Emerging Technologies in Finance Inclusion: A Theoretical Framework and Research Directions

Shehkar Rathor[1, *]

[1] *College of Business Administration, Sam Houston State University, Houston, US 77341*

** Corresponding Author: srathor@shsu.edu*

Received: December 3, 2024; Accepted: May 16, 2025; Available Online: June 30, 2025

Abstract

Financial inclusion concerns both access to formal financial services and their effective use. This conceptual article examines how blockchain, cloud computing, data analytics, artificial intelligence and the Internet of Things may change the accounting information that enterprises generate and share. It connects the technology-based accounting framework to a possible financial-inclusion pathway: more accessible, reliable and interoperable records may improve the information available to small businesses and financial service providers, subject to institutional and technological conditions. The inventory-accounting model illustrates the production and use of business information; it is not an empirical estimate of changes in access to credit or other financial services. The article identifies barriers involving digital connectivity, affordability, privacy, consent, data quality and unequal treatment, and proposes research on access, active use and service quality. The proposed relationships require empirical testing and should not be interpreted as evidence that a particular technology has improved financial inclusion.

Keywords: *Financial inclusion, accounting information systems, emerging technology, digital finance, small businesses*

ISSN: 3067-7491 © 2025 INATGI (Institute of Advanced Technology and Green Innovation)
See: https://inatgi.in/index.php/jbgi/index for more information. https://doi.org/10.63646/PRMK7404

Emerging Technologies in Finance Inclusion: A Theoretical Framework and Research Directions

1. Introduction

Digital technology and Industry 4.0 give birth to digital economy. Informatization and industrialization are being realized through implementing emerging technologies, such as blockchain, cloud computing, data analytics, AI (artificial intelligence), and IoT (Internet of Things). An accounting system could demonstrate the digitalization process and status quo of economics. Double-entry bookkeeping originated in Italy from the 12th to the 15th century. It established a financial reporting system, maintained stability for a long time, controlled the process of value appreciation, and reflected the actual situation of business in the unique term to accounting. Accounting has the characteristics of responding to and adapting to changes in the economic environment, and digital environment has promoted the integration and development of accounting and emerging technologies (Beaver, 1998).

Research on financial inclusion distinguishes account ownership from actual account use (Allen et al., 2016). Digital finance may improve access while also raising financial-stability and regulatory concerns (Ozili, 2018). These developments form part of the broader research agenda on digital finance and FinTech (Gomber et al., 2017). In this article the proposed link is indirect: a small enterprise may use digital records to document transactions and communicate financial information to a regulated provider. Whether this information leads to a suitable financial service depends on provider practices, affordability, consent, connectivity and other barriers; improved accounting alone does not establish inclusion.

Due to the backward process of bookkeeping, traditional accounting cannot reasonably apply important accounting principles, resulting in low quality of information and insufficient disclosure of non-financial information. It also has been widely questioned and criticized as forward-looking data and core resources and assets not being reflected. The two major functions of accounting are reflecting and controlling, and the means to achieve these functions is accounting information systems. Accounting performs delayed, vague, one-sided and ineffective information, due to it fails to obtain information in a timely, accurate, comprehensive, and effective manner. In the face of complex market environment, stakeholders such as institutions, investors, creditors and regulators are eager to obtain real-time, complete and forward-looking information. It is potential to employ emerging technologies to transform traditional accounting systems and to enhance value creation (Sinha, 2020; Petkov, 2020).

In the research, we present a new mode of accounting information system that is integrated with emerging technologies. The characteristics of the new accounting model are as follows:

(1) The measurement is diversified, integrating monetary and non-monetary measures to reflect value information and non-financial information. The connotation of accounting reflection has been expanded unimaginably, not only presenting the results of transactions and operations, but reproducing and transforming the processes. The function of accounting will not stay on reflection and control, and new functions such as prevention,

ISSN: 3067-7491 © 2025 INATGI (Institute of Advanced Technology and Green Innovation)
See: https://inatgi.in/index.php/jbgi/index for more information. https://doi.org/10.63646/PRMK7404

forecasting, and decision support will inevitably appear (Mancini et al., 2021; Zhao et al., 2022).

(2) The integration of accounting and business. The process of business occurrence is presented in real-time in scenarios, which will be widely used. Accounting will dynamically present the entire process of business occurrence and development, reveal the value creation process and mechanism, explore the risk source and dynamic deduction process, and conduct a new business-oriented and demand-oriented accounting (Bonsón & Bednárová, 2019).

(3) Accurate, intuitive, and diverse accounting disclosure procedures. It is no longer necessary to distinguish between general information and special information, and users can obtain insights according to their needs. Accounting information will be presented in a visual form to enhance the user's information. Users can also view information based on topics such as supply chain, value chain, and customer relationship management, thematic information based on risk status, financial status, and future development trends, as well as segmented information such as regions, industries, and customer purchasing behaviors (Zhang et al., 2021).

In terms of status of accounting information, many large multinational companies, such as Google, Alibaba, Amazon, Tencent, Microsoft, etc., have formed the ability to provide global decision-making services and system solutions. In recent years, a prominent application area of emerging technologies is the construction of technology platforms to integrate accounting information and provide financial services (Peng & Chang, 2019; Petkov, 2020).

In this study, the four problems are addressed and explained:

(i) The current status and research of technologies-embedded accounting system. Such as blockchain-based, cloud-embedded, AI-oriented, etc.

(ii) We address and interpret the major emerging technologies that are potential to apply to accounting system.

(iii) We propose a new mode of accounting system and framework, with various emerging technologies, to resolve issues of accuracy, transparency, security, operability, stability, and interoperability.

(iv) The new generation of accounting system consists of two major parts: to be digital and digitize accounting system. In the discussion session, we illustrate and clarify both aspects.

Section II reviews technology-oriented accounting research and Section III describes the technologies. Section IV presents an accounting-information framework and an illustrative inventory model. Section V develops possible financial-inclusion mechanisms, boundary conditions and research directions; Section VI concludes.

2. Literature Review

A new mode of accounting system that integrates potential technologies that are useful to accounting system (Bonsón & Bednárová, 2019). On the basis of literature analysis, a study proposed a framework that technologies (AI, IoT, and Blockchain) have potential to

ISSN: 3067-7491 © 2025 INATGI (Institute of Advanced Technology and Green Innovation)
See: https://inatgi.in/index.php/jbgi/index for more information. https://doi.org/10.63646/PRMK7404

explore different directions to accounting systems (Sinha, 2020). In this section, we will address the extant literature of accounting systems from angles of different technologies, including blockchain, cloud computing, data analytics, AI (artificial intelligence), and IoT (Internet of Things).

2.1 Blockchain and Accounting

Although blockchain is still on the early stage of application, researchers and practitioners show much enthusiasm to the technology. Due to features of blockchain, e.g., distributed ledger, immutability, transparency, and security, accounting system will be influenced and changed deeply. Meanwhile, blockchain-brought issues, such as energy consumption and technological limitations, will be resolved in appropriate ways (Dai & Vasarhelyi, 2017; Yu et al., 2018; Pimentel & Boulianne, 2020). Studies try to investigate and interpret how blockchain is integrated with accounting and how blockchain deals with accounting procedures, by analyzing the extant literature. The bibliographic analysis illustrates articles of various resources by multiple methodologies (Secinaro et al., 2021; Bellucci et al., 2022).

Blockchain can support shared records and audit trails for accounting transactions. It is one possible component of an accounting system alongside cloud computing, analytics, AI and IoT (McCallig et al., 2019; Cai, 2021). Public, permissioned and consortium networks use different governance and consensus arrangements. Cryptographic linking can make unauthorized changes evident, but security and data quality depend on implementation, access controls and the accuracy of inputs (Yaga et al., 2018; Tan & Low, 2019; Chen et al., 2022).

Many studies conduct empirical research to seek connections between accounting systems, users' recognition, and implementing blockchain technology. For instance, UTAUT (the Unified Theory of Acceptance and Use of Technology) is used to verify factors that impact the integration of blockchain and accounting system (Abdennadher et al., 2021; Afifa et al., 2022). For transaction and auditing, permissioned and permissionless blockchain systems appear to be different. It is necessary to seek a balance point, which will take effect on accounting system reliably and secured (Liu et al., 2019; Appelbaum & Nehmer, 2020). Professionals and practitioners will be benefited smoothly if blockchain's drawbacks can be compensated and end-users achieve higher level of recognition of blockchain (Schmitz & Leoni, 2019; Karajovic et al., 2019; Smith & Castonguay, 2020).

2.2 Cloud Computing and Accounting

Integrated with cloud computing, accounting system has been promoted to high levels of (operation and management) cost reduction, data sharing and analytics, safety and integrity, and accessibility and interoperability (Dimitriu & Matei, 2014). Informatization is an important component for intelligent accounting systems, and cloud platform enhances informatization to be systematical and effective (Warren et al., 2015; Dimitriu & Matei, 2014).

In addition, cloud computing is flexible and cost-saving. Hence, SMEs (Small and medium sized enterprises) have a great opportunity to implement cloud-oriented business in competitive markets. Empirically proved, cloud computing is a useful tool between accounting system and decision making (Maelah, Al Lami, & Ghassan, 2020). Cloud

ISSN: 3067-7491 © 2025 INATGI (Institute of Advanced Technology and Green Innovation)
See: https://inatgi.in/index.php/jbgi/index for more information. https://doi.org/10.63646/PRMK7404

computing can benefit stakeholders and accounting, but challenges also exist. For instance, to what extent auditors disclose material weakness is a real issue when cloud services are more employed in companies (Smith et al., 2018).

2.3 Data Analytics and Accounting

Data analytics tools and techniques are critical to managing accounting system, decision making, and value creation (Schneider et al., 2015; Xu & Zhou, 2021). Data analytics also will bring consequences to accounting professions and systems. It is still controversial whether data analytics replaces or complements accounting system (Richins et al., 2017; Richardson & Watson, 2021). Various algorithms and models of data analytics acquire a more-advanced platform to utilize, and cloud computing is one of the advanced platforms (Ting & Liu, 2020).

2.4 AI and Accounting

It is argued that AI is potential to take over accounting activities sooner or later. AI and the relevant techniques are good mechanisms to improve the performance of accounting management system for evaluation and estimation of operational processes in companies (Chen, 2021). AI-based machine learning is supposed to process data analytics and knowledge recognition automatically throughout a cloud -based platform (Marshall & Lambert, 2018). AI-embedded solutions and systems are clear way that both big companies and SMEs can follow for business successes and development (Mihai & Duţescu, 2022). AI-related solutions sometime appear to bring issues, such as ethics and sustainability. How to balance advantages and disadvantages in managerial accounting is critical (Vărzaru, 2022).

Based on the extant literature, current research of technology-oriented accounting systems focuses on blockchain and cloud computing, since the unique features and functions of the two technologies, respectively. Specifically, blockchain technology provision decentralization, transparency, security, immutability, and cost-saving; cloud computing mainly conducts an integrated and interoperated platform of data analytics and storage. It can be seen that AI, IoT, and other technologies will enhance the performance of accounting systems in different aspects, in the near future. Accounting systems cannot be intelligent without the implementation of AI and IoT (Ma & Zhang, 2020).

Meanwhile, to mitigate the side effects and to avoid potential risks form emerging technologies are tasks that are difficult to fulfill. Overall, digitization and transformation of accounting system is the trend and valuable. Most related studies pay attention to one type of technology and the potential to influence the accounting system. In our study, we propose a new mode of accounting system, ET-based (emerging technologies) accounting system, which is an evolutionary and creative thinking of accounting.

III. Potential Emerging Technologies in Accounting System

Emerging technologies revolutionize the world in many aspects, including accounting information systems. Accounting information system is a standardized data-oriented and data-analyzed system. Emerging technologies, such as blockchain, cloud computing, data analytics, AI (artificial intelligence), and IoT (Internet of Things), are potential to improve the overall performance of accounting system. For example, precise and comprehensive

ISSN: 3067-7491 © 2025 INATGI (Institute of Advanced Technology and Green Innovation)
See: https://inatgi.in/index.php/jbgi/index for more information. https://doi.org/10.63646/PRMK7404

data-related activities can be dealt with in mining and analytics. Blockchain is a platform to provide security, privacy, and data management. Cloud computing is a viable and advanced storage strategy. Accounting implementations can be achieved through AI-relevant techniques instead of conventional methods and human manual operation. IoT conducts a network that connects components and transmits data and values.

3.1 Blockchain

As thousands of years have passed, industry disrupting innovations have continued to alter how business is conducted from paper to tablets and from computer to clouds. The accounting profession has continued to stand the test of time to protect investors of a company that there is no possible way to assess all information of the company that goes into the financial statements. An emerging technology called blockchain is an alternative way to resolve the issues potentially.

Blockchain systems maintain linked records through a consensus process, but their validation methods differ: proof of work is one option rather than a feature of every network. Cryptographic linking can provide tamper evidence; it does not make a system immune to attacks or establish that the original input is correct. Smart contracts execute programmed conditions, subject to code, governance and the reliability of external information (Yaga et al., 2018).

What if blockchain technology could be used to help maintain accountability for the financial information that companies are providing to investors. Many companies encountered non-incidental fraud or losses, which stemmed from management decisions to fraudulently manipulate the financial information being provided to investors. The use of blockchain technology can help companies improve the integrity of their financial information as seen in some of the largest scandals when accuracy dwindles investor confidence is lost. It is essential to have increased monitoring and transparency over how companies adapt generally accepted accounting principles.

Blockchain technology has the potential to revolutionize how companies collect data and present their financial information. To safeguard investor interests, the accounting professions adapt to an ever-changing world of goods and services. Consider the use of blockchain technology to help recognize the revenue from goods or services, only after the goods or services provided would a smart contract trigger the recognition of that revenue onto the blockchain ledger. This can be done by sampling the data and verifying that sample by sending letters to customers to confirm their balances among other methods of accounting (Chen et al., 2022).

Blockchain technology can shift an auditor’s rule from utilizing a reactive approach to a proactive methodology. Rather than spending time verifying transactions, an auditor would discuss management judgements before it is even written into a smart contract. Management would first discuss their judgements and estimates with auditors to ensure that they completely adhere to generally accepted accounting principles. Only after an auditor’s sign-off with the obligation or their judgements be written into a smart contract to execute blanket treatment across all transactions without unnecessary human intervention (Dai & Vasarhelyi, 2017).

ISSN: 3067-7491 © 2025 INATGI (Institute of Advanced Technology and Green Innovation)
See: https://inatgi.in/index.php/jbgi/index for more information. https://doi.org/10.63646/PRMK7404

3.2 Cloud Computing

Cloud computing provides computing services that can be dynamically expanded on demand through the network. It is a service related to information technology, software, and the Internet. Cloud computing provides available, convenient, on-demand network access to a shared pool of provisioned, configurable resources (Mell & Grance, 2011).

Cloud computing has developed faster, and the corresponding application scope has become wider. The development of cloud computing provides a certain data processing platform and technical support. Cloud computing provides distributed computing, elastic expansion, cheap storage space, and computing resources, which are all very important components in the development of big data technology. In addition, the IT resources of cloud computing are rich and widely distributed. With the continuous development and improvement of cloud computing and the maturity of platforms, the level of data processing will also be significantly improved (Smith et al., 2018).

For example, in the past, a company had to build an accounting information system to support its business. It needs to build its own computer workstation, buy servers, build systems, develop various applications, and set up special personnel for maintenance. First, the one-time investment cost is high; second, it is difficult to rapidly expand the production capacity when the company's business expands; third, the utilization efficiency of software and hardware resources is low; fourth, maintenance is troublesome. Cloud computing changes implementations of accounting data analysis in an efficient manner (Dimitriu, & Matei, 2014).

3.3 Data Analytics

Data analytics refers to the analysis of large-scale data. Big data can be summed up in four Vs: Volume, Velocity, Variety, and Value. The value of big data has gradually become the focus of people's profit in various data-related industries, such as data mining, data warehouse, data security, data analysis, and other applications. The four most commonly used data analysis methods are: descriptive analysis, diagnostic analysis, predictive analysis and prescriptive analysis. (Schneider et al., 2015; Xu & Zhou, 2021).

Data analytics collects data in multiple dimensions and integrates information systems with powerful data processing functions. Taking inventory management as an example, if the total inventory rises sharply at a certain time, resulting in a large backlog of inventory, managers can easily capture descriptive analysis that reflects inventory in a timely manner. Managers want to know the specific reasons for the significant increase in inventory. It needs the assistants of data analytics on market conditions, company inventory management and production management, to conduct a diagnostic analysis of market share, inventory structure and product process. Managers are aware of raw materials that companies are purchasing for strategic reasons. Further, managers may also need information systems to provide valuable predictive analytics. Through a forecasting model, the information system can predict the trend of inventory changes in the future. In the face of the increase in inventory levels, it is necessary to formulate reasonable countermeasures. With the help of prescriptive analysis, managers can filter out the set of strategies under various constraints and adopt a better solution (Ting & Liu, 2020).

ISSN: 3067-7491 © 2025 INATGI (Institute of Advanced Technology and Green Innovation)
See: https://inatgi.in/index.php/jbgi/index for more information. https://doi.org/10.63646/PRMK7404

3.4 AI

AI is human-like behavior and thinking, and rational recognition and reaction. The foundations of AI are a combination of philosophy, mathematics, economics, neuroscience, psychology, computer engineering, cybernetics, and linguistics. Artificial intelligence includes four branches. 1. Pattern recognition, 2. Machine learning, 3. Data mining, and 4. Intelligent algorithm.

The application of AI in the field of accounting generally involves both accounting and financial analysis. Pattern recognition is used in accounting through identification and classification of huge and complex data of economic transactions and events, to form valuable decision support information system. Pattern recognition classifies data and improves the quality of financial analysis. For example, the recognition of graphics is employed in real time and pushes relevant information to users in a timely and accurate manner. Machine learning can collect, classify and analyze data and automate accounting operations, including data processing, analysis and utilization of historical financial information, and acquisition and analysis of forward-looking data (Chen, 2021).

Data mining techniques are the use of algorithmic searches to mine useful accounting information. Stock investment decision analysis is a typical example of the use of data mining techniques. By constructing and using a time series analysis model, the substantive information related to stock investment decisions is mined from databases to ensure the correctness of stock investment decisions. Intelligent algorithms can simulate accountants for information processing and analysis. Taking cost accounting as an example, enterprises with diversified product varieties have to deal with cost data involving tens of millions of materials, labor and manufacturing expenses. Intelligent algorithms can quickly and accurately process cost data, and aggregate and allocate according to different product categories to ensure the accuracy and timeliness of product cost (Mihai & Duţescu, 2022).

3.5 IoT

The Internet of Things (IoT) is information technology and will change industrial manufacturing, agricultural production and people's daily lives. Also, IoT can improve economic efficiency and save costs; it can provide technological impetus for global economic recovery. In the IoT era, reinforced concrete and cables will be integrated with chips and broadband into a unified infrastructure. In this sense, infrastructure is more like a new construction site on which the world operates. These include economic management, production and operation, social management and even personal life (Xu et al., 2021).

IoT uses sensors, chips, and devices that transmit data to realize automatic transaction processing of materials, commodities or fixed assets embedded in IT elements and real-time monitoring of physical locations. For example, when it comes to asset tracking, IoT technology can confirm the real-time location of fixed assets, vehicles, and inventory. In addition, IoT technology can monitor and record slow-moving inventory items and check their values, thereby improving asset liquidity. In addition, IoT technology enables the effective management of fixed assets (Ma & Zhang, 2020; Xu et al., 2021).

4. ET-based Accounting System

ISSN: 3067-7491 © 2025 INATGI (Institute of Advanced Technology and Green Innovation)
See: https://inatgi.in/index.php/jbgi/index for more information. https://doi.org/10.63646/PRMK7404

Traditional accounting relies on four basic assumptions: economic entity, monetary unity, accounting periodicity, and going concern to establish recognition of managers' fiduciary responsibilities and user decisions system. However, due to the impact of complex and dynamic business environment, the accounting system appears to be outdated, incomplete, insufficient, and inapplicable. With implementation of emerging technologies, it is durable to reconstruct the value with new means and redesign a new mode of accounting, ET-based accounting system. The detailed procedures are transaction and events, recognition, measurement, recording, empowerment, and report (Figure 1). For financial inclusion, the accounting framework is an upstream information infrastructure, not a measure of access itself. Transaction capture, recognition, measurement, recording and reporting can produce records that an enterprise chooses to share with a financial provider. The proposed connection to account use or credit outcomes remains a hypothesis and depends on data quality, provider acceptance and safeguards for the enterprise and its customers.

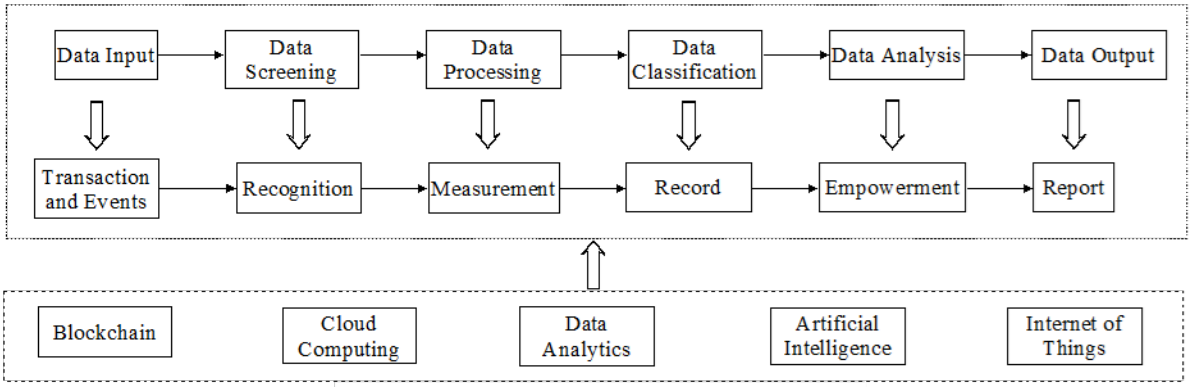


Figure 1. ET-based Accounting Information System

Preposition:

The integration of emerging technologies has the potential to increase values created in accounting information systems.

In our study, we take the Inventory-Transaction Model to interpret the value creation throughout the entire system. Typically, a manufacturing company's inventory consists of raw materials, work-in-progress, and finished goods. Inventory measurement and cost flow can be divided into three parts: raw material procurement, goods producing and product sales. The following is the original model of inventory measurement (Model 1).

$$Inventory_{ot} + Inventory_{\text{it}} - Inventory_{dt} = Inventory_{et} \pm Inventory_{beidt} \quad (1)$$

Specifically,

$Inventory_{ot}$ represents opening inventory in the t period,

$Inventory_{\text{it}}$ represents increased inventory in the t period,

$Inventory_{dt}$ represents decreased inventory in the t period,

$Inventory_{et}$ represents ending inventory in the t period,

ISSN: 3067-7491 © 2025 INATGI (Institute of Advanced Technology and Green Innovation)
See: https://inatgi.in/index.php/jbgi/index for more information. https://doi.org/10.63646/PRMK7404

$Inventory_{beidt}$ represents balance of ending inventory depreciation reserves in the t period.

Model (1) is applicable to each accounting step and reflects the continuous change of inventory cost through the inventory purchases and self-production, consumption and sales, and inventory in stock. GAAP recognizes that the cost of inventory delivery can be measured according to the first-in, first-out (FIFO), the last-in, first-out, and the weighted average cost. The lower of cost and net realizable value or the lower of cost and market price is used to measure inventory impairment.

Based on Model 1, we have Model 2,

$$Inventory_{ot} + Inventory_{\text{it}} = Inventory_{dt} + Inventory_{et} \pm Inventory_{beidt} \quad (2)$$

Many scholars believe that managers will choose the inventory measurement that can most increase personal interests. According to Model 2, without considering the inventory impairment, the left side of the equation $Inventory_{ot} + Inventory_{\text{it}}$ represents the total inventory in the current period, and the right side $Inventory_{dt} + Inventory_{et} \pm Inventory_{beidt}$ represents the appropriate allocation of the total inventory in the current period between the issued inventory and the ending inventory. Thus, when the enterprise performance is not good, the managers will be more likely choose to reduce the cost of carrying forward inventory and increase the ending inventory. This will lead to overestimating the ending inventory and exaggerating the profits.

Let x denote the integration of emerging technologies and accounting systems. f(x) represents the value-added by the integration of emerging technologies and accounting systems (Model 3). f(x) mainly covers: (1) forward-looking effect (FLE), (2) time-manner effect (TME), (3) comprehensive effect (CE), (4) accurate effect (AE), (5) objective effect (OE), and (6) sufficient effect (SE). A is a constant coefficient.

$$f(x) = A(x), \quad (3)$$

x may be one of the six effects, such as FLE, TME, CE, AE, OE, SE

The integration of emerging technologies will reverse unfavorable situations of traditional accounting, aiming at improving the quality of accounting information and adding values to stakeholders. The six types of values associated with different emerging technologies are reflected through the entire accounting systems (Table 1).

Table 1. The Summary of Value Creation

Accounting Procedure (Value-Added)	RQ (Research Question)	Emerging Technologies
Transaction and Events (FLE)	Emerging technologies play a forward-looking role in accounting information systems.	Cloud computing, blockchain, AI
Recognition (TME)	Emerging technologies play a timely-manner role in accounting decision-making efficiency.	AI IoT

ISSN: 3067-7491 © 2025 INATGI (Institute of Advanced Technology and Green Innovation)
See: https://inatgi.in/index.php/jbgi/index for more information. https://doi.org/10.63646/PRMK7404

Measurement (CE)	Emerging technologies play a comprehensive role in accounting information systems.	Data analytics cloud computing
Recording (AE)	Emerging technologies play a role of accuracy in accounting decision-making.	AI blockchain
Empowerment (OE)	Emerging technologies play an objective role in accounting information systems.	Data analytics AI
Report (SE)	Emerging technologies play a sufficient role in accounting information systems.	IoT blockchain

4.1 Transaction and Events

Transactions and events are the starting point of the accounting system. Transactions and events together constitute the operation of the company and determine the implementation of the business. Transactions and events are encoded in a multi-dimensional appearance of accounting information from the occurrence, through which development can be tracked in real time. The powerful data storage, integration and deployment capabilities of cloud computing technology can help accountants analyze potential business impacts, compliance, risks and future trends rather than a single transaction or event. To potential investors in the capital market, ET-based accounting system can analyze the consequences of new product development and investment of listed companies, judge the impact of private placements by market regulators, estimate the impact of private placements on listed companies by creditors and their stance on corporate bond investment (Beaver, 1998; Peng & Chang, 2019).

Blockchain is characterized by decentralization and distributed ledger. It can ensure the authenticity and reliability of data obtained from the cloud platform and recognize the key components by AI-related algorithms when transactions and events occur. ET-based accounting system provides a full-scene map for observing transactions and events, which is reflected in multi-dimensional, real-time accounting information. It greatly enriches and expands the value of accounting information systems (Petkov, 2020; Zhao et al., 2022). f(x) acts on Model 1, and the real-time inventory is the result of considering various factors. In this way, the information on which the decision is made is more forward-looking.

RQ 1. Emerging technologies play a forward-looking role in accounting information systems. It can be illustrated as follows:

$$Inventory_{ot} + Inventory_{\text{it}} - Inventory_{dt} f\left(\underset{\rightarrow}{FLE}\right) Inventory_{et} \pm Inventory_{beidt} + \text{Value-Added (FLE)} \quad (4)$$

4.2 Recognition

Recognition is the first step in transmitting transactions and events into the accounting elements that make up the project. At this stage, after screening, analyzing, and classification of business activities, the uncertainty of economic business is transformed

ISSN: 3067-7491 © 2025 INATGI (Institute of Advanced Technology and Green Innovation)
See: https://inatgi.in/index.php/jbgi/index for more information. https://doi.org/10.63646/PRMK7404

into the certainty of accounting language. The Statements of Financial Accounting Concepts issued by the US FASB specify four criteria for recognition: definition, measurability, relevance, and reliability. These standards provide a guiding framework for analyzing the role of emerging technologies in changing the function of accounting recognition.

ET-based accounting systems can help establish accounting systems to guide and manage operational processes. In the raw material procurement activities of manufacturing, using the QR code to confirm the materials and record them into the corresponding accounts. AI and IoT provide guidance for the confirmation of business and ensure that accounting information better meets the requirements of accounting standards. For a project with a long construction period, an IoT system can provide continuous and dynamical implementation of the entire process of project, by optimizing the accounting information process (Dai & Vasarhelyi, 2017; Mancini et al., 2021).

For long-forgotten off-balance sheet items that participate in or affect the company's value creation, ET-based accounting system can reflect the composition, function, and development trend of these items by amplifying the accounting confirmation conditions. It reverses the incomplete and insufficient confirmation mode of traditional accounting to a certain extent. For example, the importance of raw material availability and its impact on factors such as production, market share, customer stickiness, competitor strategies, substitutes, could change in real time. (Ma & Zhang, 2020). Meanwhile, some unrecognized important items, such as product sales, human assets, management advantages and even the physical health of the CEO, will also be presented in an appropriate manner (Gyongyosi & Imre, 2019; Elshaari et al., 2020).

Reflecting in the inventory model, f(x) acts on Model 1, which can dynamically reflect inventory revenue, shipment and information in real time. It is potential to grasp real-time information of inventory revenue and expenditure to improve decision-making efficiency.

RQ 2. Emerging technologies play a timely-manner role in accounting decision-making. It can be illustrated as follows:

$$Inventory_{ot} + Inventory_{\text{it}} - Inventory_{dt} f\left(\vec{TME}\right) Inventory_{et} \pm Inventory_{beidt} + \text{Value-Added (TME)} \quad (5)$$

4.3 Measurement

Measurement is the recognition of the recorded value of recognized transactions and events in terms of currency. The Statements of Financial Accounting Concepts lists five measurement attributes used in Generally Accepted Accounting Principles (GAAP): historical cost, net realizable value, current costs, present value, and fair value. For instance, land, as historical cost, will be treated as receivables of net realizable value and investments of fair value. For a long time, the problem to be solved by accounting value measurement attributes is to strike a balance between reliability and relevance. This situation pushes the historical cost principle and the fair value principle to represent reliability and relevance, respectively (Liu et al., 2019; Mihai & Duţescu, 2022).

ISSN: 3067-7491 © 2025 INATGI (Institute of Advanced Technology and Green Innovation)
See: https://inatgi.in/index.php/jbgi/index for more information. https://doi.org/10.63646/PRMK7404

ET-based accounting systems have a unique role in responding to changes in the value of accounting, thereby improving the quality of accounting information to a large extent. Data analysis and cloud computing provide sufficient information to ensure the accuracy, rationality and validity of accounting measurement. For example, for fair value, the basis for the fair value measurement of the underlying asset is derived from data that may be referenced by market participants within the simulation framework. For important transactions and events, the accounting can list the measurement results that are biased towards reliability or relevance at the same time, and users can clearly see the difference between the two and make judgments (Schneider et al., 2015; Chen, 2021).

With the application of IoT technology, structured, unstructured and semi-structured data are collected and classified from different dimensions for accounting measurement. Each measurement attribute around value measurement is to label on transactions and events. Through these tags, users can reproduce business scenarios, and the accounting reflection is more comprehensive, real and vivid. Multi-dimensional measurement also lays the foundation for subsequent empowerment and report (Ma & Zhang, 2020; Afifa et al., 2022). These changes are reflected in the inventory model, and f(x) acts on Model 1, which can effectively avoid inventory omissions, timely discover and evaluate inventory value losses, and appropriately withdraw inventory depreciation reserves.

RQ 3. Emerging technologies play a comprehensive role in accounting information systems. It can be illustrated as follows:

$$Inventory_{ot} + Inventory_{\text{it}} - Inventory_{dt} f\left(\vec{CE}\right) Inventory_{et} \pm Inventory_{beidt} + \text{Value-Added (CE)} \tag{6}$$

4.4 Recording

Recording is the process of recording recognized and measured transactions and events. Recording enables recognition and measurement on the one hand, and justification on the other. Accounting is a step-by-step process, from manual bookkeeping to intelligent accounting. In this process, manual bookkeeping will inevitably be replaced (Smith et al., 2018; Zhao et al., 2022).

AI technology is connected to the accounting information system, and the system automatically identifies bills, generates accounting vouchers, records detailed accounts, and generates general ledgers and reports. The system records and verify each transaction in chronological order. The application of blockchain technology greatly ensures the authenticity and accuracy of transaction data information. Accounting is embedded in business processes, and scenario-based accounting that reflects business scenarios in practice will be highly valued and implemented (Zhang et al., 2021).

Accounting records are the process of turning abstract businesses into concrete events, and blockchain extends, enrich and deepen this process. What used to be a routine of aggregated records of multiple transactions has been transformed into an independent real-time record based on the amount of a single transaction. Records are clearer, more detailed and effective. In the past, it was a separate record based on the principle of double-entry bookkeeping, but now it is a series of records that link different accounting entities and

ISSN: 3067-7491 © 2025 INATGI (Institute of Advanced Technology and Green Innovation)
See: https://inatgi.in/index.php/jbgi/index for more information. https://doi.org/10.63646/PRMK7404

businesses. Such accounting records are multi-dimensional, cross-time, and combined with business, clearly and truly display business scenarios, and provide valuable information (Xu & Zhou, 2021).

It is more appropriate to allocate the total inventory of the current period between the inventory issued in the current period and the ending inventory. These changes are reflected in the inventory model, f(x) acts on Model 1 and Model 2. The inventory income, expenditure and inventory are more accurate.

RQ 4. Emerging technologies play a role of accuracy in accounting decision-making. It can be illustrated as follows:

$$Inventory_{ot} + Inventory_{\text{it}} f\left(\underset{\rightarrow}{AE}\right) Inventory_{dt} + Inventory_{et} \pm Inventory_{beidt} + \text{Value-Added (AE)} \quad (7)$$

$$Inventory_{ot} + Inventory_{\text{it}} f\left(\underset{\rightarrow}{AE}\right) Inventory_{dt} + Inventory_{et} \pm Inventory_{beidt} + \text{Value-Added (AE)} \quad (8)$$

4.5 Empowerment

Empowerment is the application of emerging technologies, including data analytics and AI. There exists a strong link between delegation and reporting. A high level of reporting is both a result of and an important factor in increasing the level of empowerment (Beaver, 1998). ET-based accounting system pushes the single-currency measurement and accounting to be structured, semi-structured, and hybrid data as intertwined, multi-dimensional, and multi-perspective. The whole process presents business scenarios, reduces information asymmetry, and improves the decision-making quality of information end-users. This helps lift the management level and the efficiency of market resource allocation (Peng & Chang, 2019; Xu & Zhou, 2021).

For example, for complex mergers and acquisitions, the new accounting system provides information on core asset quality assessments, future market risks, and expected returns. In the process of generating accounting information, there are two situations: accounting and business integration, employee participation. The professional level of accountants and the accounting and financial cognition of general employees have been improved to varying degrees at different levels, which invisibly increases the human resources of the company. From the perspectives of investors, creditors, government agencies and other investors and regulators, accounting information can better reflect their interests, their attitudes toward the company's important business activities, and regulatory concerns, so as to better establish a close relationship communication mechanism to maintain a good relationship (Dai & Vasarhelyi, 2017; Smith & Castonguay, 2020).

Through sufficient information disclosure, coupled with the effective use of data analysis and AI, judgment and estimation of accountants should be reduced as much as possible, so as to improve the quality of accounting information. These changes are reflected in the inventory model, f(x) acts on Model 1 and Model 2, users can understand the inventory circulation process more objectively.

ISSN: 3067-7491 © 2025 INATGI (Institute of Advanced Technology and Green Innovation)
See: https://inatgi.in/index.php/jbgi/index for more information. https://doi.org/10.63646/PRMK7404

RQ 5. Emerging technologies play an objective role in accounting information systems. This phenomenon can be illustrated as follows:

$$Inventory_{ot} + Inventory_{\text{it}} f\left(\underset{\rightarrow}{OE}\right) Inventory_{dt} + Inventory_{et} \pm Inventory_{beidt} + \text{Value-Added}_{\text{(OE)}} \quad (9)$$

$$Inventory_{ot} + Inventory_{\text{it}} f\left(\underset{\rightarrow}{OE}\right) Inventory_{dt} + Inventory_{et} \pm Inventory_{beidt} + \text{Value-Added}_{\text{(OE)}} \quad (10)$$

4.6 Report

Reporting is the transfer of processed accounting information to internal and external users in an appropriate manner. The introduction of emerging technologies has revolutionized the content and format of reports. In theory, technical means can display the business processes, key controls, important decisions, operating environment conditions, supply chain stability, and financial and operating results of an enterprise in real-time. The application of emerging technologies runs through the entire process of data and information acquisition, processing and reporting (Richins et al., 2017; Stein Smith, 2018).

Information processing spans transaction inputs, processing and reporting. IoT devices may help capture standardized data when sensors and interfaces are appropriately designed, while distributed ledgers may provide traceability and tamper evidence. Neither technology by itself guarantees the accuracy of source data or the security of the entire process. Analytics and visualization can support the presentation of reports subject to data quality and governance controls (Yaga et al., 2018).

As a shareholder, on the basis of obtaining general reports, it is also necessary to obtain information such as company strategy, assets, management team, business risks, and future development. As a manager, except of obtaining general management accounting information such as budget execution, cost control, risk management, employee performance appraisal and company performance management, it is necessary to obtain major investment and financing activities, and the signing and performance of important contracts. In addition, non-financial information and forward-looking information that cannot be provided by traditional reports can also be fully reflected in the report. The new accounting report will describe the processes, results and key elements associated with corporate value (Warren et al., 2015).

In practice, the accounting policy of the company's inventory accounting report has a lot of flexibility. These changes are reflected in the inventory model, f(x) acts on Model 1 and Model 2, and users can obtain more sufficient information.

RQ 6. Emerging technologies play a sufficient role in accounting information systems. It can be illustrated as follows:

$$Inventory_{ot} + Inventory_{\text{it}} f\left(\underset{\rightarrow}{AE}\right) Inventory_{dt} + Inventory_{et} \pm Inventory_{beidt} + \text{Value-Added}_{\text{(SE)}} \quad (11)$$

$$Inventory_{ot} + Inventory_{\text{it}} f\left(\underset{\rightarrow}{AE}\right) Inventory_{dt} + Inventory_{et} \pm Inventory_{beidt} + \text{Value-Added}$$

ISSN: 3067-7491 © 2025 INATGI (Institute of Advanced Technology and Green Innovation)
See: https://inatgi.in/index.php/jbgi/index for more information. https://doi.org/10.63646/PRMK7404

(SE) (12)

Reporting is a process of reflecting, controlling, evaluating, consulting and other accounting functions, and it is also a process in which accountants participate and create company value with the help of emerging technologies. Through full disclosure, accounting reduces the transaction cost of user information search, screening, analysis and utilization. Users can obtain the required information more conveniently and in a timely manner, establish and maintain the rapport between users and the company. Under the new reporting mode, users' perspectives and dimensions of a company have undergone tremendous changes, and they can judge the company's business behavior according to their own needs. Meanwhile, the long-term debate based on the rule-oriented and principle-oriented reporting modes will no longer be meaningful, the space for accounting professional judgment will be reduced, and the judgment of market will be expanded (Zhang et al., 2021; Mihai & Duţescu, 2022).

5. Discussions and Future Directions

The rise of emerging technologies that integrate conventional mechanisms is potential to promote the development of the accounting system, made up for the shortcomings of traditional accounting and reporting models, and overcome problems such as lagging accounting information, limitations of a single currency, and outdated financial records. Moving from behind the scenes to the front desk, the new accounting mechanism integrating emerging technologies penetrates into value creation and accelerates accounting system to be digital and digitization.

5.1 Digital and Intelligent Accounting System

For external reporting users, a technology-supported accounting model may provide more timely or detailed information about enterprise activities when its inputs, controls and disclosures are adequate. Such information can inform, but does not guarantee, investment decisions. Users must still assess the reliability, context and limitations of the reported information (Zhang et al., 2021).

For internal management, the model may provide information for planning, process optimization, supply-chain coordination and performance management. Any improvement in decision quality depends on data quality, organizational practice and user judgment. Evaluating these effects, including their limitations, is a research question rather than an established result (Petkov, 2020).

5.2 Accounting System Digitalizing and Transforming

Technology-supported accounting raises questions about measurement, reporting boundaries and the timeliness of information. More frequent records do not by themselves eliminate the need for reporting periods or the application of existing accounting standards. Potential new functions include forecasting and decision support, subject to appropriate controls and professional judgment (Mancini et al., 2021; Zhao et al., 2022).

More detailed records may assist information-quality controls and allow reports to be tailored to different users. They do not eliminate inaccurate inputs, manipulation or opportunistic behavior. Assessing the quality and governance of information remains necessary when new accounting tools are adopted (Sinha, 2020; Mancini et al., 2021).

ISSN: 3067-7491 © 2025 INATGI (Institute of Advanced Technology and Green Innovation)
See: https://inatgi.in/index.php/jbgi/index for more information. https://doi.org/10.63646/PRMK7404

The new accounting model has revolutionized the way accounting information is generated. The generation of accounting information products is a process based on business, service, and even a process of transforming business. This makes it easy to find features of new accounting models, like employee engagement accounting and situational accounting. The convergence of accounting and business also brings a lot of confusion and challenges. Where are the boundaries of accounting? (Peng & Chang, 2019; Zhao et al., 2022).

5.3 Financial Inclusion Mechanisms and Boundary Conditions

Financial inclusion is broader than the availability of a digital platform. Account ownership and active account use are distinct outcomes, and affordability and proximity to services remain important considerations (Allen et al., 2016). Digital finance may extend service delivery but also introduces consumer-protection and financial-stability concerns (Ozili, 2018). The accounting framework in Section IV addresses only one potential barrier: the generation and communication of usable business information. It does not itself provide an account, guarantee a loan, or remove legal, financial and social barriers to service use.

The proposed pathway has four steps. First, a small enterprise captures transactions through an appropriate digital system. Second, accounting procedures convert these inputs into records with a documented provenance and quality controls. Third, the enterprise decides whether and how to share relevant information with a financial provider. Fourth, the provider evaluates the information alongside its own underwriting, identity and regulatory requirements. Any change in approval, cost or service use is a contingent outcome of this process, rather than an assumed consequence of a blockchain, cloud or AI application (Gomber et al., 2017; Ozili, 2018).

This pathway may fail when records are incomplete, errors are propagated, systems cannot exchange data, or firms lack connectivity, digital skills or affordable services. Data minimisation, informed consent, security, contestable decisions and an alternative route for people with limited digital access are therefore design conditions. The framework treats such safeguards as requirements to be evaluated, not as outcomes demonstrated by this article.

5.4 Research Directions and Evaluation

Future studies should distinguish account access, continued use, credit approval, borrowing costs and user experience rather than treating technology adoption as a proxy for inclusion. A suitable design would document record quality and voluntary data sharing, compare outcomes for enterprises with different levels of digital capability, and examine distributional effects across groups and locations. Researchers should state the counterfactual, test alternative explanations and report privacy and fairness outcomes. The inventory illustration supplies a starting point for examining information flows; it does not test these outcomes or establish causality.

6. Conclusion

Emerging technologies can alter the way accounting information is captured, processed and reported. This article connects that accounting framework to financial inclusion through a proposed pathway from business records to information sharing and financial-

ISSN: 3067-7491 © 2025 INATGI (Institute of Advanced Technology and Green Innovation)
See: https://inatgi.in/index.php/jbgi/index for more information. https://doi.org/10.63646/PRMK7404

service decisions. The inventory model illustrates accounting processes rather than evidence of increased financial access. The pathway depends on affordability, connectivity, data quality, institutional practices and safeguards, and its effects on access, active use and service quality require empirical evaluation.

Acknowledgement

The authors thank the editors and anonymous reviewers for their constructive comments and suggestions.

Author Contributions

S.R.: Conceptualization, Methodology, Writing, Original Draft, Writing, Review and Editing.

Conflicts of Interest

The author declares no conflicts of interest.

Generative AI Statement

Generative artificial intelligence was used to write language and drafting.

ISSN: 3067-7491 © 2025 INATGI (Institute of Advanced Technology and Green Innovation)
See: https://inatgi.in/index.php/jbgi/index for more information. https://doi.org/10.63646/PRMK7404

Reference

Abdennadher, S., Grassa, R., Abdulla, H., & Alfalasi, A. (2022). The effects of blockchain technology on the accounting and assurance profession in the UAE: an exploratory study. Journal of Financial Reporting and Accounting, 20(1), 53-71. https://doi.org/10.1108/JFRA-05-2020-0151.

Abu Afifa, M. M., Vo Van, H., & Le Hoang Van, T. (2023). Blockchain adoption in accounting by an extended UTAUT model: empirical evidence from an emerging economy. Journal of Financial Reporting and Accounting, 21(1), 5-44. https://doi.org/10.1108/JFRA-12-2021-0434.

Allen, F., Demirguc-Kunt, A., Klapper, L., & Martinez Peria, M. S. (2016). The foundations of financial inclusion: Understanding ownership and use of formal accounts. *Journal of Financial Intermediation, 27*, 1-30. DOI: 10.1016/j.jfi.2015.12.003

Appelbaum, D., & Nehmer, R. A. (2020). Auditing cloud-based blockchain accounting systems. Journal of information systems, 34(2), 5-21. https://doi.org/10.2308/isys-52660.

Bell, P. W. (1982). Financial Reporting: An Accounting Revolution.

Bellucci, M., Cesa Bianchi, D., & Manetti, G. (2022). Blockchain in accounting practice and research: systematic literature review. Meditari Accountancy Research, 30(7), 121-146. https://doi.org/10.1108/MEDAR-10-2021-1477.

Bonsón, E., & Bednárová, M. (2019). Blockchain and its implications for accounting and auditing. Meditari Accountancy Research, 27(5), 725-740. https://doi.org/10.1108/MEDAR-11-2018-0406.

Cai, C. W. (2021). Triple-entry accounting with blockchain: How far have we come?. Accounting & Finance, 61(1), 71-93. https://doi.org/10.1111/acfi.12556.

Chen, Y. (2021). Framework of the smart finance and accounting management model under the artificial intelligence perspective. Mobile Information Systems, 2021(1), 4295191. https://doi.org/10.1155/2021/4295191.

Dai, J., & Vasarhelyi, M. A. (2017). Toward blockchain-based accounting and assurance. Journal of information systems, 31(3), 5-21. https://doi.org/10.2308/isys-51804.

Dimitriu, O., & Matei, M. (2014). A new paradigm for accounting through cloud computing. Procedia economics and finance, 15, 840-846. https://doi.org/10.1016/S2212-5671(14)00541-3.

Gomber, P., Koch, J.-A., & Siering, M. (2017). Digital Finance and FinTech: current research and future research directions. *Journal of Business Economics, 87*(5), 537-580. DOI: 10.1007/s11573-017-0852-x

Karajovic, M., Kim, H. M., & Laskowski, M. (2019). Thinking outside the block: Projected phases of blockchain integration in the accounting industry. Australian Accounting Review, 29(2), 319-330. https://doi.org/10.1111/auar.12280.

Liu, M., Wu, K., & Xu, J. J. (2019). How will blockchain technology impact auditing and accounting: Permissionless versus permissioned blockchain. Current Issues in auditing, 13(2), A19-A29. https://doi.org/10.2308/ciia-52540.

Ma, H., & Zhang, Z. (2020). A New Private Information Encryption Method in Internet of Things under Cloud Computing Environment. Wireless Communications and Mobile Computing, 2020, 1-9. DOI: 10.1155/2020/8810987

ISSN: 3067-7491 © 2025 INATGI (Institute of Advanced Technology and Green Innovation)
See: https://inatgi.in/index.php/jbgi/index for more information. https://doi.org/10.63646/PRMK7404

Maelah, R., Al Lami, M. F. F., & Ghassan, G. (2020). Management accounting information usefulness and cloud computing qualities among small medium enterprises. International Journal of Management Studies, 26(1), 1-31. https://doi.org/10.32890/ijms.26.1.2019.10511.

Mancini, D., Lombardi, R., & Tavana, M. (2021). Four research pathways for understanding the role of smart technologies in accounting. Meditari Accountancy Research, 29(5), 1041-1062. https://doi.org/10.1108/MEDAR-03-2021-1258.

Marshall, T. E., & Lambert, S. L. (2018). Cloud-based intelligent accounting applications: accounting task automation using IBM watson cognitive computing. Journal of emerging technologies in accounting, 15(1), 199-215. https://doi.org/10.2308/jeta-52095.

McCallig, J., Robb, A., & Rohde, F. (2019). Establishing the representational faithfulness of financial accounting information using multiparty security, network analysis and a blockchain. International Journal of Accounting Information Systems, 33, 47-58. https://doi.org/10.1016/j.accinf.2019.03.004.

Mell, P., & Grance, T. (2011). The NIST Definition of Cloud Computing (NIST Special Publication 800-145). National Institute of Standards and Technology. https://doi.org/10.6028/NIST.SP.800-145

Mihai, M. S., & Duţescu, A. (2022). How cloud accounting and integrated services based on AI can impact accounting companies. In Proceedings of the International Conference on Business Excellence (Vol. 16, No. 1, pp. 849-858). Sciendo. https://doi.org/10.2478/picbe-2022-0079

Ozili, P. K. (2018). Impact of digital finance on financial inclusion and stability. *Borsa Istanbul Review, 18*(4), 329-340. DOI: 10.1016/j.bir.2017.12.003

Peng, Y., & Chang, J. S. (2019, September). An exploration on the problems of replacing accounting professions by AI in the future. In Proceedings of the 5th International Conference on Industrial and Business Engineering (pp. 378-382). https://doi.org/10.1145/3364335.3364345.

Petkov, R. (2020). Artificial intelligence (AI) and the accounting function, A revisit and a new perspective for developing framework. Journal of emerging technologies in accounting, 17(1), 99-105. https://doi.org/10.2308/jeta-52648.

Pimentel, E., & Boulianne, E. (2020). Blockchain in accounting research and practice: Current trends and future opportunities. Accounting Perspectives, 19(4), 325-361. https://doi.org/10.1111/1911-3838.12239.

Richins, G., Stapleton, A., Stratopoulos, T. C., & Wong, C. (2017). Big Data Analytics: Opportunity or Threat for the Accounting Profession?. Journal of Information Systems, 31(3), 63-79. DOI: 10.2308/isys-51805

Schmitz, J., & Leoni, G. (2019). Accounting and auditing at the time of blockchain technology: a research agenda. Australian Accounting Review, 29(2), 331-342. https://doi.org/10.1111/auar.12286.

Schneider, G. P., Dai, J., Janvrin, D. J., Ajayi, K., & Raschke, R. L. (2015). Infer, predict, and assure: Accounting opportunities in data analytics. Accounting Horizons, 29(3), 719-742. https://doi.org/10.2308/acch-51140.

Secinaro, S., Dal Mas, F., Brescia, V., & Calandra, D. (2021). Blockchain in the accounting, auditing and accountability fields: a bibliometric and coding analysis. Accounting, Auditing & Accountability Journal, 35(9), 168-203. https://doi.org/10.1108/AAAJ-10-2020-4987.

Sinha, S. (2020). Blockchain, Opportunities and challenges for accounting professionals. Journal of Corporate Accounting & Finance, 31(2), 65-67. https://doi.org/10.1002/jcaf.22430.

ISSN: 3067-7491 © 2025 INATGI (Institute of Advanced Technology and Green Innovation)
See: https://inatgi.in/index.php/jbgi/index for more information. https://doi.org/10.63646/PRMK7404

Smith, A. L., Zhang, Y., & Kipp, P. C. (2019). Cloud-computing risk disclosure and ICFR material weakness: The moderating role of accounting reporting complexity. Journal of Information Systems, 33(3), 1-17. https://doi.org/10.2308/isys-52134.

Smith, S. S. (2018). Implications of next step blockchain applications for accounting and legal practitioners: A case study. Australasian Accounting, Business and Finance Journal, 12(4). https://doi.org/10.14453/aabfj.v12i4.6.

Smith, S. S., & Castonguay, J. J. (2020). Blockchain and accounting governance: Emerging issues and considerations for accounting and assurance professionals. Journal of Emerging Technologies in Accounting, 17(1), 119-131. https://doi.org/10.2308/jeta-52686.

Tan, B. S., & Low, K. Y. (2019). Blockchain as the database engine in the accounting system. Australian Accounting Review, 29(2), 312-318. https://doi.org/10.1111/auar.12278.

Ting, W., & Liu, Y. (2020). Design and implementation of intelligent accounting data analysis platform based on industrial cloud computing. EURASIP Journal on Wireless Communications and Networking, 2020(1), 28. https://doi.org/10.1186/s13638-020-1647-2.

Vărzaru, A. A. (2022). Assessing the impact of AI solutions' ethical issues on performance in managerial accounting. Electronics, 11(14), 2221. https://doi.org/10.3390/electronics11142221.

Warren, J. D., Moffitt, K. C., & Byrnes, P. (2015). How big data will change accounting. Accounting horizons, 29(2), 397-407. https://doi.org/10.2308/acch-51069.

Xu, Z., & Zhou, W. (2021). A data technology oriented to information fusion to build an intelligent accounting computerized model. Scientific Programming, 2021(1), 6031324. https://doi.org/10.1155/2021/6031324.

Yaga, D., Mell, P., Roby, N., & Scarfone, K. (2018). Blockchain Technology Overview (NISTIR 8202). National Institute of Standards and Technology. https://doi.org/10.6028/NIST.IR.8202

Yu, T., Lin, Z., & Tang, Q. (2018). Blockchain: The introduction and its application in financial accounting. Journal of Corporate Accounting & Finance, 29(4), 37-47. https://doi.org/10.1002/jcaf.22365.

Zhang, Y., Pourroostaei Ardakani, S., & Han, W. (2021). Smart ledger: The blockchain-based accounting information recording protocol. Journal of Corporate Accounting & Finance, 32(4), 147-157. https://doi.org/10.1002/jcaf.22515.

Zhao, J., Zhang, L., & Zhao, Y. (2022). Informatization of Accounting Systems in Small-and Medium-Sized Enterprises Based on Artificial Intelligence-Enabled Cloud Computing. Computational Intelligence and Neuroscience, 2022(1), 6089195. https://doi.org/10.1155/2022/6089195.

ISSN: 3067-7491 © 2025 INATGI (Institute of Advanced Technology and Green Innovation)
See: https://inatgi.in/index.php/jbgi/index for more information. https://doi.org/10.63646/PRMK7404