge research on the convergence of AI and management accounting. It built upon Neilimo & Tenhunen's [36] strategic vision and incorporated insights from a diverse array of global studies and industry applications (2024–2025). The literature reveals not only transformative potential but also critical gaps in governance, empirical evidence, and skill development. These insights set a strong foundation for the empirical and conceptual analyses in the following chapters.

### 3. Conceptual Framework

The incorporation of Artificial Intelligence (AI) into management accounting demands a reconceptualization of the theoretical foundations of strategic finance. Rather than treating AI as an auxiliary tool, emerging literature positions it as a catalyst for organizational transformation, grounded in several modern theoretical models.

The Dynamic Capabilities Framework [54] is particularly relevant, emphasizing a firm's ability to reconfigure internal

competencies in response to external change. AI-enabled accounting systems provide enhanced sensing, seizing, and transforming capabilities - key dimensions of dynamic capabilities - by enabling predictive insights, automating financial analysis, and supporting data-driven strategic planning.

In parallel, Digital Transformation Theory underlines the systemic shift from traditional accounting practices toward digital-first business models. This theory explains the migration from backward-looking financial statements to forward-looking insights supported by AI-powered forecasting, real-time dashboards, and prescriptive analytics [50]. Such tools transform accounting into a strategic partner in organizational decision-making, particularly under volatile market conditions.

Socio-technical Systems Theory continues to be applicable, as organizations integrate AI into financial processes. The interdependence between human actors and technological systems implies that the success of AI initiatives depends not only on computational power but also on culture, ethics, and human judgment [5]. Accountants increasingly act as interpreters of AI outputs - questioning, validating, and applying algorithmic insights within broader organizational contexts.

Together, these theories form a coherent conceptual basis for understanding AI's evolving role in management accounting. They suggest that the value of AI lies not only in automation or speed but in enhancing the strategic adaptability and intelligence of the finance function.

The practical application of AI in management accounting revolves around three major technologies: Machine Learning (ML), Natural Language Processing (NLP), and Predictive Analytics. These tools enable accounting systems to move from descriptive and historical reporting toward strategic, forward-looking insight generation.

Machine Learning allows systems to learn from historical data to improve forecasting accuracy, detect anomalies, and classify financial transactions with minimal human intervention. ML is particularly valuable for dynamic cost modeling and variance analysis, where traditional methods may fail to capture non-linear relationships or seasonal fluctuations [19].

Natural Language Processing is applied in the analysis of unstructured textual data such as earnings calls, audit reports, and management discussion sections. NLP helps extract sentiment, detect emerging risks, and automate the summarization of financial disclosures - providing new layers of meaning to supplement numerical data [55].

Predictive Analytics integrates both financial and non-financial variables to model future scenarios. By incorporating market trends, operational metrics, and macroeconomic indicators, predictive tools allow firms to plan for contingencies, optimize cash flow management, and align budgeting with strategic objectives [50]. The following table presents a comparative overview of the tools.

**Table 1.** *AI Technologies and Applications in Management Accounting.*

| Technology                  | Application                            | Strategic Benefit                               | Strategic Benefit                               |
|-----------------------------|----------------------------------------|-------------------------------------------------|-------------------------------------------------|
| Machine Learning            | Forecasting, anomaly detection         | Enhanced accuracy, continuous model improvement | Enhanced accuracy, continuous model improvement |
| Natural Language Processing | Text summarization, sentiment analysis | Contextual insights, qualitative risk detection | Contextual insights, qualitative risk detection |
| Predictive Analytics        | Scenario planning, rolling forecasts   | Proactive decision-making, agility in planning  | Proactive decision-making, agility in planning  |

These technologies enable management accountants to deliver richer insights faster, with a more strategic focus. Rather than being displaced by AI, accountants are becoming interpreters, curators, and strategic advisors empowered by intelligent systems.

The conceptual framework outlined here supports a view of AI not simply as a technical enhancement, but as a transformative enabler of strategic finance. Theories such as dynamic capabilities and digital transformation help explain how AI reshapes management accounting from a reactive function to a proactive, insight-driven partner in strategy. AI technologies - particularly ML, NLP, and Predictive Analytics - are central to this transformation, enabling automation, augmentation, and anticipation. However, the real power of AI in accounting emerges when these tools are embedded in well-aligned socio-technical systems - where human expertise, ethical considerations, and organizational strategy interact with computational capabilities. As organizations mature in their use of AI, the next research frontier will explore how to govern, scale, and personalize these systems for optimal strategic impact. This includes addressing algorithmic bias, ensuring transparency, and maintaining accountability - rears where management accountants will play a critical role in shaping the ethical foundations of AI-driven finance.

## 4. Key Applications of AI in Management Accounting

AI is transforming the functional core of management accounting by automating routine tasks, enhancing data quality, and enabling real-time, strategic decision-making. This chapter explores the primary domains where AI delivers tangible value: cost control, budgeting, performance measurement, strategic support, and risk management.

AI-powered systems are redefining cost control by providing continuous, data-driven insights rather than relying solely on periodic reviews. Machine Learning algorithms can identify cost anomalies, detect inefficiencies, and automate variance analysis by comparing historical benchmarks with real-time data [19]. For example, unsupervised learning can cluster similar cost behaviors across departments, highlight-

ing deviations that warrant managerial attention. Such capabilities move cost analysis from a reactive to a predictive function, improving resource allocation and operational efficiency.

### 4.1. Budgeting and Forecasting

Traditional budgeting often suffers from rigidity and manual bias. AI enhances this process through rolling forecasts, scenario modeling, and predictive analytics. By integrating both internal data (e.g., sales trends, capacity utilization) and external factors (e.g., market fluctuations), AI-driven forecasting tools generate dynamic budgets that adjust in real-time [50]. Reinforcement learning is increasingly applied to optimize resource planning over time, learning from prior budget outcomes to improve future iterations [56].

### 4.2. Performance Measurement and Key Performance Indicators (KPI)

AI enables more nuanced and forward-looking performance management by moving beyond static KPIs to adaptive performance metrics. Natural Language Processing (NLP) can extract qualitative indicators from unstructured data sources, such as employee feedback or strategic reports, and integrate them with financial KPIs [55]. Additionally, AI supports continuous monitoring of KPIs, allowing managers to track performance trends, simulate alternative strategies, and adjust metrics based on changing organizational priorities.

### 4.3. Strategic Decision Support

Perhaps the most transformational application of AI in management accounting lies in strategic decision support. AI systems can synthesize vast datasets - financial, operational, environmental - to simulate complex business scenarios. These simulations, powered by predictive and prescriptive analytics, help managers evaluate the financial impact of strategic choices such as market entry, product pricing, or capital investment [5]. This turns the finance function into a partner in strategic foresight, not just reporting.

#### 4.4. Risk Management and Fraud Detection

AI enhances risk management by identifying patterns and anomalies that human analysts might miss. Deep learning models can detect fraudulent transactions by continuously scanning for unusual patterns across multiple dimensions - transaction timing, vendor behavior, and account structures [19]. Similarly, AI helps in modeling risk exposure across supply chains, geopolitical environments, and financial portfolios, making the risk function more proactive and robust [50].

### 5. Case Studies – Real-World Examples

AI-driven management accounting is rapidly evolving across industries, with several global companies leading the charge in transforming their financial processes. These organizations not only provide success stories but also offer lessons on the challenges faced during implementation.

One notable example comes from KONE, a Finnish multinational that specializes in elevators and escalators. KONE integrated AI-driven financial systems to optimize budgeting, forecasting, and performance analysis. Machine learning algorithms were employed to predict maintenance needs and optimize resource allocation, significantly reducing operational costs and enhancing decision-making efficiency [43]. Despite these successes, the implementation faced resistance, with employees concerned about job displacement and the need for extensive training [35]. Nevertheless, KONE has reported notable improvements in both cost management and operational efficiency, positioning itself as a model for AI adoption in the manufacturing sector.

In the financial services sector, Nordea, a leading Scandinavian bank, adopted AI to automate routine tasks such as invoice processing, reconciliation, and financial reporting. This shift allowed accountants to focus on higher-value strategic activities, improving both the accuracy and speed of financial reporting [25]. However, Nordea encountered challenges related to data quality and skepticism about the transparency of AI decision-making, particularly in regulatory compliance [4]. The bank is continuing to refine its AI systems to ensure greater data integrity and better integration with its overall financial strategy.

On a global scale, Deloitte has pioneered the use of AI in accounting through its 'Audit Innovation program'. Deloitte utilizes AI to conduct real-time audits and perform anomaly detection in financial statements, which drastically reduces the time spent on manual audit procedures. The company's AI system also enhances decision-making by identifying trends and potential risks faster than traditional methods [57]. One of the main challenges Deloitte faced was ensuring the scalability of AI solutions across multiple geographies and compliance with diverse regulatory standards. Nonetheless, the firm's ability to scale AI technologies across regions has set a global benchmark for AI integration in audit and accounting services.

General Electric (GE) in the United States has leveraged AI in its financial operations, particularly in predictive analytics for capital budgeting. GE uses AI to analyze market trends and project future capital needs, which enables more accurate and proactive financial planning [48]. Although the company has achieved considerable success, challenges related to the integration of AI across different departments and the consistency of data inputs remain ongoing issues. GE's experience underscores the importance of creating a unified data structure to fully realize the potential of AI in financial management.

Vodafone, a leading telecommunications company in the UK, adopted AI to optimize its financial management processes, particularly in forecasting and cash flow management. By integrating AI-driven dashboards, Vodafone's finance team gained real-time insights into revenue trends and expenditure forecasts [20]. The company's AI tools also facilitated more dynamic pricing strategies based on real-time market data. However, the primary challenge faced was the integration of AI systems with legacy financial software, which slowed down full deployment [18]. Despite these challenges, Vodafone has seen significant improvements in financial agility and cost optimization.

The integration of AI into management accounting is fundamentally reshaping the roles of accountants and financial managers. As AI takes over repetitive tasks such as data entry, reconciliation, and basic financial reporting, accountants are transitioning to more strategic roles, focusing on data interpretation, scenario analysis, and risk management [53]. This shift necessitates new skill sets, particularly in data analytics, AI tool management, and financial forecasting. AI is not replacing financial professionals but enhancing their ability to provide value through more informed decision-making. The integration of artificial intelligence (AI) into management accounting presents significant organizational benefits and transformative opportunities. AI enhances decision-making, streamlines financial reporting, and provides real-time insights, which allows businesses to improve operational efficiency and strategic alignment [3]. AI-driven tools, such as predictive analytics and machine learning, help management accountants move from traditional reporting functions to more strategic roles, enabling proactive decision-making [23].

For practitioners, the shift to AI necessitates a comprehensive up skilling strategy. Management accountants must embrace new technologies and develop competencies in data analytics, AI tools, and business strategy. This requires targeted training programs to ensure professionals remain adept at using these advanced systems effectively [58]. Moreover, as AI usage in financial management expands ethical considerations and robust data governance frameworks become essential. Organizations must address concerns related to data privacy, security, and the potential for algorithmic bias. Transparent and accountable AI practices are critical to ensuring the integrity of financial decisions [32].

## 6. Implications for Practice

The integration of AI into management accounting brings transformative benefits to organizations, but it also requires significant changes in skill sets, training, and ethical considerations. Understanding these implications is critical for both current and future finance professionals. AI-driven management accounting can result in profound organizational transformations. By automating routine tasks such as data entry, invoicing, and financial reporting, organizations can improve operational efficiency, reduce human error, and cut costs [46, 47]. More importantly, AI enables real-time data analytics, allowing organizations to make proactive, data-driven decisions. This shift enhances financial forecasting, risk management, and overall strategic planning [9]. Companies that successfully integrate AI also experience increased agility, as AI systems can quickly adapt to changing market conditions, providing companies with a competitive edge [37]. However, these advantages come with challenges, particularly in aligning AI systems with existing organizational structures and culture [28].

For management accountants, AI integration requires an evolution in skill sets. Traditional skills such as bookkeeping and manual report generation are being supplanted by the need for expertise in data analytics, AI systems management, and strategic decision-making [33]. Accountants must become adept in understanding and interpreting AI-generated insights, as well as working alongside AI to ensure that the system's recommendations align with broader business objectives [52]. To stay competitive, organizations must invest in continuous training programs focused on AI literacy, machine learning basics, and data visualization [12]. Professional bodies such as the CIMA (Chartered Institute of Management Accountants) are already emphasizing the importance of AI knowledge for future accountants [22].

As AI systems become more prevalent in management accounting, ethical concerns and data governance issues must be carefully considered. The use of AI introduces risks related to data privacy, algorithmic bias, and transparency in decision-making [26]. Organizations must implement robust data governance frameworks to ensure that AI systems comply with privacy regulations, such as GDPR, and that the data used is both accurate and unbiased [21]. Furthermore, there must be clear accountability for AI-driven decisions, particularly in high-stakes financial scenarios [44]. Developing transparent AI systems and ensuring human oversight will be essential to maintaining ethical standards and building trust among stakeholders.

## 7. Challenges and Limitations

The adoption of AI in management accounting faces several significant barriers, including high implementation costs, a shortage of expertise, and organizational resistance to change. Many firms struggle with the upfront financial in-

vestment required for AI tools, alongside the ongoing costs of training staff and maintaining systems [48]. Furthermore, the lack of specialized knowledge within accounting teams limits the effectiveness of AI-driven systems, with many organizations requiring extensive upskilling or hiring of new talent to successfully deploy AI solutions [27]. Resistance to change, particularly within established corporate structures, also slows adoption as employees fear job displacement or disruption to familiar workflows [34].

In addition to these adoption barriers, current AI technologies have inherent limitations. Despite their advancements, AI systems still struggle with unstructured data, such as handwritten notes or informal communications, which are often critical in management accounting [53]. Furthermore, AI models may require continuous human oversight, particularly in decision-making scenarios where judgment and contextual knowledge are crucial. Another significant challenge revolves around ethical and regulatory concerns. Issues related to data privacy, algorithmic bias, and the lack of transparency in AI-driven decisions pose serious risks to both organizations and their stakeholders [13]. Ensuring that AI systems comply with data protection regulations, such as GDPR, while avoiding biases in predictive analytics, remains a critical hurdle for widespread adoption [8].

## 8. Future Directions

The future of AI in management accounting is marked by several emerging trends that promise to redefine the landscape of strategic finance. Autonomous finance, where AI systems autonomously manage financial tasks such as budgeting, forecasting, and reporting, is gaining momentum. Similarly, the application of generative AI in financial planning allows for dynamic scenario simulations and more accurate projections [31]. Real-time data dashboards powered by AI are revolutionizing decision-making, enabling finance teams to monitor performance metrics and respond to financial shifts instantly [7].

These developments open significant avenues for research and innovation, particularly in refining AI's role in strategic decision-making. Future studies are needed to explore the integration of AI with block chain and its impact on audit and compliance functions [14]. Additionally, AI's evolving capabilities in predictive analytics and risk management present vast potential for advancing financial strategy [37-39]. On the policy front, regulatory bodies are actively working to address the legal and ethical challenges posed by AI adoption in finance. Ongoing policy developments focus on data privacy, transparency, and algorithmic accountability, ensuring that AI applications align with global standards and ethical frameworks [49, 51].

## 9. Conclusion

AI-driven management accounting represents a transform-

ative shift in strategic finance, with its potential to enhance decision-making, improve efficiency, and drive value across organizations. Key insights from this article highlight the growing role of AI in automating financial tasks, improving predictive accuracy, and enabling real-time data insights. As AI systems evolve, they offer substantial benefits, from autonomous finance processes to sophisticated generative models that revolutionize financial planning.

The strategic importance of integrating AI into management accounting cannot be overstated. AI's ability to streamline operations, reduce costs, and provide more precise financial forecasts positions it as a critical tool for competitive advantage in the modern business landscape. However, successful implementation requires overcoming challenges such as cost barriers, technical expertise, and regulatory concerns. For practitioners, the call to action is clear: to harness the full potential of AI, organizations must embrace continuous learning and invest in the necessary tools and talent. Researchers are urged to explore the ethical and regulatory implications of AI, while educators play a crucial role in preparing the next generation of professionals with the skills needed to navigate this evolving landscape. In conclusion, AI stands at the forefront of reshaping management accounting, and its strategic adoption will determine the future of finance in the digital age.

## Abbreviations

|     |                                    |
|-----|------------------------------------|
| AI  | Artificial Intelligence            |
| ABC | Activity Based Costing             |
| BSC | Balance Scorecard                  |
| KPI | Key Performance Indicator          |
| ML  | Machine Learning                   |
| NLP | Natural Language Processing        |
| OCR | Optical Character Recognition      |
| RPA | Robotic Process Automation         |
| SMA | Strategic Management Accounting    |
| SME | Small and Middle sized Enterprises |

## Author Contributions

Marja-Liisa Tenhunen is the sole author. The author read and approved the final manuscript.

## Conflicts of Interest

The author declares no conflicts of interest.

## References

- [1] Alimuddin, A., Usman, A., Abbas, A. T. S., & Fadila, N. (2025). Integrating SMA with AI and Big Data. *Journal of Comprehensive Science*. [jcs.greenpublisher.id](https://jcs.greenpublisher.id)
- [2] Almaqtari, F. A. (2024). The role of IT governance in AI adoption in accounting. *Economies*, 12(8), 199. MDPI.
- [3] Amoako, G. K., et al. (2020). *Artificial Intelligence in Accounting: Opportunities and Risks*. *Journal of Financial Technology*, 8(3).
- [4] Andersson, F. (2023). *The Role of AI in Transforming Financial Services: Nordea's Journey*. *Journal of Financial Innovation*, 19(2).
- [5] Bhimani, A., & Willcocks, L. (2023). *AI and the Future of Accounting Work*. Oxford University Press.
- [6] British Accounting Review. (2025). Management accounting and artificial intelligence: A comprehensive literature review and recommendations for future research. *Science Direct*.
- [7] Brown, A. (2024). *Real-Time Data Dashboards: Revolutionizing Financial Decision-Making*. *Journal of Financial Technology*, 27(2).
- [8] Brown, A. (2023). Ethics in AI: Challenges in Privacy and Bias. *Journal of Technology and Society*, 12(2).
- [9] Brown, A., & Taylor, M. (2023). *AI-Driven Financial Forecasting: Transforming Strategic Planning*. *Journal of Financial Technology*, 25(2).
- [10] Burns, J., & Scapens, R. W. (2000). Conceptualizing management accounting change: An institutional framework. *Management Accounting Research*, 11(1).
- [11] Brynjolfsson, E., & McAfee, A. (2017). *Machine, Platform, Crowd: Harnessing Our Digital Future*. W. W. Norton & Company.
- [12] Clark, R. (2023). *Training the Future: AI Literacy for Management Accountants*. *Journal of Accounting Education*, 29(1), 110-115.
- [13] Clark, R., & Roberts, D. (2022). Data Transparency in AI Systems: A Framework for Ethical AI Management. *Journal of Business Ethics*, 67(3).
- [14] Clark, R., & Taylor, M. (2024). *Blockchain and AI Integration in Accounting: Future Trends*. *Journal of Emerging Technologies in Finance*, 22(4).
- [15] Cokins, G., & Capusneanu, S. (2020). *Predictive Business Analytics: Forward Looking Capabilities to Improve Business Decisions*. Wiley.
- [16] Drury, C. (2018). *Management and Cost Accounting* (10th ed.). Cengage Learning.
- [17] Electronics. (2024). AI technology acceptance in managerial accounting. MDPI.
- [18] Foster, L., & Clarke, M. (2023). *AI in Telecommunications: Vodafone's Financial Revolution*. *Journal of Financial Technology*, 21(3).
- [19] Ghasemi, M., & Rezaee, Z. (2021). The role of artificial intelligence in shaping the future of accounting. *Journal of Emerging Technologies in Accounting*, 18(1), 25–44.

- [20] Greenwood, R. (2023). *Real-Time Dashboards: Optimizing Financial Forecasting at Vodafone*. *Strategic Finance Review*, 16(4).
- [21] Greenwood, P., & Clark, M. (2023). *Data Governance in AI Systems: A Critical Review*. *International Journal of Business Ethics*, 18(3).
- [22] Harrison, R., & Lee, S. (2023). *The Role of AI Knowledge in Management Accounting*. *Journal of Financial Professionals*, 12(1).
- [23] Huang, X., & Li, L. (2022). *Transforming Management Accounting with AI: A Strategic Approach*. *Journal of Business Strategy*, 33(1).
- [24] Jeong, C., Sim, S., Cho, H., Kim, S., & Shin, B. (2025). E2E Process Automation Leveraging Generative AI and IDP-Based Automation Agent.
- [25] Johansson, L., & Henriksson, J. (2023). *AI in Scandinavian Banking: Opportunities and Challenges*. *Scandinavian Financial Review*, 22(1).
- [26] Johnson, F. (2023). *Ethical Implications of AI in Finance: Data Privacy and Algorithmic Bias*. *Journal of Financial Ethics*, 14(4).
- [27] Jones, H., & Lee, S. (2022). AI Systems in Management Accounting: Current Trends and Future Potential. *International Journal of Accounting and Finance*, 34(1).
- [28] Jones, H., & Roberts, D. (2023). *Aligning AI with Organizational Culture: Challenges and Solutions*. *International Journal of Organizational Strategy*, 16(2).
- [29] Journal of Risk and Financial Management. (2024). AI adoption in accounting: Efficiency, fraud, and skills. *MDPI*, 17(12).
- [30] Kaplan, R. S., & Atkinson, A. A. (2015). *Advanced Management Accounting* (3rd ed.). Pearson.
- [31] Lee, S., & Harris, K. (2023). *Generative AI in Financial Planning: A New Frontier*. *International Journal of Financial Innovation*, 19(3).
- [32] McKinsey & Company. (2022). *AI and Data Governance: The Future of Financial Management*. Retrieved from [www.mckinsey.com](http://www.mckinsey.com)
- [33] Miller, T. (2023). *Adapting to AI in Management Accounting: Skills and Training Needs*. *Strategic Finance Review*, 18(3).
- [34] Miller, T. (2023). Overcoming Resistance to Change in AI Adoption. *Strategic Finance Review*, 18(4).
- [35] Makela, T., & Laine, P. (2022). *KONE's AI-Driven Accounting Transformation*. *Journal of Business Technology*, 17(3).
- [36] Neilimo, K., & Tenhunen, M.-L. (2022). *Management Accounting for Professionals*. Lambert Publishing.
- [37] Nguyen, P. (2024). *AI and Organizational Agility: The Strategic Advantage*. *Journal of Strategic Finance*, 17(2).
- [38] Nguyen, P. (2024). *AI in Predictive Analytics: Advancing Financial Risk Management*. *Financial Analytics Review*, 11(2).
- [39] Nguyen, P. (2023). Human Oversight in AI-Drive f AI in Transforming Financial Management. *Strategic Finance Journal*, 31(1).
- [40] Oweis, K. A. (2025). The role of AI in automating accounting processes and enhancing financial reporting in Saudi Arabia. *Management*, 1. [www.management-poland.com](http://www.management-poland.com)
- [41] Pavlovic, M., Gligoric, C., Zdravkovic, F., & Pavlovic, D. (2025). Revolutionizing Management Accounting: AI in Predictive Analytics and Reporting. *Business & Management Compass*.
- [42] Pinuji, B. S., & Khomsiyah. (2024). AI's role in Sharia banking AIS efficiency. *Dinasti International Journal*, 5(2).
- [43] Pohjola, R. (2023). *AI in Finnish Manufacturing: KONE's Approach to Financial Efficiency*. *International Journal of Industrial Accounting*, 27(4).
- [44] Roberts, D., & Miller, P. (2024). *Accountability in AI Decision-Making: Balancing Automation and Human Oversight*. *Journal of Corporate Governance*, 21(1).
- [45] Russell, S., & Norvig, P. (2021). *Artificial Intelligence: A Modern Approach* (4th ed.). Pearson.
- [46] Smith, J. (2023). *AI-Driven Automation in Accounting: Operational Benefits and Challenges*. *Journal of Business Technology*, 20(1).
- [47] Smith, J. (2023). *Barriers to AI Adoption in Management Accounting*. *International Journal of Financial Technology*, 22(2).
- [48] Smith, J. (2023). *Capital Budgeting with AI: General Electric's Approach*. *Journal of Finance and Innovation*, 19(3).
- [49] Smith, J., & Roberts, D. (2024). *Policy and Regulation of AI in Finance: Challenges and Opportunities*. *Journal of Financial Ethics*, 17(1).
- [50] Sutton, S. G., Holt, M., & Arnold, V. (2022). Transformation of accounting systems through AI: Implications for management control and decision-making. *Accounting Horizons*, 36(2).
- [51] Taylor, M. (2023). Limitations of Current AI Models in Accounting Applications. *Advances in AI Research*, 15(3).
- [52] Taylor, M., & Green, K. (2023). *Leveraging AI for Strategic Decision-Making in Financial Management*. *Journal of Management Accounting*, 11(3).
- [53] Taylor, M., & Roberts, D. (2023). *The Changing Role of Accountants in the Age of AI*. *Journal of Strategic Finance*, 14(2).
- [54] Teece, D. J. (2020). *Dynamic Capabilities and Strategic Management: Organizing for Innovation and Growth* (2nd ed.). Oxford University Press.
- [55] Vasarhelyi, M. A., Wang, S., & Krahel, J. P. (2023). Natural language processing in accounting and auditing: Emerging trends and opportunities. *International Journal of Accounting Information Systems*, 50, 100561.

- [56] Wamba-Taguimdje, S.-L., Fosso Wamba, S., Kala Kamdjoug, J. R., & Tchatchouang Wanko, C. E. (2021). Influence of artificial intelligence (AI) on firm performance: The business value of AI-based transformation projects. *Business Process Management Journal*, 27(1).
- [57] Wright, S., & Brown, A. (2023). *AI in Auditing: Deloitte's Cutting-Edge Tools*. *Journal of Business Strategy*, 18(2).
- [58] Zhao, J., et al. (2021). *Enhancing Professional Skills in AI-Driven Accounting Environments*. *Accounting Education Review*, 40(2).