

Exploring the Components and Relationships of an Artificial Intelligence Model Based on Accounting Procedures: A Qualitative Study in the Field of Accounting

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ABSTRACT

The present study was conducted with the aim of exploring the components and relationships of an artificial intelligence model based on accounting procedures. This research was carried out using a qualitative approach and semi-structured interviews with experts in the fields of accounting, auditing, and information technology. The collected data were analyzed using thematic analysis. The findings indicated that the artificial intelligence model based on accounting procedures consists of a set of core components, including technological infrastructures, the quality and integration of financial data, professional requirements and accounting standards, analytical capabilities of artificial intelligence, specialized human resource skills, and organizational and institutional contexts. The results also demonstrated that dynamic and interactive relationships exist among these components, such that technological infrastructures and data quality, as fundamental foundations, provide the basis for the effective utilization of artificial intelligence tools and, in interaction with professional requirements and human capabilities, lead to improved implementation of accounting procedures. Ultimately, the implementation of such a model may result in outcomes such as increased accuracy and speed in financial information processing, enhanced quality of financial reporting, and improved managerial decision-making processes. Overall, the findings of this study contribute to the development of a conceptual framework for a better understanding of the components and relationships shaping artificial intelligence models in the field of accounting procedures and can provide a basis for the development of future empirical and applied studies in this area.

Keywords: Accounting procedures, machine learning, financial data analysis, quality of financial reporting, accounting automation.

Introduction

Artificial intelligence (AI) has emerged as one of the most transformative technological developments of the digital era and has significantly reshaped organizational structures, managerial processes, and decision-making systems across various industries. In recent years, the accounting profession has experienced substantial transformations due to the rapid advancement of AI technologies, machine learning algorithms, big data analytics, and intelligent automation systems. These technological developments have altered traditional accounting procedures and created new opportunities for improving financial reporting quality, increasing operational efficiency, reducing human error, and enhancing strategic decision-making processes (1, 2). The growing complexity of



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financial transactions, increasing volume of accounting data, and heightened expectations regarding transparency and accountability have further accelerated the integration of intelligent technologies into accounting systems and financial management processes (3, 4).

The accounting profession has historically relied on accuracy, reliability, and systematic analysis of financial information. However, conventional accounting methods often encounter limitations in handling large-scale data processing, real-time analysis, fraud detection, predictive analytics, and rapid decision-making. Artificial intelligence technologies provide innovative solutions to these limitations by enabling automated processing of financial data, intelligent classification of transactions, anomaly detection, forecasting of financial trends, and optimization of managerial decisions (5, 6). AI-driven accounting systems are capable of analyzing massive volumes of structured and unstructured financial data with greater speed and precision than traditional methods, thereby improving the quality and reliability of financial reporting (7, 8).

One of the most important applications of artificial intelligence in accounting relates to the automation of routine accounting activities. Intelligent accounting systems can automate repetitive tasks such as bookkeeping, invoice processing, transaction classification, reconciliation procedures, payroll processing, and financial statement preparation. This automation not only reduces operational costs and human errors but also allows accountants and auditors to focus on more strategic and analytical responsibilities (1, 9). The increasing adoption of AI-based accounting systems has consequently transformed the traditional role of accountants from data processors into strategic advisors and analytical experts who contribute to organizational value creation and managerial decision-making (3, 10).

The integration of AI technologies into auditing processes has also attracted considerable scholarly attention. Intelligent auditing systems equipped with machine learning algorithms and deep learning capabilities can identify unusual patterns, detect fraudulent transactions, evaluate internal control weaknesses, and enhance audit quality more effectively than conventional auditing approaches (6, 11). AI-driven auditing technologies facilitate continuous auditing and real-time monitoring of financial activities, enabling auditors to detect irregularities more rapidly and accurately. Furthermore, predictive analytical models based on artificial intelligence can improve risk assessment procedures and contribute to more reliable audit judgments (12, 13).

Another critical dimension of AI application in accounting concerns financial forecasting and management accounting. Artificial intelligence algorithms are increasingly used for budgeting optimization, financial forecasting accuracy, cost analysis, and strategic planning. Intelligent forecasting models can analyze historical financial data, identify hidden relationships among variables, and generate more accurate financial predictions for organizational planning and decision-making processes (14, 15). In management accounting, AI technologies support scenario simulation, predictive analytics, and strategic performance evaluation, thereby enhancing organizational agility and competitive advantage (3, 5). The ability of AI systems to provide real-time financial insights and predictive recommendations has become increasingly valuable in dynamic and uncertain business environments.

The emergence of generative artificial intelligence and advanced data analytics tools has further expanded the scope of AI applications in accounting and sustainability reporting. Generative AI systems can support accountants in preparing reports, analyzing accounting data, and improving digital sustainability reporting quality through intelligent data interpretation and automated content generation (8). Additionally, AI-based analytical systems contribute to environmental and sustainability accounting by facilitating the monitoring of green performance indicators and enhancing the effectiveness of sustainability-related internal control systems (8). These

developments indicate that AI is not only transforming operational accounting functions but also influencing broader organizational strategies related to sustainability, governance, and transparency.

Despite the substantial opportunities associated with AI implementation in accounting, the adoption of intelligent technologies also presents significant organizational, ethical, technical, and professional challenges. One of the primary concerns relates to data security, privacy protection, and cybersecurity risks. Since accounting systems process highly sensitive financial information, organizations must ensure that AI technologies comply with legal regulations and data protection standards (16, 17). Cybersecurity vulnerabilities, unauthorized access to financial information, and potential manipulation of AI systems may threaten the integrity and reliability of accounting processes. Therefore, effective risk management mechanisms and secure technological infrastructures are essential prerequisites for successful AI implementation in accounting environments (4, 16).

Another major challenge concerns the professional readiness and technological competence of accountants and auditors. The successful implementation of AI systems requires accounting professionals to possess digital literacy, analytical capabilities, and technological knowledge relevant to intelligent accounting systems (18). Educational institutions and professional accounting organizations increasingly recognize the necessity of integrating AI-related competencies into accounting curricula and professional training programs. Studies have shown that technology readiness, digital competence, and positive perceptions toward AI significantly influence the willingness of accounting students and professionals to adopt intelligent technologies (18, 19). Consequently, continuous professional development and organizational learning are critical factors in facilitating AI adoption within accounting practices.

Organizational culture and employee attitudes also play a crucial role in the implementation of AI technologies in accounting systems. Resistance to change, fear of job displacement, lack of trust in intelligent systems, and concerns regarding technological complexity may hinder the adoption process (20, 21). Employees often perceive AI technologies as threats to traditional job roles and professional autonomy, which can negatively affect organizational acceptance of intelligent systems. However, organizations that foster innovation-oriented cultures, promote technological awareness, and provide adequate employee training are more likely to achieve successful AI integration (20, 22). Therefore, organizational support mechanisms and effective change management strategies are essential for overcoming implementation barriers and enhancing employee engagement with AI technologies.

The adoption of artificial intelligence in accounting is further influenced by institutional, regulatory, and professional considerations. Accounting standards, financial regulations, ethical principles, and compliance requirements significantly shape the manner in which organizations implement AI-based accounting systems (10, 17). Regulatory authorities and professional accounting bodies are increasingly concerned with ensuring transparency, accountability, fairness, and explainability in AI-driven financial systems. The interpretability of machine learning models and the ethical implications of automated decision-making processes remain critical issues in accounting research and practice (4, 9). Consequently, organizations must balance technological innovation with ethical responsibility and regulatory compliance in order to maintain stakeholder trust and legitimacy.

Recent studies have also emphasized the importance of performance evaluation and strategic alignment in AI implementation processes. The effectiveness of AI systems depends not only on technological capabilities but also on organizational readiness, managerial support, data quality, and strategic integration (12, 23). High-quality accounting data, integrated information systems, and scalable technological infrastructures are fundamental requirements for achieving reliable AI performance in financial processes. Moreover, the strategic alignment

between organizational objectives and AI applications can significantly influence the success of intelligent accounting initiatives (14, 20).

In the banking and financial services sector, artificial intelligence has contributed to improving customer services, financial regulation, fraud detection, and operational efficiency. AI-based security systems and intelligent financial platforms enhance customer trust and loyalty while supporting compliance with financial regulations and tax policies (16, 24). The integration of AI technologies into online banking services and digital financial ecosystems further demonstrates the growing significance of intelligent systems in modern financial management and accounting environments (17, 24).

Although the existing literature has extensively examined the opportunities, challenges, and applications of artificial intelligence in accounting, there remains a significant need for conceptual and qualitative investigations that explore the underlying components and relationships shaping AI-based accounting models. Much of the previous research has primarily focused on quantitative assessments, technological efficiency, or individual dimensions of AI adoption, while limited attention has been devoted to developing comprehensive conceptual frameworks that explain the interactions among technological, organizational, professional, and regulatory factors influencing AI implementation in accounting procedures (2, 3). Furthermore, the multidimensional and evolving nature of artificial intelligence applications in accounting necessitates exploratory qualitative studies capable of capturing expert perspectives, contextual conditions, and dynamic relationships among the elements involved in intelligent accounting systems (7, 25).

Given the growing importance of artificial intelligence in transforming accounting practices and the necessity of understanding the conceptual foundations underlying its implementation, the present study aims to explore the components and relationships of an artificial intelligence model based on accounting procedures.

Methods and Materials

Research methodology refers to a set of systematic principles, approaches, and procedures that guide the process of conducting a scientific study. In essence, methodology provides a framework through which the researcher can examine the research problem in a logical and coherent manner. From this perspective, some scholars consider methodology as part of the philosophy of science and research logic, whereas others regard it as a branch of empirical sciences concerned with the methods of producing scientific knowledge. According to Talcott Parsons, methodology is not merely limited to practical research tools such as statistics, interviews, or case studies; rather, it primarily addresses the foundations of scientific validity and the general frameworks of knowledge production. Therefore, methodology can be viewed as the connecting link between theoretical discussions and practical research methods.

The present study was conducted with the aim of exploring the components and relationships of an artificial intelligence model based on accounting procedures. Accordingly, the nature of the study falls within the category of qualitative and exploratory research, as its primary focus is on identifying the dimensions, components, and conceptual relationships among the elements shaping this model. Within such an approach, an attempt is made to achieve a deeper understanding of the mechanisms underlying the application of artificial intelligence in the context of accounting procedures through the perspectives and experiences of experts in accounting and information technology. Qualitative research, with its emphasis on the interpretation and analysis of conceptual data, enables

the identification of complex and multidimensional phenomena and contributes to the development of new conceptual frameworks.

In terms of data collection methods, this study was conducted based on a qualitative approach using semi-structured interviews with experts. The participant population consisted of specialists in the fields of accounting, auditing, and information technology who possessed relevant knowledge and experience regarding the application of intelligent technologies in financial and accounting processes. The data collected through these interviews were analyzed using thematic analysis in order to extract initial concepts, sub-themes, and ultimately the main themes associated with the artificial intelligence model based on accounting procedures.

In the data analysis process, the interview transcripts were first reviewed comprehensively, coded systematically, and key concepts were extracted. Subsequently, through comparison and categorization of these concepts, sub-themes and main themes were identified, and the relationships among them were examined. This process assisted the researcher in explaining the conceptual structure of the proposed model based on expert perspectives and empirical data. To enhance the credibility and trustworthiness of the findings, techniques such as participant review, constant comparison of data, and repeated examination of codes and themes were employed.

Overall, the methodological framework of this study, grounded in a qualitative approach and systematic analysis of data derived from expert interviews, provides the opportunity to explore the components and explain the relationships among the elements of the artificial intelligence model based on accounting procedures and facilitates the development of a coherent conceptual framework in this field.

Findings and Results

In the present study, a qualitative data analysis approach was employed in order to explore the components and relationships of the artificial intelligence model based on accounting procedures. The required data were collected through semi-structured interviews with experts in the fields of accounting, auditing, and information technology. The research participants consisted of specialists who possessed scientific or executive experience in the application of emerging technologies, particularly artificial intelligence, within financial and accounting processes. The experts were selected purposively, and the data collection process continued until theoretical saturation was achieved, meaning that after conducting several interviews, no new concepts emerged from the collected data.

Following the interviews, all conversations were fully transcribed, and the interview texts were prepared for analysis. In the initial stage, the researcher repeatedly and carefully reviewed the interview transcripts in order to obtain a deep understanding of the data. At this stage, preliminary concepts were extracted from the data, and statements and sentences containing meaningful information regarding the application of artificial intelligence in accounting procedures were identified as semantic units.

In the next stage, the process of initial coding was conducted. During this stage, the concepts extracted from the interviews were transformed into conceptual codes. Each code represented an idea, concept, or perspective expressed by the experts regarding different dimensions of the application of artificial intelligence in accounting. These codes were refined through continuous comparison of the data, and similar items were categorized into common conceptual groups.

After the initial coding process, the stage of categorization and formation of sub-themes was conducted. At this stage, conceptual codes that were close to one another in terms of meaning and content were organized into sub-themes. These themes represented different dimensions of the phenomenon under investigation and helped the

researcher develop a more coherent conceptual structure from the data. Subsequently, the sub-themes were integrated at a higher level, resulting in the formation of the main themes of the study.

The final analysis of the data led to the identification of a set of main themes constituting the conceptual framework of the artificial intelligence model based on accounting procedures. These themes included contextual factors, causal factors, intervening factors, accounting procedures, implementation strategies, challenges, and the consequences of applying artificial intelligence in the accounting field. Each of these themes reflects a part of the mechanisms and conditions involved in the formation and development of artificial intelligence applications within accounting processes.

To enhance the credibility and trustworthiness of the findings, several strategies were employed. First, the data analysis process was continuously reviewed to ensure that the extracted codes and themes accurately reflected the perspectives of the participants. Second, part of the analytical findings was sent to several experts in order to obtain their feedback regarding the accuracy of the data interpretations. Third, the researcher sought to ensure conceptual consistency among the themes through constant comparison of the data and repeated revisions of the coding process.

In the present study, the method proposed by Yvonna Lincoln and Egon Guba (1980) was employed to examine the validity of the research. This method is based on four criteria, namely transferability, credibility, dependability, and confirmability, and was used to confirm the validity of the research instrument.

Table 1. Research Validity Based on the Lincoln and Guba (1980) Method

Criterion	Process
Transferability	Obtaining opinions from experts who did not participate in the present study
Credibility	Allocating sufficient time for the research and confirming interview data by the interviewees
Confirmability	Documentation and observance of all research procedures and records throughout the research process
Dependability	Recording all details and documenting all items during the interview stage

In order to evaluate the reliability of the study, two individuals who were external to the research topic were asked, after receiving the necessary explanations and training, to code five interview transcripts so that the reliability level could be measured and compared.

Table 2. Research Reliability Using the Intercoeder Agreement Method

Interview	Number of Extracted Codes	Number of Agreements	Percentage of Agreement or Reliability
Interview 1	43	37	86.05%
Interview 4	51	42	82.4%
Interview 5	37	30	81.1%
Interview 9	34	25	73.53%
Interview 11	28	23	82.1%

As shown in the above table, the intercoder agreement level for the five interviews exceeded 70%, indicating acceptable reliability for the conducted interviews and the codes extracted by the researcher. In order to extract the variables required for the research model in addressing the experts' professional issues, multiple methods can be employed. These methods may be classified in various ways. In the present study, the direct method was utilized. Following the interviews, and for the purpose of understanding and extracting the required research variables, the concepts were initially subjected to open coding, subsequently categorized, and finally axial coding was conducted

to extract the research model. By examining the interview data, the extraction of additional concepts was performed in the same manner. This process is fully illustrated in the following table.

Table 4. Open Coding Process of Expert Interviews

Subcomponents	Main Component
Data quality, data integration, data accessibility, data preprocessing, cloud storage, data connectivity	Accounting Data and Information
Appropriate algorithm selection, interpretability, continuous model improvement, supervised and unsupervised algorithms	Machine Learning Models and Algorithms
Integration with existing systems, simple user interface design, processing speed, process automation, scalability	Intelligent Accounting Systems
Protection of sensitive information, data encryption, access management, error identification and correction, cybersecurity	Risk Management and Data Security
Trend analysis, financial flow forecasting, scenario simulation, improvement of strategic decision-making	Decision-Making and Predictive Analysis
Compliance with accounting standards, data protection regulations, implementation of financial transparency policies, compliance monitoring	Regulatory and Legal Compliance
Employee training, increasing organizational awareness, overcoming resistance to change, transformation of traditional structures	Artificial Intelligence Adoption and Cultural Development

As shown in the above table, 35 sub-themes and 7 main themes were identified from the interviews.

The data collection process continued until the researcher reached the point of saturation within the data, meaning that the concepts related to the phenomenon under study, as expressed by different interviewees, became repetitive and no new information was added to the model. The following table demonstrates how this criterion was achieved in the present study.

Table 5. Achievement of Theoretical Saturation

Interview	Frequency of Open Codes	Number of Concepts	Completion of Previous Concepts	Emergence of New Categories	Completion of Previous Categories
Accounting Data and Information	83	45	–	11	–
Machine Learning Models and Algorithms	62	61	16	3	2
Intelligent Accounting Systems	69	67	6	3	1
Risk Management and Data Security	48	69	2	2	5
Decision-Making and Predictive Analysis	48	57	1	3	–
Regulatory and Legal Compliance	37	54	–	2	3
Artificial Intelligence Adoption and Cultural Development	36	59	2	3	2

Subsequently, the thematic network of the study was developed.

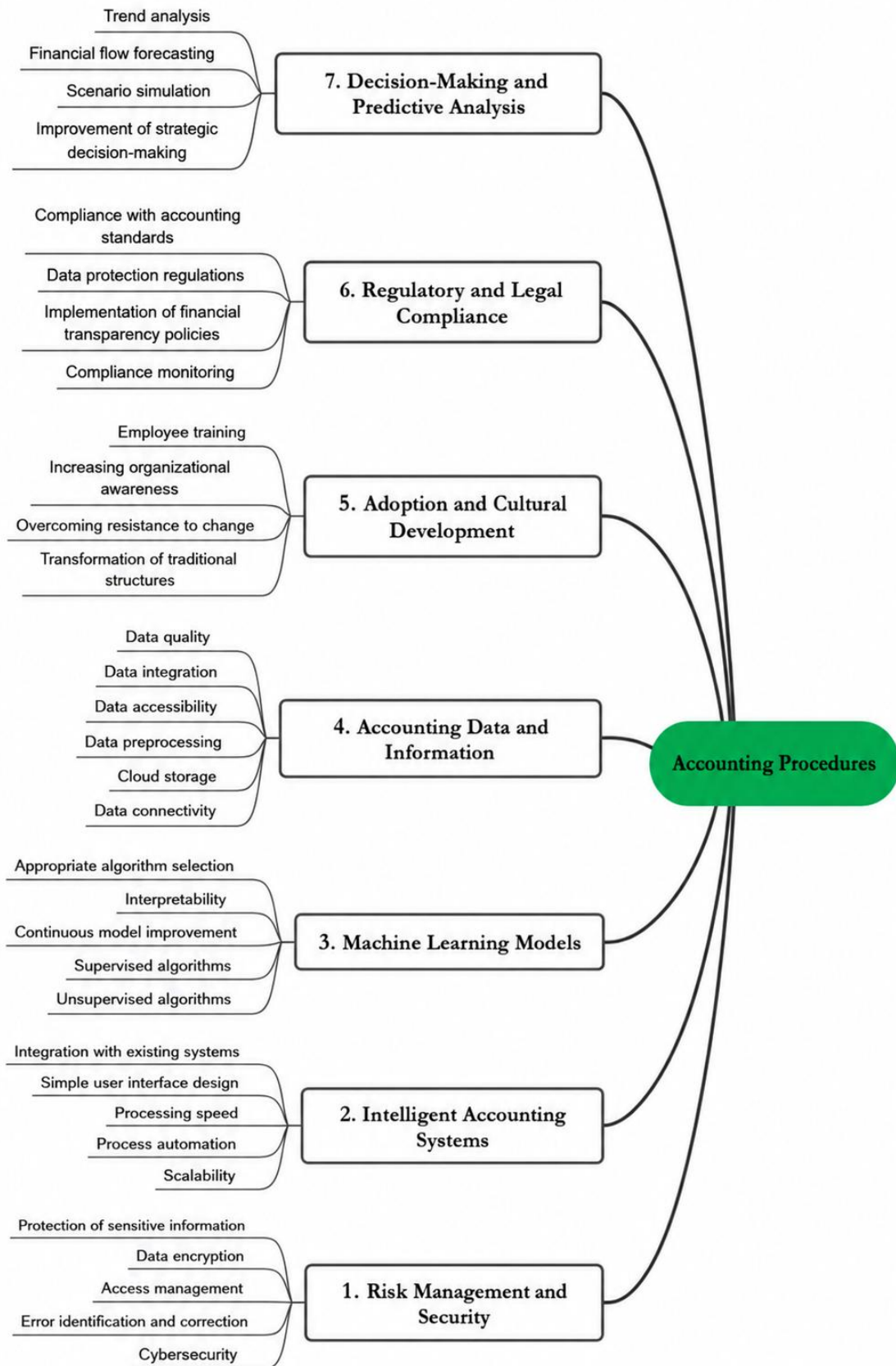


Figure 1. Research Thematic Network

Finally, through the integration of the identified themes and examination of the relationships among them, the conceptual framework of the artificial intelligence model based on accounting procedures was developed. This model demonstrates that the application of artificial intelligence in accounting is influenced by a set of contextual and causal factors, while certain intervening factors may facilitate or constrain its implementation process. In this regard, the adoption of appropriate organizational and technological strategies plays a significant role in managing challenges and achieving outcomes such as enhanced quality of financial reporting, improved managerial decision-making, and increased efficiency of financial processes.

Discussion and Conclusion

The findings of the present study demonstrated that the artificial intelligence model based on accounting procedures is formed through a multidimensional and interconnected structure consisting of technological infrastructures, accounting data and information, machine learning models and algorithms, intelligent accounting systems, organizational acceptance and cultural development, regulatory and legal compliance, and predictive decision-making mechanisms. The results indicated that these components do not operate independently; rather, they interact dynamically and continuously with one another in shaping the successful implementation of artificial intelligence within accounting procedures. In particular, the findings revealed that technological infrastructure and accounting data quality serve as foundational dimensions that facilitate the effective application of artificial intelligence in financial and accounting systems. This finding is consistent with the studies emphasizing that data integration, data quality, and intelligent digital infrastructures constitute essential prerequisites for AI adoption in accounting environments (4, 5). Similarly, Abbas highlighted that intelligent accounting systems rely fundamentally on reliable financial databases and integrated information structures in order to generate meaningful analytical outputs and accurate financial reports (2).

Another important finding of the study concerned the central role of machine learning models and analytical algorithms in enhancing accounting efficiency and improving financial decision-making. The identified themes demonstrated that supervised and unsupervised learning algorithms, predictive analytics, and continuous model improvement contribute substantially to the automation and optimization of accounting processes. These findings align with previous studies indicating that AI-based analytical systems improve forecasting accuracy, anomaly detection, financial risk assessment, and auditing quality (6, 14). Cao et al. reported that machine learning algorithms significantly enhance the efficiency of financial accounting and auditing procedures by reducing computational errors and accelerating data processing capabilities (5). Likewise, Saadati et al. argued that AI technologies facilitate strategic management accounting through predictive modeling and intelligent financial analysis (3). The findings of the present study therefore reinforce the argument that AI-driven analytical capabilities are among the most influential mechanisms transforming traditional accounting systems into intelligent and adaptive financial management structures.

The results further demonstrated that intelligent accounting systems play a critical role in integrating AI technologies into existing financial and organizational infrastructures. Components such as scalability, process automation, integration with existing systems, and user-friendly interface design were identified as key dimensions facilitating the successful implementation of AI-based accounting procedures. This finding is supported by previous studies emphasizing that the effectiveness of AI technologies depends largely on their compatibility with organizational systems and operational processes (9, 10). Mirzaei similarly concluded that intelligent accounting

systems improve organizational productivity and financial transparency when they are properly aligned with existing managerial and accounting structures (1). Furthermore, Johri highlighted that AI technologies enhance the quality of accounting information systems by improving processing speed, information accuracy, and managerial accessibility to financial insights (4). Accordingly, the present findings indicate that intelligent accounting systems function not merely as technological tools but as strategic organizational mechanisms capable of transforming financial operations and accounting decision-making processes.

Another major finding of the study was related to the importance of organizational acceptance and cultural development in the implementation of AI technologies within accounting environments. The results indicated that employee training, organizational awareness, resistance management, and transformation of traditional structures significantly influence the successful adoption of artificial intelligence. This finding is highly consistent with the literature emphasizing the role of organizational culture and employee readiness in technology acceptance processes (20, 21). Abdallah et al. demonstrated that organizational support, managerial commitment, and employee trust significantly affect AI implementation in both public and private accounting sectors (20). Similarly, Abdo-Salloum and Al-Mousawi found that technological readiness and digital competence are among the most influential factors affecting accounting professionals' willingness to adopt AI systems (18). The findings also align with Ali Mohammadi's study, which emphasized that AI adoption contributes to improving organizational performance only when employees possess sufficient technological knowledge and adaptive capabilities (22). Therefore, the successful integration of AI into accounting procedures requires not only technological readiness but also cultural adaptation and continuous organizational learning.

The findings of the present study additionally revealed that regulatory and legal compliance constitutes a critical dimension in shaping AI-based accounting procedures. Themes such as compliance with accounting standards, data protection regulations, transparency policies, and compliance monitoring indicated that organizations must carefully balance technological innovation with legal and ethical responsibilities. This finding corresponds with the arguments presented by Nembe et al., who emphasized that AI technologies play an important role in enhancing financial regulation and tax compliance while simultaneously generating new ethical and regulatory challenges (17). Calado and Veloso similarly argued that AI implementation in accounting requires the establishment of transparent governance frameworks capable of ensuring accountability, ethical compliance, and stakeholder trust (10). The importance of compliance monitoring identified in the present study also supports the findings of Khalafi et al., who highlighted that AI-based security systems significantly influence customer trust and organizational legitimacy within financial services (16). Consequently, the present research confirms that legal and ethical considerations are fundamental components of intelligent accounting systems rather than secondary organizational concerns.

One of the most significant findings of this study concerned the role of predictive decision-making and analytical intelligence in enhancing accounting and financial management processes. The results showed that trend analysis, financial flow forecasting, scenario simulation, and strategic decision-making improvement are among the major consequences of implementing AI technologies in accounting procedures. These findings are highly compatible with previous research emphasizing the predictive and analytical capacities of AI systems in financial management (14, 15). Darabi and Dolatshahi concluded that artificial intelligence significantly improves budgeting optimization and forecasting accuracy in management accounting through advanced predictive algorithms (14). Likewise, Najari demonstrated that AI technologies improve financial cost analysis by identifying hidden patterns and complex relationships within accounting data (15). The present findings therefore support the perspective that AI systems

are transforming accounting from a reactive information-recording function into a proactive strategic decision-support mechanism.

The study also identified data security and cybersecurity as major concerns associated with AI implementation in accounting systems. The findings revealed that organizations increasingly recognize the importance of protecting sensitive financial information, implementing access management systems, encrypting financial data, and detecting operational errors in AI-based accounting environments. These findings are consistent with prior studies emphasizing the relationship between AI technologies and cybersecurity management in financial systems (4, 16). Khalafi et al. argued that AI-driven security mechanisms improve customer trust and organizational reliability within banking and financial services by reducing information security risks (16). Similarly, Sheikh reported that user trust in accounting systems mediates the relationship between AI implementation and financial reporting quality (7). This suggests that organizations must establish secure technological infrastructures and trustworthy accounting systems in order to maximize the benefits of AI implementation.

Another notable aspect of the findings was the interconnected nature of the identified themes. The study demonstrated that the implementation of AI in accounting procedures is not a linear process but rather a dynamic interaction among technological, organizational, professional, regulatory, and analytical dimensions. This finding supports the conceptual perspective proposed by Saadati et al., who argued that AI implementation in accounting requires a strategy-oriented and integrated approach involving technological innovation, organizational adaptation, and managerial alignment (3). Abbas also emphasized that the future development of AI in accounting depends on the interaction among professional knowledge, intelligent systems, data quality, and ethical governance structures (2). Therefore, the present study contributes to the existing literature by providing a comprehensive conceptual framework capable of explaining the multidimensional relationships shaping AI-based accounting procedures.

The results further suggest that AI implementation may significantly improve the quality of financial reporting, organizational transparency, and managerial effectiveness. The identified themes demonstrated that intelligent accounting systems can facilitate faster processing of accounting information, reduce operational inefficiencies, improve financial reporting accuracy, and enhance strategic decision-making capabilities. These findings are consistent with studies investigating the relationship between AI technologies and reporting quality (7, 11). Armon Manesh and Pourkhorshid concluded that the use of AI in auditing positively influences financial reporting quality, particularly when supported by experienced auditors (11). Similarly, Saghafi and Parsapour demonstrated that AI-based accounting data analysis improves the quality of digital sustainability reporting through advanced analytical and control systems (8). Consequently, the present findings indicate that AI technologies possess substantial potential to improve organizational accountability, transparency, and financial reliability.

Overall, the findings of the present study indicate that artificial intelligence is fundamentally reshaping accounting procedures by integrating intelligent technologies into financial management, auditing, data analysis, regulatory compliance, and strategic decision-making processes. The study highlights that successful AI implementation requires a combination of technological readiness, organizational support, professional competence, secure data infrastructures, and regulatory alignment. Furthermore, the identified conceptual relationships demonstrate that AI adoption in accounting is a multidimensional phenomenon influenced by continuous interactions among contextual, causal, organizational, and strategic factors. The present research therefore contributes to the development of a comprehensive conceptual understanding of AI-based accounting systems and provides valuable insights for future empirical and applied investigations in this field.

One of the limitations of the present study relates to the qualitative nature of the research design and the limited number of expert participants involved in the interviews. Although the use of qualitative methods enabled an in-depth exploration of the conceptual dimensions and relationships associated with artificial intelligence in accounting procedures, the findings may not be fully generalizable to all organizational and industrial contexts. In addition, the perspectives presented by the experts may have been influenced by their professional backgrounds and experiences, which could limit the diversity of viewpoints represented in the study. Another limitation concerns the rapidly evolving nature of artificial intelligence technologies, as ongoing technological developments may alter some of the identified dimensions and relationships over time.

Future research can expand the findings of the present study by employing quantitative and mixed-method approaches to empirically examine the relationships identified in the conceptual model. Researchers may also investigate the role of organizational size, industry characteristics, and managerial structures in influencing AI adoption within accounting systems. Comparative studies across different countries, economic sectors, and regulatory environments could provide a broader understanding of how contextual factors shape AI implementation in accounting practices. Furthermore, future studies may focus on developing standardized measurement instruments for evaluating AI readiness, technological competence, and organizational acceptance in accounting environments.

From a practical perspective, organizations seeking to implement artificial intelligence in accounting procedures should prioritize the development of integrated technological infrastructures, secure financial data systems, and employee training programs. Managers and policymakers should also establish clear governance mechanisms and ethical guidelines to ensure transparency, accountability, and legal compliance in AI-driven accounting systems. Accounting professionals should continuously enhance their digital competencies and analytical skills in order to effectively interact with intelligent technologies and adapt to evolving organizational requirements. Additionally, organizations should adopt comprehensive change management strategies that reduce employee resistance, promote technological awareness, and facilitate the successful integration of AI technologies into accounting and financial management processes.

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Authors' Contributions

All authors equally contributed to this study.

Declaration of Interest

The authors of this article declared no conflict of interest.

Ethical Considerations

All ethical principles were adhered in conducting and writing this article.

Transparency of Data

In accordance with the principles of transparency and open research, we declare that all data and materials used in this study are available upon request.

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