



## **From Human Judgment to Machine Learning: A Philosophical Study of Knowledge Creation in Modern Accounting**

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**Abstract**

**Background:** The integration of artificial intelligence (AI) and machine learning into accounting and auditing has transformed the creation, validation, and application of professional knowledge, raising questions about the legitimacy of algorithmic knowledge in accounting practice.

**Objective:** This study examines the epistemological shift from human judgment to algorithmic knowledge in the implementation of Financial Accounting Standards (*Standar Akuntansi Keuangan* [SAK]) and Quality Management Systems (*Sistem Manajemen Mutu* [SMM]).

**Methods:** This study employs a qualitative-interpretive approach through conceptual analysis and an examination of practitioners' perspectives on the reliability, transparency, explainability, and trustworthiness of AI-assisted decision-making.

**Results:** The results of the study show that AI can improve efficiency, predictive accuracy, and analytical capabilities in modern accounting practices but, at the same time, poses epistemological challenges in the form of limited algorithmic transparency, limited explainability, and the potential erosion of auditors' professional skepticism. Although the conceptual analysis indicates that AI can positively affect efficiency and predictive accuracy, it also raises epistemic challenges related to transparency, accountability, and the preservation of professional skepticism. The shift from judgment-based knowledge to data-driven inferential knowledge has transformed the traditional epistemic authority held by accountants and auditors. The application of SAK and SMM in the accounting profession has implications for defining professional responsibilities in maintaining the quality of financial reporting and audit processes.

**Conclusion:** This study proposes a human-machine epistemic partnership, in which AI functions as an analytical augmentation tool while accountants and auditors remain the primary epistemic authorities.

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## **INTRODUCTION**

The development of artificial intelligence (AI) technology has significantly transformed accounting and auditing practices (Abdo-Salloum & Chehade, 2026; Leocádio et al., 2024; Peng et al., 2023). Machine learning systems can analyze data, determining risk, and detecting fraud with a level of predictive accuracy that can exceed human capabilities. However, this transformation goes beyond mere technical changes, as it extends into a fundamental philosophical dimension,

particularly concerning how accounting knowledge is created and validated.

The development of artificial intelligence (AI) in accounting practice and research raises fundamental questions about the nature of the knowledge generated by this technology (Kommunuri, 2022; Losbichler & Lehner, 2021; Stratopoulos & Wang, 2025). From the perspective of the philosophy of science, knowledge is not merely a collection of facts but is formed through the interrelationship between reality—the object of knowledge (ontology)—the processes and methods of acquiring and validating knowledge (epistemology)—and the values and goals that underlie its use (axiology). Therefore, the use of AI to generate accounting information and analysis needs to be examined not only in terms of its computational capabilities but also in terms of the nature of the knowledge it produces. The main question that then arises is whether AI outputs can be categorized as legitimate accounting knowledge or are merely computational representations that have not yet demonstrated a substantive understanding of accounting reality.

This study aims to analyze the shift from human judgment to machine learning in accounting from ontological, epistemological, and axiological perspectives, as well as to synthesize the ideas of Popper, representing critical rationalism, Kuhn, and Polanyi in discussing the philosophical implications of this shift.

The literature on the application of artificial intelligence in accounting and auditing generally shows that AI can improve efficiency, accuracy, and predictive capabilities in the processing of financial data. Studies such as Kokina et al. (2025) and Vasarhelyi (1988) affirm the potential of AI to strengthen audit functions through automation, continuous auditing, and advanced analytics. Other research, such as Trehu et al. (2023) and Leitner-Hanetseder et al. (2021), raises issues concerning transparency, accountability, and the risk of overreliance on algorithmic systems. This distinction suggests a growing debate between a technocratic perspective that views AI as a tool for enhancing audit quality and a critical perspective that highlights the epistemological and ethical implications of using such technology.

Nevertheless, most existing research still focuses on technical and functional aspects, such as improving efficiency, technology adoption, and the impact of AI on audit performance. Research on this topic remains limited in explicitly associating AI with the philosophy of science, particularly with the dimensions of ontology, epistemology, and axiology in the context of accounting. Existing research tends to assume that AI outputs can be accepted as a valid form of knowledge without questioning the epistemic status of such algorithmic results, especially under conditions of black-box decision-making and limited explainability.

There is a significant research gap, namely the lack of studies critically evaluating how AI changes accounting knowledge itself, rather than merely changing how such knowledge is processed. This research seeks to fill this gap by developing a philosophical approach that integrates the ideas of Popper, representing critical rationalism, Kuhn, and Polanyi to understand epistemological transformations in modern accounting. It is hoped that the main contribution of this research will lie in efforts to reconstruct the accounting conceptual framework from a data-based information system into a knowledge system that involves complex interactions among humans, technology, and professional values.

## METHOD

This research was based on the ontological assumption that accounting reality was not a completely neutral objective fact but a reality constructed through the interaction among accounting standards, professional judgment, and AI-based algorithmic systems. Knowledge in this study was understood as the result of interpreting philosophical narratives, professional practices, and epistemic relationships between humans and technology. This research placed integrity, accountability, and professional legitimacy as key values in evaluating the use of AI in accounting.

This study used a qualitative-interpretive approach with a conceptual inquiry design. The interpretive approach was used because this study focused on understanding meaning and epistemological changes in modern accounting practice rather than on quantitatively testing causal relationships. Conceptual inquiry was conducted through the identification, analysis, and synthesis of key concepts concerning AI, epistemology, and accounting to develop a theoretical

framework regarding human-machine epistemic partnership.

This design was chosen because the main focus of the research was not on empirical measurement but on developing an in-depth understanding of epistemological changes in accounting practices resulting from the adoption of artificial intelligence (AI). This qualitative-interpretive conceptual inquiry enabled the exploration of meaning, perception, and cognitive dynamics between human judgment and algorithmic decision-making that arose in the context of the implementation of SAK and the Quality Management System (SMM).

The specific research context was the practice of creating accounting knowledge through human-machine interaction in professional environments, particularly Public Accounting Firms (KAP) and companies that implemented SAK. The unit of analysis was not an individual or organization in an empirical sense but an epistemological construction that arose from the interaction among human judgment, artificial intelligence, and modern accounting practices. The analysis focused on the ontological, epistemological, and axiological dimensions of the use of AI in accounting practice, particularly in relation to the legitimacy of algorithmically generated knowledge and the transformation of professional judgment. This research operated at the epistemic and professional levels, examining how AI influenced the structure of knowledge, professional authority, and decision-making practices among accountants.

The Indonesian context was chosen because there remained limited philosophical research on the application of AI in the accounting sector, which operated under the regulatory frameworks of the Financial Services Authority (OJK) and the Indonesian Institute of Accountants (IAI). Indonesia provided an important context because the digital transformation of accounting was developing alongside the adaptation of SAK, the implementation of OJK regulations, and the accounting profession's readiness for AI adoption, which was still relatively new.

The context of AI use in this study included the application of machine learning to fraud detection, continuous auditing, predictive risk analytics, and automated anomaly detection in auditing and financial reporting processes. Public Accounting Firms constituted the primary context because auditing was among the areas in which AI was being used intensively while also relying heavily on professional skepticism and human judgment.

The research data were conceptual and were obtained from primary literature selected according to clearly defined inclusion and exclusion criteria concerning the philosophy of science, epistemology, and AI ethics, as well as from secondary literature consisting of scientific articles, professional standards, and AI-related publications in accounting. The literature was selected based on its relevance to AI in accounting, epistemology, the philosophy of technology, and modern auditing, with priority given to internationally reputable journals and seminal philosophical works.

Research data were obtained through two approaches: 1) A review of the conceptual literature that drew on critical engagement with the epistemological literature, the philosophy of technology, recent research on AI in accounting, and a synthesis of the thought of Popper (2005), representing critical rationalism, Kuhn (1970) in the context of modern accounting practice. 2) Elaboration of the conceptual framework through critical analysis of arguments in the literature and synthesis of the perspectives of academics, senior auditors, and regulators documented in previous studies concerning the reliability, explainability, and trustworthiness of AI-generated results.

The data collection technique was conducted through documentary analysis and a systematic literature review by extracting the main concepts related to AI, epistemology, professional judgment, and the legitimacy of knowledge. The main concepts were extracted through an in-depth reading of the literature and then categorized into the themes of ontology, epistemology, axiology, and the transformation of professional judgment. Conceptual validity was strengthened through theoretical triangulation by comparing the perspectives of Popper, representing critical rationalism, Kuhn, Polanyi, pragmatism, and AI epistemology.

The analysis was conducted using a thematic hermeneutic method, which interpreted the meanings of narratives and literature to identify new conceptual structures. The analysis employed a hermeneutic circle, which involved understanding parts of a text through its broader philosophical context and understanding the whole through the interpretation of its constituent concepts. The analysis was then focused on the philosophical framework employed; the

epistemological, ontological, and axiological dimensions of AI; the views of various philosophers; the future position of AI in accounting; and how theoretical and research contributions in accounting might change in the age of AI. The results of the analysis were mapped into a conceptual model illustrating the relationships among AI adoption, reliability, explainability, trustworthiness, and the quality of accounting knowledge. A philosophical approach was necessary because the transformation brought about by AI in accounting was concerned not only with technical efficiency but also with the legitimacy of knowledge, epistemic authority, and professional responsibility. Because this research was conceptual in nature, it did not empirically test the implementation of AI in actual audit practice.

## RESULTS AND DISCUSSION

### Results

#### *Philosophical Framework*

There are three philosophical perspectives that can serve as basic frameworks for analyzing how AI operates within the paradigm of the human perspective. The first is the positivist perspective, which focuses on objective and measurable knowledge, with an emphasis on empirical observation and causal relationships. AI can generally be understood as operating within this paradigm, as it relies heavily on data, prediction, and empirical correlations. However, this approach may overlook the contextual, ethical, and moral judgments that are also necessary in accounting, auditing, and taxation practices (Angelina et al., 2025; Firdaus, 2026; Jones & Free, 2026).

Second is the interpretivist perspective, which views knowledge as the result of human interpretation of social reality. This perspective is relevant to auditor professionalism, which relies on professional judgment and experience, although such judgment may be subject to subjective bias and limitations in efficiency when dealing with large-scale datasets.

The third perspective is pragmatism, which evaluates knowledge based on what works in practice, its practical benefits, and its consequences in real-world contexts. This perspective supports the synergy between human and AI collaboration for achieving the greatest benefits in the implementation of *Standar Akuntansi Keuangan* (SAK) and *Sistem Manajemen Mutu* (SMM), where efficiency must be combined with professional legitimacy (Nur et al., 2025). Epistemological tensions arise when AI grounded in positivist assumptions encounters accounting practices that rely heavily on professional interpretation. Therefore, pragmatism can be positioned as a synthesis paradigm that enables the integration of algorithmic efficiency and professional legitimacy. From a pragmatic perspective, the legitimacy of AI is not determined solely by statistical accuracy but also by the extent to which it can improve the quality of professional judgment and the integrity of financial reporting.

AI cannot be viewed as a completely neutral system because algorithms are built on data structures, mathematical assumptions, and particular institutional interests. From a Heideggerian perspective, AI is not merely an audit tool but also shapes the way the accounting profession understands reality through algorithmic calculations and predictions. Although AI is capable of generating complex inferences, it lacks the intentionality and substantive understanding characteristic of human beings. Thus, algorithmic output is more precisely understood as a simulation or computational representation of knowledge rather than as reflective knowledge. The digital transformation of accounting demonstrates that no single paradigm can fully explain the relationship between humans and AI. Therefore, a hybrid epistemology that integrates algorithmic rationality with human interpretation is needed.

#### *Accounting Ontology in the Age of AI*

Ontology in the philosophy of science is concerned with the nature of reality, existence, and what is considered real within a particular discipline. In the philosophy of science, ontology addresses the nature of the reality investigated by a field of knowledge. In accounting, a central ontological question is whether accounting numbers represent an objective economic reality or whether they are social constructs influenced by human standards, regulations, and interpretations (Oktavita et al., 2026). The integration of AI expands the ontological debate in accounting beyond the traditional opposition between realism and social constructivism toward

an understanding of accounting reality as a hybrid reality shaped through human interaction, accounting standards, and algorithmic systems.

With the emergence of AI technology in the business world, functions and practices within the accounting profession are undergoing fundamental changes. Accounting professions and practices are increasingly influenced by algorithms, and these changes arise from the expanding role of AI technology in processing data, generating analyses, and producing outputs. AI is becoming a partner in accounting practices. Therefore, within the accounting discipline, algorithmic outputs cannot be understood solely in relation to economic phenomena. The algorithmic approach in accounting creates what can be termed an “algorithmic reality.” Algorithmic reality in accounting is constructed not only from economic transactions but also from predefined parameters, mathematical models, and computational representations embedded within AI systems. In the age of AI, accounting reality no longer derives entirely from actual economic transactions but also from algorithmic classifications, predictions, and inferences that shape how organizations understand risk, materiality, and the fair presentation of financial statements. This implies that accounting reality becomes a semi-constructed reality, meaning that accounting does not represent a purely objective reality of facts but is also influenced by the judgments of accountants and managers in applying standards. Another implication is that AI plays a role as a co-creator of accounting reality, functioning as a tool that analyzes, interprets, and calculates accounting information and thereby contributes to the construction of accounting representations.

From a postmodern perspective, AI output can be understood as a form of simulacrum, that is, a computational representation that may gradually become a substitute for direct reference to economic reality in decision-making. From a Heideggerian perspective, AI is not merely a technical tool but also a mode of revealing reality that frames accounting as a system of calculation and prediction.

AI shifts accounting ontology from a system primarily concerned with representing historical transactions toward a predictive system based on data and probability. These ontological changes suggest that modern accounting no longer serves only as a representation of past economic conditions but also functions as a predictive system that shapes future expectations and decisions.

### ***The Axiology of AI in Accounting***

Axiology in the philosophy of science addresses the values, goals, benefits, and moral implications associated with the use of knowledge. In the context of AI in accounting, axiology raises questions about whether the use of AI truly supports integrity, fairness, transparency, and professional responsibility in accounting practice. Axiologically, accounting practice aims not only to produce financial information but also to maintain public accountability, market trust, and the social legitimacy of organizations.

From a philosophical point of view, AI technology in the accounting discipline involves not only efficiency and accuracy but also questions of value, social impact, and professional responsibility. The implementation of AI in the accounting profession, particularly through technologies integrated with algorithms and machine learning, raises numerous ethical issues. These issues are especially related to algorithmic bias and fairness, as machine learning models have the potential to replicate or even reinforce biases contained in historical data ([Mittelstadt et al., 2016](#)). This can lead to distortions in accounting decision-making, particularly in the contexts of auditing, risk assessment, and financial reporting.

In addition, the phenomenon known as the responsibility gap arises when decisions are made by complex and difficult-to-explain algorithmic systems, often referred to as “black-box” systems ([Floridi et al., 2018](#)). Under such conditions, questions arise regarding whether responsibility should rest with the system developer, the user (auditor or accountant), or the organization that adopts the technology. This problem is even more complex because AI does not possess the awareness, intentions, or moral capacity characteristic of human beings.

This confirms that AI does not possess moral agency, and therefore responsibility ultimately remains with humans ([Muarifin, 2024](#)). In the context of the accounting profession, this means that auditors and accountants remain responsible for the decisions they make, including

decisions supported by AI systems. Therefore, the integration of AI into accounting must be accompanied by a strong ethical framework, appropriate professional oversight, and reinforcement of the principle of professional skepticism to ensure that the use of technology does not compromise the integrity, transparency, and accountability of modern accounting practices. The greater the complexity of an AI system, the more difficult it may become to determine the locus of responsibility when an audit error or distortion in financial reporting occurs.

### ***Epistemology of AI and Knowledge Creation***

This research introduces the concept of algorithmic knowledge, understood as knowledge generated through data inference and machine learning (Kitchin, 2017). A central problem arises from the black-box decision-making problem, in which the mechanism underlying an algorithmic decision is difficult to explain transparently. In SAK and auditing practice, this condition presents a challenge because the principles of accountability and audit trails require sufficient transparency regarding the processes underlying audit evidence and conclusions. Thus, the quality of accounting knowledge increasingly depends on balancing explainability and accuracy rather than pursuing technical efficiency alone.

### ***Integration of Popper's Critical Rationalism, Kuhn's Paradigm Theory, and Polanyi's Perspective in AI Accounting***

From the perspective of the philosophy of science, the transformation of accounting resulting from the adoption of artificial intelligence can be understood through the ideas of Karl Popper, Thomas Kuhn, and Michael Polanyi. From Popper's perspective of critical rationalism, scientific knowledge is provisional and subject to critical testing, with falsifiability serving as a key criterion for distinguishing scientific claims. However, in the context of AI, particularly black-box machine learning, decision-making processes may be nontransparent and difficult to reconstruct logically. This poses an epistemological challenge because algorithmic outputs cannot always be independently examined, tested, and verified in the same manner as conventional scientific claims. Consequently, the epistemic legitimacy of AI-generated knowledge raises questions concerning its compatibility with classical standards of scientific inquiry.

Kuhn's view of the adoption of AI in accounting can be understood in terms of a potential paradigm shift in the fundamental ways in which knowledge is generated and validated. Whereas accounting as a human activity involves professional judgment and experience, there is an increasing shift toward algorithmic decision-making based on data and predictive models. Such shifts are not merely technical; they are also epistemic because they alter structures of belief, methods of evaluation, and standards of legitimacy that have traditionally informed accounting practice. In this context, AI goes beyond functioning merely as a tool and becomes part of a broader transformation in the epistemic paradigm of the accounting discipline.

On the other hand, Polanyi's perspective emphasizes tacit knowledge, which is informal, experiential, and cannot be fully articulated or codified. Tacit knowledge is essential in accounting and auditing practice and is important in shaping professional judgment and professional skepticism. AI systems are primarily limited to operating on explicit knowledge represented in data and computational models (Sudarmanto, 2026). Therefore, they cannot fully replicate the tacit dimensions of professional knowledge and judgment.

By integrating these three perspectives, it can be concluded that the use of AI in accounting presents a profound philosophical challenge. Although AI enhances efficiency and analytical capabilities, its use also raises questions about traditional criteria for establishing and validating knowledge, as reflected in Popper's critical rationalism; contributes to changes in the paradigm of knowledge, as described by Kuhn; and remains limited in capturing the tacit dimension of knowledge emphasized by Polanyi. Therefore, the use of AI in accounting should not be understood as a substitute for human knowledge but rather as a complement to it, operating within a more reflective and critical epistemological framework.

### ***The Position of AI in the Field of Future Accounting***

This research takes the position that artificial intelligence cannot be treated as a complete substitute for professional judgment in accounting but rather as a complementary tool in the

decision-making process. Although AI can produce highly accurate outputs through large-scale data processing, such accuracy does not necessarily make those outputs legitimate accounting knowledge in an epistemological sense. AI primarily generates probabilistic inferences based on historical patterns without possessing substantive understanding of the economic context, managerial intentions, or ethical implications of a transaction.

Thus, this study challenges the implicit assumptions in technocratic literature that equate algorithmic results with professional knowledge. Instead, the study argues that there is a fundamental difference between “knowing that” (data-based declarative knowledge) and “knowing how” (experience-based practical knowledge), which cannot be fully reduced to a machine learning model (Ryle, 1949). In this context, overreliance on AI has the potential to produce epistemic overreliance, whereby accountants lose some of their critical capacity and tend to accept system outputs without sufficient reflective evaluation (Murikah et al., 2024).

This study emphasizes that the legitimacy of accounting knowledge in the digital era cannot be determined solely by statistical accuracy but must also include the dimensions of explainability, accountability, and professional justification. Therefore, the proposed theoretical position is that AI should be placed within a framework of human-machine epistemic partnership, in which humans remain the primary holders of epistemic authority while AI serves as a tool for analytical augmentation. Without such a repositioning, accounting risks being reduced from a discipline grounded in professional judgment to a predominantly data-driven computational system.

### ***Theoretical Contributions and Accounting Research in the Age of AI***

This section formulates the main theoretical contribution by proposing that AI systems should be understood through integrated ontological, epistemological, and axiological frameworks and presents a series of propositions that can serve as a basis for future empirical testing. The theoretical contributions that can be developed include the following: (1) Hybrid Epistemology of AI-Accounting, this study proposes a hybrid epistemological framework that combines human judgment and algorithmic decision-making in the creation of accounting knowledge. This framework rejects the traditional dichotomy between objective knowledge (positivism) and interpretive knowledge (interpretivism) and instead adopts a pragmatic approach that assesses the validity of knowledge based on its practical functioning and professional legitimacy in the context of SAK and SMM. (2) The Concept of Algorithmic Knowledge in Accounting, this study develops the discourse of accounting epistemology by introducing the concept of algorithmic knowledge, understood as knowledge generated through data inference and machine learning, including under black-box conditions. This concept suggests that contemporary accounting knowledge is no longer based solely on representations of economic transactions but is also a computational construct shaped by historical models, parameters, and data. (3) Human-Machine Epistemic Partnership, this research develops the idea of a human-machine epistemic partnership, in which accountants and AI systems function as *co-producers* of knowledge. This perspective shifts the view of AI from that of a mere technical tool toward that of an epistemic system that influences authority structures, *professional skepticism*, and professional assessment processes, especially in the application of SAK and SMM.

### ***Theoretical Implications***

#### **A Reconstruction of the Epistemology of Accounting**

This research makes an important contribution to the development of accounting theory through the introduction of the concept of algorithmic knowledge as a new form of knowledge resulting from the interaction between humans and artificial intelligence. Traditionally, accounting theory has been based more heavily on the assumption that professional knowledge emerges from human experience, observation, and judgment. However, the findings of this study show that machine learning systems are able to produce patterns, predictions, and recommendations that can influence the accounting decision-making process. Therefore, this study expands the epistemological understanding of accounting from a human-centered approach toward a hybrid epistemology in which AI plays a role as a co-producer of knowledge. This contribution is significant because it offers a new conceptual foundation for explaining how

accounting knowledge is constructed in an era of digital transformation.

### Contribution to the Philosophy of Accounting

This research also enriches the study of accounting philosophy by positioning pragmatism as a relevant paradigm for addressing the development of AI-based technology. Historically, philosophical debates in accounting have often been framed by a dichotomy between objectivism, which emphasizes facts and measurement, and subjectivism, which emphasizes social interpretation and context. The research findings suggest that the use of AI demands a more flexible approach, namely, assessing the validity of knowledge based on its practical benefits and effectiveness in supporting decision-making. Thus, this research strengthens the argument that pragmatism can serve as a bridge between these perspectives, providing a more adaptive philosophical approach to changes in the business and technological environment.

### Integration of Global Standards and Local Contexts

This research shows that the implementation of AI technology in accounting cannot be separated from the regulatory context and professional culture surrounding it. By integrating Financial Accounting Standards (*Standar Akuntansi Keuangan* or *SAK*) and Quality Management Systems (*Sistem Manajemen Mutu* or *SMM*) into an epistemological framework, this research provides a more comprehensive understanding of the relationship between global standards and local practices. Theoretically, these findings confirm that the formation of accounting knowledge is influenced not only by international technology and regulations but also by ethical values, organizational culture, and the level of professional readiness to adopt innovation. Therefore, this research contributes to the development of accounting theories that are more contextual and capable of explaining the dynamics of AI application across different institutional environments.

### **Practical Implications**

#### For Regulators and Standard-Setters

The results of this study provide a conceptual basis for regulators and standard-setters, such as *Otoritas Jasa Keuangan* (OJK) and the *Ikatan Akuntan Indonesia* (IAI), to formulate policies that are more responsive to the development of AI in accounting practices. The findings regarding the importance of algorithmic transparency and accountability indicate that the use of AI requires not only technical standards but also ethical guidelines capable of ensuring the reliability of AI-generated information. Therefore, regulators need to develop an AI governance framework addressing the clarity of algorithmic processes, data validity, and accountability mechanisms for decisions generated by AI-based systems. This step is important for maintaining public confidence in the quality of financial reporting and auditing in the digital era.

#### For Public Accounting Firms (*Kantor Akuntan Publik* or *KAP*)

This research indicates that the use of AI can increase the efficiency and effectiveness of the audit process but, at the same time, has the potential to cause overreliance on algorithmic outputs. Therefore, public accounting firms need to ensure that the use of AI-based audit tools remains within the framework of professional judgment and professional skepticism. The practical implication is the need for training programs that focus not only on the technical aspects of AI use but also on an epistemological understanding of how algorithms work, their limitations, and their potential biases. Thus, auditors can make optimal use of technology without losing the critical ability to evaluate audit evidence.

#### For Accounting Education

The findings of the study show that the competence of future accountants is no longer adequately developed by mastering only the principles of conventional accounting. The presence of AI has changed the way information is processed, analyzed, and used in professional decision-making. Therefore, higher education institutions need to adjust their curricula by including materials that integrate accounting, data analytics, machine learning, and the philosophy of knowledge. The development of courses such as AI Epistemology in Accounting or Machine Learning for Professional Judgment could be relevant for equipping students with the ability to

understand both the technical and conceptual aspects of AI use. This step is important for producing graduates who are able to adapt to the evolving needs of the accounting profession in the digital era.

For the Development of a Quality Management System (*Sistem Manajemen Mutu* or *SMM*)

This study confirms that the quality of accounting work involving AI is determined not only by user competence but also by the quality of the data and algorithms used. Therefore, the development of Quality Management Systems should be expanded to include knowledge-audit mechanisms that focus on the validity, traceability, and reliability of data processed by AI systems. Quality control is no longer sufficient if it is performed only on the final output; it must also include an evaluation of the algorithmic processes that generate the information.

### CONCLUSION

This research shows that the integration of AI into accounting is not only changing technical processes but also redefining the nature of knowledge itself. The shift from human judgment to machine learning creates significant ontological, epistemological, and axiological challenges. A pragmatic approach is needed to integrate the advantages of AI with human judgment and professional wisdom while maintaining the legitimacy and integrity of modern accounting.

Taking into account the philosophical framework, conceptual model, and results of interpretive analysis, this study confirms that the future of accounting depends on the profession's ability to integrate human intelligence and machine intelligence pragmatically. For *SAK* and *SMM*, the professional legitimacy of accountants depends not only on adherence to procedures but also on an epistemic balance among algorithmic transparency, professional ethics, and trust in AI systems. The assimilation of AI into accounting will not merely involve greater use of technology but rather a reconfiguration of the conceptual framework of accounting with respect to accounting interpretation and the production of accounting information. In the implementation of *SAK* and *SMM*, practical collaboration between humans and machines is essential for maintaining legitimacy, audit quality, and the integrity of financial statements. The final conclusion is that the future of accounting is not a conflict between humans and machines but rather a development toward a human-machine epistemic partnership.

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### AUTHOR CONTRIBUTION STATEMENT

Elsa Imelda, Ivan Kanel, Rousilita Suhendah, Abdul Hamid Habbe, and Gagaring Pagalung jointly contributed to the conceptualization of the study, literature review, philosophical interpretation, and synthesis of the findings. All authors participated in drafting, critically reviewing, and refining the manuscript, approved the final version, and accept responsibility for the integrity of the work.

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