Presenting the Management Accounting Model in the Digital Era

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Abstract

Digital technologies, including artificial intelligence and data analytics, have empowered organizations to make decisions with increased accuracy and speed. The objective of this study was to develop a management accounting model tailored to the demands of the digital era. This research is applied in nature and employed a qualitative methodology grounded in grounded theory. Data were collected through a combination of library research, reviews of specialized academic sources, and semi-structured interviews. Purposeful sampling was used to select 20 participants, including managers and shareholders from the stock exchange as well as financial management experts, during the year 2023. The interview data were coded using ATLAS.ti software. To ensure the validity of the findings, the data underwent qualitative analysis using three classification stages. The results were organized into five categories: causal, contextual (background), intervening, strategic, and consequential. The final model consists of six overarching categories and 16 core codes derived from 109 initial codes. Causal conditions included scientific and technological advancements, along with changes in business and managerial environments. Strategies identified in the model involved the development of education systems, infrastructure enhancement, and targeted financial reporting and policy-making. The consequences of implementing this model included improved decision-making efficiency, enhanced business growth, and increased economic productivity. Contextual conditions encompassed the broader economic and political landscape and the current state of accounting practices. Intervening conditions involved factors such as institutional negligence, cultural and societal influences, accessibility of resources, and environmental determinants. In the digital era, access to vast amounts of high-quality data has enabled more precise analysis. The proposed data-oriented management accounting model—leveraging data analytics tools and artificial intelligence—has significantly improved the precision of financial and strategic decision-making. This approach provides managers with more reliable and actionable insights, thereby enhancing organizational performance and supporting the achievement of long-term objectives.

Keywords: *management accounting, digital era, data-driven decision-making, artificial intelligence algorithms.*

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1. Introduction

In recent decades, the advancement of digital technologies has fundamentally transformed the dynamics of business operations and decision-making. The integration of artificial intelligence (AI), machine learning, big data analytics, and digital platforms has redefined conventional business processes, pushing organizations to evolve rapidly to maintain competitiveness and agility in a volatile global marketplace. Among the areas most affected by digitalization is management accounting, a discipline traditionally focused on historical data, cost analysis, budgeting, and internal reporting. The field now faces mounting pressure to evolve in line with the demands of data-centric strategic management practices and real-time decision-making environments [1-3].

Historically, management accounting primarily served as a backward-looking tool to report financial outcomes and monitor performance indicators. However, the widespread diffusion of digital tools has transformed it into a forward-looking strategic partner in decision-making processes. Modern organizations now require their accounting systems to integrate real-time data, predictive models, and automated insights that support operational and strategic choices. As a result, the role of management accountants has evolved significantly. Rather than merely record-keepers, they have become strategic advisors equipped with skills in data mining, AI-driven forecasting, and business intelligence [4-6].

This transition is part of a broader phenomenon often described as digital transformation—a deep and comprehensive rethinking of how organizations operate and create value using digital technologies [7, 8]. In the context of management accounting, this transformation requires integrating digital capabilities into financial systems, redefining workflows, and reshaping organizational cultures to support agile and data-informed decision-making [9, 10]. Research confirms that effective digital transformation in accounting leads to superior performance outcomes by enabling enhanced forecasting, greater transparency, and more precise strategic alignment [11-13].

Despite these advancements, numerous challenges hinder the seamless adoption of digital technologies in management accounting. These include the resistance to change among personnel, insufficient training and expertise, outdated IT infrastructure, and concerns about data security and regulatory compliance [14-16]. Additionally, a lack of clear operational frameworks and implementation models has contributed to inconsistent practices across organizations, often resulting in inefficient data utilization and suboptimal strategic outcomes [17, 18]. In response to these obstacles, there is a pressing need for a coherent model that not only aligns with modern digital capabilities but also provides practical guidelines for implementation in diverse organizational contexts.

As organizations strive to derive strategic value from their data assets, management accountants must cultivate advanced capabilities in business intelligence and predictive analytics. Business intelligence systems, powered by AI and machine learning, enable accountants to identify trends, uncover inefficiencies, and support proactive decision-making. These capabilities are crucial for navigating the complexities of contemporary business environments, where volatility, uncertainty, and global interdependencies challenge traditional accounting methods [2, 11]. The inclusion of intelligent technologies in management accounting also expands the discipline's role beyond operational cost analysis toward creating long-term competitive advantage and innovation capacity [19, 20].

Moreover, the emergence of integrated data systems and digital platforms has increased the speed and accuracy of financial reporting. Real-time dashboards and automated forecasting tools now allow organizations to visualize and act upon their financial data almost instantaneously, reducing the lag between performance monitoring and managerial response [1, 9]. This immediacy not only improves internal decision-making but also enhances transparency and accountability to external stakeholders. Consequently, digital transformation fosters a more holistic approach to management accounting—one that connects financial and non-financial data to broader performance metrics and organizational goals [10, 21].

Crucially, this evolution necessitates a reevaluation of management accountants' roles, skill sets, and responsibilities. No longer confined to data compilation and report generation, today's management accountants are expected to be fluent in digital tools, possess advanced analytical skills, and engage in cross-functional collaboration. They must understand how to leverage ERP systems, AI algorithms, and big data platforms to extract actionable insights and provide strategic guidance to executive teams [8, 13, 22]. The integration of these skills into management accounting curricula and professional development programs is therefore essential for preparing future practitioners to meet the demands of the digital age [14, 17].

Yet, the transition to a digitally enabled management accounting model is not merely technical—it is also cultural and strategic. It requires organizations to adopt a mindset of continuous learning, experimentation, and adaptation. Managers must support a culture of innovation and invest in reskilling their workforce to handle new tools and systems [16, 18]. Moreover, the leadership must address ethical concerns surrounding data privacy, cybersecurity, and algorithmic transparency to maintain stakeholder trust and ensure regulatory compliance [3, 15].

This study aims to address these multifaceted challenges by developing a data-oriented model for management accounting in the digital era. Grounded in qualitative research and expert interviews, the model presented herein integrates six essential components: causal conditions, contextual factors, intervening variables, strategic mechanisms, consequences, and core structural categories. This framework serves to guide organizations in implementing digital technologies within their accounting systems while accounting for the technological, organizational, and environmental factors that shape their success [6, 20]. It draws from grounded theory to offer a systematic, empirically validated model that responds to the complexities of digital transformation in accounting.

By leveraging advanced data analytics, automation, and AI, the proposed model seeks to enhance decision-making accuracy, improve financial performance, and support strategic agility. It emphasizes the role of continuous education, robust IT infrastructure, and effective policy-making in facilitating the digital transition. Furthermore, it provides actionable insights into how organizations can mitigate resistance, manage change, and optimize the integration of digital tools into their accounting functions [2, 4, 9].

Ultimately, the transformation of management accounting in the digital age represents more than a technological upgrade—it is a strategic imperative. Organizations that fail to embrace this evolution risk falling behind in a rapidly digitizing world. Conversely, those that invest in digital capabilities, talent development, and systemic integration stand to gain significant advantages in efficiency, transparency, and innovation. This research contributes to that agenda by offering a comprehensive, theory-driven, and practice-oriented model designed to guide management accounting into the future.

2. Methodology

The present research was applied in nature and employed a qualitative methodology grounded in the foundational data theory developed by Strauss and Corbin (1998). Various data collection methods were utilized, including library studies, reviews of specialized texts, and semi-structured interviews. The researchers paid particular attention to the data triangulation process, ensuring the compatibility of different data sources within the same methodology. The potential participants included all managers and shareholders of the stock exchange, as well as financial management experts in 2023. A purposive sampling method was employed to select individuals for the qualitative component of the research, and these participants engaged in the interview process. To identify the sample for this study, the purposive sampling method was applied. The primary data sources were the interviews, which began as exploratory and descriptive. Following each interview, the data were coded, and through the method of constant comparative analysis, theoretical codes emerged via open coding. A total of 20 interviews were conducted, leading to the identification of concepts and both sub- and main categories. It is important to note that the concentration and saturation of core categories were achieved through theoretical sampling. The research continued until the concepts within each category were sufficiently condensed and enriched. For instance, after the first eight interviews, the category of other categories, such as interviews continued based on theoretical sampling until saturation was reached for the desired categories. The theoretical sampling for the interviews was not determined by the number of participants but rather by their contributions to refining the categories. By the 20th interview, theoretical saturation was achieved. Each interview lasted between 30 and 50 minutes. Grounded theory was employed to analyze the qualitative research data using ATLAS.ti software. The analysis of the collected qualitative data was conducted in three stages: open coding, axial coding, and selective coding. Interviews were guided by specific questions directed at the selected individuals within the qualitative sample.

1. How do management accounting processes in the digital age differ from those of the past?

2. What challenges arise in adapting management accounting to the digital environment?

3. How have digital technologies, such as artificial intelligence and data analysis, transformed management accounting?

4. How can the use of data-driven numerical tools enhance strategic decision-making in management accounting?

5. How can technology be utilized to enhance efficiency and minimize errors in management accounting processes?

6. What is the impact on the skills and requirements of management accounting managers who are proficient in digital information and related technologies?

7. How can we ensure data security and privacy in the digital environment of management accounting?

8. How can management accounting processes be enhanced through the use of digital information?

9. How can organizations effectively manage the differences and expectations among various generations of employees concerning technology and the digitalization of management accounting processes?

10. What is the role of collaboration among various departments within an organization in optimizing the use of digital technologies in management accounting?

3. Findings and Results

The statistical description of the characteristics of the field participants is presented in Table 1.

Table 1. Demographic characteristics of the interviewees

No.	Education level	field of study	Work experience (years)
1	MA.	Financial management	22
2	MA.	Financial management	16
3	MA.	Financial management	20
4	MA.	Financial management	28
5	MA.	Financial management	25
6	MA.	Financial management	29
7	Ph.D.	Financial management	30
8	Ph.D. Student	Financial management	26
9	MA.	Financial management	12
10	Ph.D.	Accounting	25
11	Ph.D.	Accounting	25
12	Ph.D.	Accounting	27
13	Ph.D.	Accounting	10
14	Ph.D.	Accounting	21
15	Ph.D.	Accounting	23

To initiate the coding process, all interviews were entered into Atlas.ti software. Necessary checks were performed, and the desired codes were extracted. The labeling of the codes was based on the interviews, and the researcher made a concerted effort to align with the insights of the respondents to minimize any potential bias. Throughout the coding process, the researcher maintained theoretical sensitivity, a key principle of data theory research, to enhance the richness of the study. Table 2 presents an example of the coding applied to the conducted interviews.

Table 2. Coded Interviews

Related interviews	Initial code
Increasing data accumulation in digital environments such as cloud computing increases the sensitivity about cyber security.	Increasing cyber security challenges
The need to provide and maintain the security of data and financial information against cyber attacks and unwanted intrusions is very important.	Business intelligence
The use of artificial intelligence technologies and data analysis in management accounting creates a significant improvement in the organization's strategic and operational decisions.	Use of cloud computing
These technologies can help recognize patterns, predict events, and improve decision-making processes.	Software development and intelligent accounting

In the following, based on the dimensions of the data model of the Strauss and Corbin Foundation (1998), the classification of identification codes is specified in Tables 3 to 7.

Table 3. Coding of qualitative returns (causal conditions)

Axial code	Secondary Code	Initial Code
Causal Conditions	Advancement of Science and Technology	Increasing Cybersecurity Challenges
		Business Intelligence
		Use of Cloud Computing
		Software Development and Intelligent Accounting
		Developing Technology-Based Accounting Skills
		The Rapid Pace of Technological Change
	Changes in Business Conditions	Diversity of Stakeholder Expectations
		Changing the Balance of Labor
		Business Complexity
		Changing Business Structures and Models
		Globalization of Business
		Customer Orientation
		Convergence of Accounting and Business
	Management Conditions	Management's Attitude Toward the Application of Management Accounting
		Management Knowledge in the Field of Management Accounting
		Management Support for New Management Accounting Procedures
		Flexibility of Managers
		Collaborative Decision-Making Among Managers

Table 4. Open coding of qualitative data (strategic conditions)

Axial code	Secondary code	Initial Code
strategic conditions	Education	The Relationship Between Industry and Universities in the Field of Management Accounting
		Enhancing the Integration of Management Accounting Concepts into Course Topics
		Increasing the Number of Academic Professionals
		Increasing the Number of Professional Associations
	Infrastructure	Easy Access to Resources, Including Hardware, Software, Internet Connectivity, and Knowledge.
		Providing adequate facilities and budget for management accounting.
		Adapting Business Processes to the Management Accounting Structure
		Establishing a Support Unit and Overseeing Management Accounting in Business
		Incentive System to Encourage Greater Participation in Management Accounting
		Creation of Inclusive Databases
		Infrastructure Investment for the Development of Management Accounting Education in Business
		The Importance of a Strong Management Accounting Culture
	Targeting Financial Reporting	Transparency of Information
		Enhancing the Quality of Financial Information
		Enhancing the Speed and Accuracy of Financial Reports
		Reconciliation of Information and Performance (Documentation)
		Timely Provision of Information
		Enhance the Diversity of Reporting.
	Policy Making	Security and Legal Regulations in Management Accounting Systems
		Approval of Short-Term and Long-Term Strategies
		Adapting the Organization's Strategy and Resources.
		Developing a Monitoring and Evaluation System

Table 5. Open coding of qualitative data (Consequences)

Axial code	Secondary code	Initial Code
Consequences	Optimizing decision making	Organizational Data Alignment
		The Process of Enhancing Business Performance Through the Benefits of Management Accounting
	Business prosperity	Creating a Competitive Advantage
		Business Innovation
		Synchronization with Global Standards
		The Foundation of the Digital Economy

		Foundations of the Knowledge Economy
		Keeping Up with Global Changes
		Customer Orientation Based on International Standards
		Establishing International Competition
		International Standardization
		International Business Models
	Economic productivity	Economic Growth of the Country
		Reducing the country's costs
		Enhance Sustainable Income
		Combination of Traditional and Modern Systems
		Identification of Global Markets
		Global Customer Focus
		Service Optimization
		Improving Accounting Processes
		Reducing the Unemployment Rate
		Increasing the Growth of the Accounting Profession Based on Sustainable Development Indicators
		Enhance the business environment.
		Empowering Accountants

Table 6. Coding of qualitative returns (Contextual Conditions)

Axial code	Secondary code	Initial Code
Contextual Conditions	Economic and political environment	Economic Recession
		Exercising Control Over the Auditing Profession
		Lack of Economic Transparency
		Iran's Economic Sanctions
		Scattered Efforts in the Knowledge Economy
	Accounting Status	Financial and Accounting Regulations
		Internal Environment of Accountants
		Implementation Conditions for Accounting Techniques
		International Accounting Standards
		Personalization
		Accounting Structure
		Relationships Among Accountants
		Accounting Levels
		Accounting Flexibility
		Accounting
		The Role of Accounting in Society
		Accounting Update
		Hierarchy in Accounting
		The Balance Between Privacy and Publicity
		The Reputation of Accountants

Table 7. Coding of qualitative returns (Intervening Conditions)

Axial code	Secondary code	Initial Code
Intervening Conditions		Managers' Indifference to the Accounting Situation
		Negligence in the Implementation of Management Accounting Mechanisms
	Negligence and negligence	The Importance of Recognizing the Necessity of Management Accounting
		Indifference to Changes and Developments in Accounting Worldwide
		Not Attempting to Adapt to the Technological World.
		Failure to Pay Attention to Cooperation in Management Accounting Matters
		Not prioritizing the primary responsibilities of management accounting and margining.
	Cultural and social conditions	The Difficult Acceptance of New Technology in the Management Community
		Lack of a Culture in the use of management accounting tools.
		Distrust of Management Accounting Tools
		The Challenge of Embracing Management Accounting Education Rooted in Traditional Thinking
		Quick and essential familiarization of managers with new management accounting tools during and after the COVID-19 pandemic.

	Lack of Proper Cultural Adaptation of Management Accounting for Managers
Access to resources	Lack of Access to Global Resources
	Insufficient Budget to Establish Effective Management Accounting.
	Insufficient Funding
Environmental conditions	Rapidly Changing Global Business Environments
	Competitive Pressure
	Economic and Political Sanctions as a Functional Obstacle
	Complex and Rigid Structure
	Strong Structural Focus
	Organizational Directives for Businesses
	Traditional Accounting Structure and Tax Reporting System
	Cumbersome Administrative Procedures and Documentation
	The Failure of Decision-Makers to Recognize the Benefits of Management Accounting.

After the analysis and measurement of various data, the final research model is presented as follows:

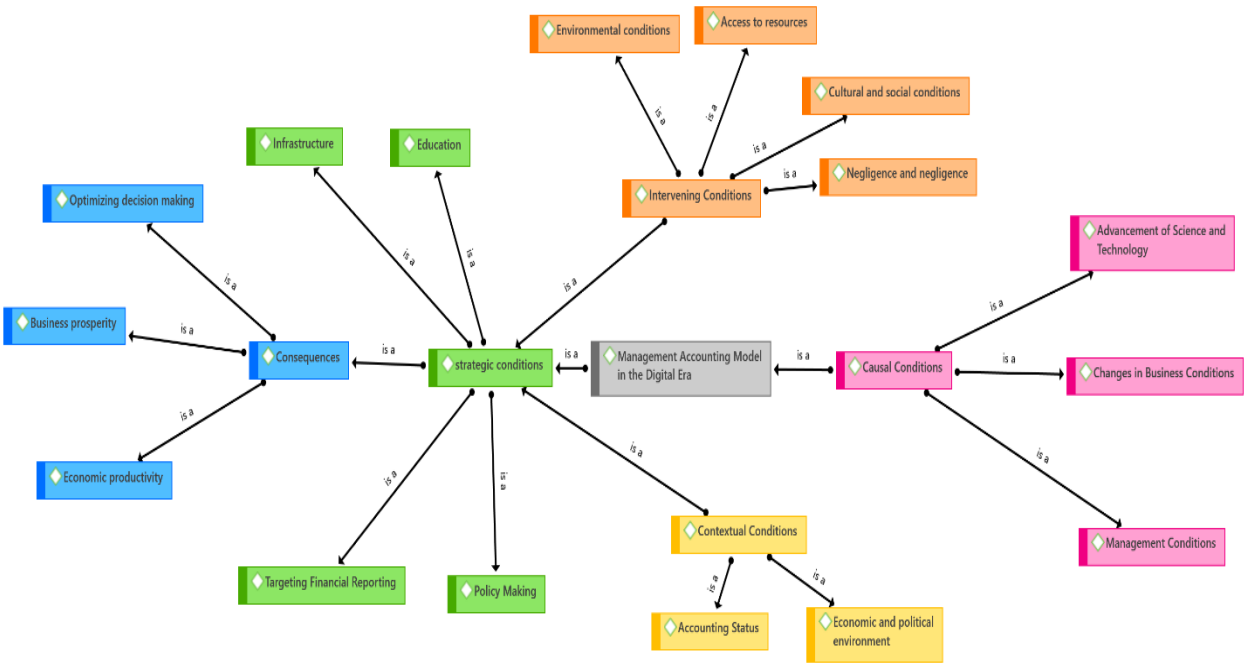

Figure 1. The data model of the management accounting foundation in the digital era with a data-oriented approach (ATLAS.TI software output)

4. Discussion and Conclusion

The findings of this study present a comprehensive data-oriented model for management accounting in the digital era, consisting of six interrelated components: causal conditions, contextual conditions, intervening variables, strategic mechanisms, consequences, and a core structural framework. Through qualitative analysis using grounded theory and expert interviews, the study identified 16 core codes and 109 initial codes, all of which were integrated into a cohesive framework designed to support managerial decision-making in a digital context. These findings highlight how digital technologies—particularly artificial intelligence, big data analytics, and business intelligence—are redefining the strategic role of management accounting.

Causal conditions were grouped under three main headings: advancements in science and technology, changes in business conditions, and evolving management perspectives. These factors collectively explain the underlying pressures driving the transformation of management accounting. As identified in the interviews, the rapid growth of digital infrastructure, including cloud

computing and cybersecurity needs, compels organizations to reevaluate how they manage and interpret financial data. These findings align with previous research that emphasized the transformative potential of digital tools and their ability to reconfigure managerial tasks and decision-making processes [7, 8, 19].

The strategic components of the model revealed four dominant areas of intervention: education, infrastructure, targeted financial reporting, and policy-making. Education was recognized as a vital enabler in developing the digital competencies required for modern accounting practices. These results are consistent with findings from [17], who noted that upskilling accountants through continuous learning is critical in adapting to the new digital environment. Similarly, [22] emphasized the changing role of management accountants, highlighting the importance of digital literacy in facilitating this transition. Infrastructure, including access to data management systems, AI tools, and digital platforms, was also seen as a necessary condition for implementing data-driven accounting frameworks, as corroborated by prior literature [13, 16].

Targeted financial reporting, another key component, was defined by transparency, real-time data analysis, and dynamic visualization of financial performance. These capabilities are made possible by tools such as AI-powered dashboards, business intelligence systems, and real-time data synchronization. The importance of this strategic mechanism resonates with the findings of [12], who demonstrated how the implementation of digital financial reporting systems enhanced the timeliness and reliability of accounting outputs. Additionally, the role of policy-making—encompassing data governance, cybersecurity regulations, and integration of strategic frameworks—was emphasized as necessary for safeguarding digital financial systems, a concern echoed in [15].

The consequence domain of the model pointed to three primary outcomes: optimized decision-making, enhanced business prosperity, and increased economic productivity. The implementation of digital accounting systems led to improved alignment of organizational data, providing timely, accurate, and actionable insights for strategic planning. These outcomes are supported by findings in [2], which demonstrated that digital transformation of accounting practices directly contributes to better financial outcomes and competitive advantage. Similarly, [3] observed that AI adoption in managerial accounting led to more agile and adaptive financial strategies, particularly in fast-changing environments.

The contextual conditions—economic and political environments and the state of accounting practices—served as the backdrop against which transformation efforts occurred. Issues such as sanctions, lack of economic transparency, and regulatory inconsistencies were identified as constraints, consistent with challenges outlined in [21]. Furthermore, structural inflexibility within existing accounting systems, hierarchical limitations, and slow regulatory responses were also found to impede digital implementation. These findings resonate with those of [14], who discussed the institutional inertia and rigid professional boundaries that often delay digital integration in traditional accounting settings.

Intervening conditions played a critical role in shaping the outcomes of transformation efforts. These included negligence and cultural resistance, limited access to global technological resources, and broader environmental pressures. Several participants emphasized the cultural gap between traditional accounting mindsets and the innovative practices demanded by the digital age. This tension is reflected in [11], who noted that organizational culture plays a significant role in determining the success of digital transformation projects. Furthermore, [18] argued that insufficient funding and inadequate access to high-quality digital infrastructure could stall efforts to modernize accounting systems. The emphasis on cultural and resource-based limitations in this study confirms that successful digital transformation is as much a behavioral and organizational challenge as it is a technological one.

The proposed model demonstrates that a successful transition to data-driven management accounting is contingent upon synergizing strategic, contextual, and technological components. One of the most compelling insights from this research is the interdependence between strategic capacity-building (e.g., education and infrastructure) and intervening constraints (e.g., negligence, resistance, and limited resources). The balance between these forces ultimately determines whether digital transformation in accounting yields its intended outcomes. This systemic perspective is supported by [9], who emphasized the importance of adopting a holistic and integrated framework for AI and digital technology deployment in accounting.

Moreover, the results of this study affirm the findings of [5], who argued that the value of management accounting information lies in its strategic use within broader control systems. In digital environments, management accounting not only aids in budgeting and reporting but also becomes

central to enterprise-wide decision-making. By integrating data from various business units, digital management accounting enables cross-functional insights that support innovation and long-term competitiveness. This strategic alignment was also observed by [10], who emphasized that textual data analytics could enhance management control and monitoring capabilities.

The study's findings also indicate a paradigm shift in the expected competencies of management accountants. No longer are they expected to be mere recorders of financial transactions; they are now expected to understand data structures, apply predictive analytics, and support strategic initiatives. This aligns with the insights of [4], who advocated for rethinking the education and training paradigms for management accountants in light of digital disruption. Similarly, [8] underscored that digital transformation changes the very logic of managerial processes, requiring new skill sets, collaborative mindsets, and strategic foresight.

In conclusion, the proposed model for management accounting in the digital age captures the complexity of digital transformation while offering a structured path for organizations to follow. It highlights the importance of synchronizing strategic efforts, navigating contextual constraints, and addressing intervening variables to optimize the role of management accounting. The alignment of these findings with existing literature underscores the credibility and relevance of the model, providing a theoretically grounded and empirically supported framework for contemporary organizations.

Despite its robust qualitative methodology, this study is not without limitations. First, the research sample was restricted to 20 participants, all of whom were affiliated with the stock exchange or were financial management experts within a specific national context. As such, the findings may not be generalizable to all industries or regions, particularly those with different economic infrastructures or regulatory environments. Additionally, the reliance on self-reported data through interviews introduces the possibility of response bias. Participants' perceptions and opinions may have been shaped by their organizational experiences or familiarity with digital tools, potentially influencing the thematic outcomes.

Future studies could build upon this model by expanding the scope of participants to include diverse industries, geographical regions, and organizational sizes. Comparative research between public and private sector entities may also offer deeper insights into how contextual differences influence the implementation of digital accounting practices. Quantitative approaches could be employed to validate the model empirically and assess the statistical significance of the relationships identified in this study. Moreover, future research might explore how specific technologies—such as blockchain or edge computing—further enhance or complicate management accounting processes in digital ecosystems.

Organizations aiming to implement digital transformation in management accounting should prioritize digital literacy among their accounting staff by offering structured training programs in data analytics and AI applications. Investments in robust IT infrastructure—including secure databases, real-time dashboards, and enterprise resource planning systems—are essential to ensure the smooth integration of digital tools. Leaders must foster a culture that embraces change, encourages cross-departmental collaboration, and supports evidence-based decision-making. To remain competitive, organizations should institutionalize continuous learning and make digital adaptation a core part of their strategic planning processes.

Authors' Contributions

Authors equally contributed to this article.

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Declaration of Interest

The authors report no conflict of interest.

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Ethical Considerations

All procedures performed in this study were under the ethical standards.

References

[1] H. Sun, "Construction of integration path of management accounting and financial accounting based on big data analysis," *Optik*, vol. 272, 2023, doi: 10.1016/j.ijleo.2022.170321.

[2] Z. Bao, K. Hashim, and A. Almagrabi, "Business intelligence impact on management accounting development given the

role of mediation decision type and environment," *Information Processing & Management*, vol. 60, 2023, doi: 10.1016/j.ipm.2023.103380.
[3] A. A. Vărzaru, "Assessing artificial intelligence technology acceptance in managerial accounting," *Electronics*, vol. 11, no. 14, 2022, doi: 10.3390/electronics11142256.
[4] A. Bhimani, "Digital data and management accounting: why we need to rethink research methods," *Journal of management control*, vol. 31, no. 1, pp. 9-23, 2020, doi: 10.1007/s00187-020-00295-z.
[5] E. Tajvidi and S. Mohammadi, "The role of management accounting information in management control system in large manufacturing companies in Iran," *Management Accounting*, vol. 13, no. 46, pp. 1-16, 2020.
[6] J. Ojra, A. P. Opute, and M. M. Alsolmi, "Strategic management accounting and performance implications: a literature review and research agenda," *Future Business Journal*, vol. 7, no. 1, p. 64, 2021, doi: 10.1186/s43093-021-00109-1.
[7] P. Mikalef and E. Parmiggiani, "An Introduction to Digital Transformation," in *Digital Transformation in Norwegian Enterprises*. Cham: Springer, 2022.
[8] A. Baiyere, H. Salmela, and T. Tapanainen, "Digital transformation and the new logics of business process management," *European Journal of Information Systems*, vol. 29, no. 3, pp. 238-259, 2020, doi: 10.1080/0960085X.2020.1718007.
[9] C. Collins, D. Dennehy, K. Conboy, and P. Mikalef, "Artificial intelligence in information systems research: A systematic literature review and research agenda," *International Journal of Information Management*, vol. 60, 2021, doi: 10.1016/j.ijinfomgt.2021.102383.
[10] F. Qiu, N. Hu, P. Liang, and K. Dow, "Measuring management accounting practices using textual analysis," *Management Accounting Research*, vol. 58, 2023, doi: 10.1016/j.mar.2022.100818.
[11] Z. Huang, Savita, and A. K. Omar, "The impact of business intelligence on the marketing with emphasis on cooperative learning: Case-study on the insurance companies," *Information Processing and Management*, vol. 59, pp. 102-124, 2022, doi: 10.1016/j.ipm.2021.102824.
[12] I. Goldstein, S. Yang, and L. Zuo, "The real effects of modern information technologies: Evidence from the EDGAR implementation," *Journal of Accounting Research*, vol. 61, no. 5, pp. 1699-1733, 2023, doi: 10.1111/1475-679X.12496.
[13] K. Chang, A. A. Lasyoud, and D. Osman, "Management accounting system: Insights from the decision making theories," *Social Sciences & Humanities Open*, vol. 8, no. 1, 2023, doi: 10.1016/j.ssaho.2023.100529.
[14] N. Melnyk, D. Y. Trachova, O. Kolesnikova, O. Demchuk, and N. Golub, "Accounting trends in the modern world," *Independent Journal of Management & Production*, vol. 11, no. 9, pp. 2403-2416, 2020, doi: 10.14807/ijmp.v11i9.1430.
[15] S. Sule, N. Z. M. Yusof, and K. M. K. Bahador, "Users' Perceptions on Auditors' Responsibilities for Fraud Prevention, Detection and Audit Expectation GAP in Nigeria," *Asian Journal of Economics, Business and Accounting*, pp. 1-10, 2019, doi: 10.9734/AJEBA/2019/46832.
[16] N. Takhtai, M. Shalalnejad, and A. Shalalnejad, "Digital technology and financial reporting," *Accounting and Management Perspective*, vol. 6, no. 82, pp. 187-191, 2022.
[17] V. Mennati and A. Sasanian, "Skills, Influence, and Effectiveness of Management Accountants," *Journal of Accounting Advances*, vol. 14, no. 1, pp. 311-343, 2022, doi: 10.22099/jaa.2022.43316.2228.
[18] M. Suleimanian and B. Bani Talebi Dehkordi, "The role of digital innovation in financial markets from the perspective of knowledge and presentation of the proposed model," *Advances in Finance and Investment*, vol. 4, no. 1, pp. 55-82, 2022.
[19] A. Bhimani, *Accounting disrupted: The reshaping of financial intelligence in the new digital era*. New York: Wiley, 2020.
[20] I. Posadzińska and M. Grzeszczak, "Management accounting system in the management of an intelligent energy sector enterprise," *Energies*, vol. 15, no. 20, 2022, doi: 10.3390/en15207633.
[21] H. Salman Zadeh, G. Kordestani, and H. Kazemi, "The Role of Management Accounting in Improving Management Control System in Public Sector," *Iranian Journal of Finance*, vol. 6, no. 1, pp. 54-82, 2022, doi: 10.30699/ijf.2021.279013.1211.
[22] R. Wadan, F. Teuteberg, F. Bensberg, and G. Buscher, "Understanding the changing role of the management accountant in the age of industry 4.0 in Germany," 2019, doi: 10.24251/HICSS.2019.702.