



Automating Finances: Balancing Efficiency and Job Dynamics in Accounting and Auditing

Dr. Elma S. Groenewald

CEO, SG Virtuosos International 1501-1502 Tran Phu Street, Loc Tho Ward,
Nha Trang City, Khanh Hoa Province, Vietnam

<https://orcid.org/0000-0001-7813-2773> | elmasgroenewald@sgvirtuososinternational.com

Osias Kit T. Kilag

Principal, PAU Excellencia Global Academy Foundation, Inc., Toledo City, Philippines and Vice President for
Academic Affairs and Research, ECT Excellencia Global Academy Foundation, Inc., Balamban, Cebu, Philippines

<https://orcid.org/0000-0003-0845-3373> | okkilag12@gmail.com

Abstract:

This study conducts a systematic literature review to explore the intricate dynamics between efficiency and job roles in the realm of financial automation within accounting and auditing. The investigation delves into three key technological pillars: cloud computing, AI-driven automation, and blockchain. The literature uniformly emphasizes the transformative impact of cloud computing on accounting processes, elucidating streamlined financial operations, diminished errors, and improved decision-making. Echoing Smith et al. (2019), the study substantiates the notion that cloud-based systems act as catalysts for organizational agility. AI-driven automation emerges as a focal theme, signifying role redefinition within accounting teams. Routine tasks undergo automation, compelling professionals to undertake strategic and analytical responsibilities. The findings stress the imperative nature of upskilling and adaptability among accounting professionals in capitalizing on AI technologies. Blockchain technology takes center stage in auditing, presenting an opportunity to bolster transparency and accountability through decentralized, immutable audit trails. This aligns with the research of Sheela, et al. (2023), highlighting blockchain's role in fortifying the security and transparency of audit processes. Amidst the positives, the study surfaces challenges in striking a balance between efficiency gains and job dynamics, echoing concerns of role displacement within the accounting domain. This necessitates proactive organizational measures, as emphasized by Garcia and Lee (2020) and Chen et al. (2018), underscoring the importance of strategic planning, training programs, and a culture of continuous learning to navigate the evolving landscape of automated finances successfully. Overall, this study furnishes a comprehensive understanding of the multifaceted interplay between efficiency and job dynamics, providing a foundational framework for organizations embracing financial automation technologies.

Keywords: Financial Automation, Cloud Computing, Blockchain Technology, Accounting Efficiency

Introduction:

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The landscape of accounting and auditing is undergoing a profound transformation with the advent of advanced technologies, particularly in the realm of automation. The integration of intelligent technologies such as artificial intelligence (AI), machine learning, and blockchain is reshaping traditional financial processes, presenting both unprecedented efficiency gains and intricate challenges (Allioui & Mourdi, 2023).

The financial industry has witnessed a rapid evolution propelled by technological advancements. Automation, characterized by processes executed by machines and software systems without human intervention, has become a focal point, especially in the context of accounting and auditing (Coombs, et al., 2020). As companies embrace automated accounting systems and intelligent technologies, questions arise about the impact on efficiency, employment dynamics, and the future role of accounting professionals.

Automation in accounting encompasses various facets, including cloud computing, automated accounting tasks, and the revolutionary blockchain technology. Cloud computing facilitates real-time access to financial data and resources, fostering continuous monitoring and analysis (Ionescu & Diaconita, 2023). Automated accounting tasks, driven by AI and machine learning, are streamlining labor-intensive processes such as audits, tax preparation, and payroll (Mohammad, et al., 2020). Blockchain, initially recognized for its association with cryptocurrencies, is gaining prominence for its potential to provide continuously updated and tamper-proof accounting ledgers (Han, et al., 2023).

As automation becomes increasingly prevalent in the financial sector, questions emerge about the implications for job dynamics in accounting and auditing. The traditional roles of accountants and auditors are evolving, with routine and repetitive tasks being automated. This shift raises concerns about potential job displacement and the necessity



for accounting professionals to acquire new skills aligned with emerging technologies (Rawashdeh, 2023). The balance between efficiency gains and employment dynamics in the financial sector becomes a critical focal point for researchers, policymakers, and industry stakeholders.

This research aims to contribute to the existing body of knowledge by examining the multifaceted impact of automation on accounting and auditing. By exploring the benefits of automation, potential job transformations, and the evolving skill sets required in the financial industry, this study seeks to provide insights into the delicate equilibrium between technological efficiency and workforce dynamics.

Literature Review:

The surge of automation technologies in the financial sector, particularly in accounting and auditing, has sparked a considerable body of literature focusing on its impact, challenges, and opportunities. This literature review provides an extensive examination of key themes, research findings, and scholarly discussions surrounding the automation of financial processes, delving into cloud computing, AI-driven automation, and the transformative potential of blockchain technology. Additionally, it explores the evolving roles of accounting professionals in response to automation, shedding light on the dynamic landscape of the accounting and auditing professions.

Cloud Computing in Accounting

Cloud computing has emerged as a pivotal technology shaping the landscape of accounting practices. The ability to store, access, and process financial data in real-time through remote servers has revolutionized traditional accounting methods. A study by Chen et al. (2018) highlights that cloud-based accounting systems enhance collaboration, accessibility, and data security, providing accountants with a more dynamic and efficient platform for financial management.

Cloud computing not only streamlines internal financial processes but also facilitates communication and collaboration with external stakeholders. It enables seamless sharing of financial data with auditors, regulators, and other relevant parties, contributing to enhanced transparency and compliance (Wu et al., 2019). The efficiencies gained through cloud-based accounting systems are underscored in the literature, emphasizing the role of technology in transforming the way financial information is managed and disseminated.

The integration of artificial intelligence (AI) and machine learning (ML) technologies has brought forth a new era in automating routine and time-consuming accounting tasks. As identified by KPMG (2019), AI applications in accounting encompass a spectrum of functions, including automated data entry, invoice processing, and predictive analytics. This transformative shift towards intelligent automation aims to improve accuracy, reduce errors, and increase the overall efficiency of financial processes.

Research by Davis et al. (2020) emphasizes the impact of AI on audit processes, noting that machine learning algorithms can analyze vast datasets to identify patterns, anomalies, and potential risks. The study highlights the potential of AI-driven automation in enhancing audit effectiveness and risk management, paving the way for a more data-driven and proactive audit approach.

However, the literature also acknowledges challenges associated with AI adoption in accounting. Concerns related to data privacy, algorithmic bias, and the need for continuous human oversight are prominent themes (Brown et al., 2021). Striking a balance between the benefits of AI-driven automation and the ethical considerations inherent in algorithmic decision-making remains a critical area of scholarly discourse.

Blockchain Technology in Auditing

Blockchain technology, initially synonymous with cryptocurrencies, has garnered attention for its transformative potential in auditing practices. The decentralized and tamper-resistant nature of blockchain ledgers addresses concerns related to data integrity, fraud prevention, and transparency in financial records. A study by Coyne and McMickle (2017) asserts that blockchain-enabled auditing ensures a shared, verified, and consensus-driven audit trail, reducing information asymmetry and enhancing stakeholder inclusivity.

The Big Four accounting firms, namely EY, PwC, Deloitte, and KPMG, are pioneering the integration of blockchain in auditing processes. These firms recognize the technology's capacity to revolutionize the verification and validation of financial transactions, thereby improving the overall reliability and trustworthiness of audit outcomes (Yermack, 2017).

While blockchain technology holds immense promise, challenges such as scalability, standardization, and regulatory frameworks persist. Research by Sheldon (2019) suggests that addressing these challenges is imperative for the widespread adoption of blockchain in auditing. The literature underscores the need for collaborative efforts among



companies, auditors, regulators, and system developers to navigate the complexities and unlock the full potential of blockchain-enabled auditing.

As automation technologies reshape the landscape of accounting and auditing, the roles of accounting professionals are undergoing a paradigm shift. The literature highlights the need for accountants to acquire new skills aligned with technological advancements. A study by Zhang et al. (2021) emphasizes that accountants should transition from traditional roles focused on manual data entry to roles that leverage data analysis, interpretation, and strategic decision-making.

The evolving role of accountants extends beyond technical skills, encompassing adaptability, critical thinking, and ethical considerations. Professional accountancy organizations (PAOs) play a crucial role in supporting small and medium practices (SMPs) in enhancing their technical competence through forums and continuous education initiatives (Coyne and McMickle, 2017).

Moreover, the literature acknowledges the potential inequality gap between large firms and SMPs in the adoption of automation technologies. While the Big Four firms lead in pioneering blockchain and AI applications, efforts to bridge the gap must be directed towards supporting SMPs in overcoming financial constraints and technical challenges (Sheldon, 2019).

The literature on automation in accounting and auditing reflects a dynamic landscape, characterized by technological advancements, challenges, and evolving professional roles. Cloud computing, AI-driven automation, and blockchain technology each contribute to enhancing efficiency, transparency, and reliability in financial processes. However, ethical considerations, regulatory challenges, and the evolving skill sets of accounting professionals pose significant areas for further exploration.

Methodology:

The research methodology adopted for this study entailed a systematic literature review, aiming to comprehensively examine and integrate existing scholarly works on the automation of finances, with a specific emphasis on balancing efficiency and job dynamics in the fields of accounting and auditing. This systematic literature review employed a rigorous and structured approach to gather, analyze, and interpret pertinent literature, aiming to provide a thorough understanding of the subject matter.

In delineating the research objectives, the study framed the overarching research question: How has the automation of finances influenced the balance between efficiency and job dynamics in accounting and auditing? The specific objectives included an exploration of the impact of automation technologies such as cloud computing, AI-driven automation, and blockchain on financial processes and the evolving roles of accounting professionals.

The literature search strategy comprised several key steps. Firstly, the study defined search criteria, identifying relevant terms, keywords, and search strings related to automation in accounting and auditing. Subsequently, it selected pertinent databases, including PubMed, IEEE Xplore, ScienceDirect, and Google Scholar, to access a diverse array of scholarly articles. In tandem, the study set inclusion and exclusion criteria to guide the selection of literature aligned with the research objectives, filtering out works that did not meet the predefined criteria.

The identification and collection of studies involved systematic searches using the established keywords and search strings in the chosen databases. Titles and abstracts were screened to assess the relevance of each study, applying the predetermined inclusion and exclusion criteria. Full-text articles of selected studies were then retrieved for in-depth analysis.

Data extraction was conducted using a structured framework developed for this purpose. The framework facilitated the systematic extraction of relevant information from each selected study, encompassing key variables, methodologies employed, findings, and implications.

Quality assessment of the studies was integral to the research methodology. Each included study underwent evaluation for methodological rigor based on predetermined criteria, with careful consideration given to identified limitations.

The synthesis of data involved categorizing findings into thematic clusters based on commonalities and recurring patterns. This process enabled the organization and analysis of extracted data, ultimately addressing the research objectives and contributing to a cohesive narrative that encapsulates the intricate relationship between the automation of finances, efficiency gains, and the evolving dynamics of job roles in accounting and auditing.

Findings and Discussion:

**Impact of Cloud Computing on Accounting Efficiency:**

The systematic literature review conducted in this study illuminated a unanimous perspective among scholars on the revolutionary influence of cloud computing on accounting efficiency. Scholars consistently acknowledge the transformative impact of cloud-based accounting systems, positioning them as key drivers for heightened efficiency within financial processes (Cordova Jr, et al., 2023). Real-time access to financial data, collaborative capabilities, and seamless integration with other business functions were identified as instrumental features of cloud computing that contribute to a paradigm shift in accounting operations.

Numerous studies, including the work of Chen et al. (2018), emphasize the significance of real-time access to financial data as a critical element facilitated by cloud-based accounting systems. These systems enable organizations to access up-to-date financial information instantaneously, empowering stakeholders with timely insights into the financial health of the company. This immediate access not only accelerates decision-making processes but also enhances the overall agility of financial operations.

Collaboration capabilities embedded in cloud-based accounting systems emerged as another pivotal aspect highlighted by the literature. As noted by Smith and Tucker (2017), these collaborative features enable seamless interaction among various stakeholders involved in financial processes. The ability to share, edit, and review financial data in real time fosters collaboration between accounting professionals, management, and other relevant parties. This collaborative dimension not only expedites the accounting workflow but also contributes to a more integrated and cohesive financial management approach.

Furthermore, the systematic literature review consistently pointed out the role of cloud computing in minimizing manual errors within accounting processes. Research by Jones and Brown (2019) underscores that the automation and synchronization features of cloud-based accounting systems significantly reduce the likelihood of human errors associated with manual data entry and processing. This aspect not only enhances the accuracy of financial records but also alleviates the burdensome task of error correction, thereby optimizing the efficiency of accounting tasks.

The synthesized findings from the systematic literature review provide robust evidence of the positive impact of cloud computing on accounting efficiency. Real-time data access, collaboration capabilities, and error reduction mechanisms embedded in cloud-based accounting systems collectively contribute to streamlined financial operations, reduced manual errors, and an overall improvement in decision-making processes within organizations. These insights underscore the transformative potential of cloud computing in reshaping the landscape of accounting practices.

Role Redefinition in the Era of AI-Driven Automation:

The literature reviewed in this study consistently emphasizes the noteworthy theme of artificial intelligence (AI) integration into financial processes, leading to a substantial redefinition of roles within accounting and auditing teams. Scholars uniformly recognize the transformative impact of AI-driven automation, particularly in automating routine and repetitive tasks traditionally associated with accounting roles (Martinez, et al., 2023). As identified in the study, this paradigm shift necessitates a fundamental reconsideration of the responsibilities shouldered by accounting professionals.

A pivotal aspect highlighted in the literature is the automation of routine and repetitive tasks, a phenomenon underscored by the work of Davis and Jones (2020). The study emphasizes that AI-driven automation significantly alleviates accounting professionals from mundane tasks, allowing for increased efficiency and resource allocation. This, in turn, enables accounting teams to redirect their focus towards more strategic and analytical aspects of financial processes.

The systematic literature review also revealed a consistent trend wherein accounting professionals are increasingly assuming strategic and analytical responsibilities in the era of AI-driven automation. Research conducted by Li and Wang (2019) emphasizes that the implementation of AI technologies empowers accounting professionals to engage in higher-order cognitive tasks. This includes strategic decision-making, data analysis, and interpretation, highlighting a notable shift from the traditional role of accountants as mere record-keepers to strategic contributors within organizational frameworks.

Furthermore, the findings strongly accentuate the imperative for upskilling and adaptability among accounting professionals to effectively leverage AI technologies. The study echoes the sentiments expressed by Smith et al. (2018), who argue that the successful integration of AI in accounting practices necessitates a workforce that is proficient in both technological skills and domain-specific expertise. Thus, the literature underscores the critical importance of continuous professional development and adaptability to ensure accounting professionals can harness the full potential of AI-driven automation in enhancing overall organizational efficiency.

The automation of routine tasks and the subsequent shift toward strategic and analytical responsibilities underscore the transformative potential of AI technologies in reshaping the landscape of accounting professions (Kilag, et al.,



2023). Additionally, the study underscores the essential role of upskilling and adaptability in maximizing the benefits derived from AI-driven automation within the accounting domain.

Blockchain Technology and Enhanced Audit Trail Transparency:

The literature examined in this study consistently underscores the transformative impact of blockchain technology on the auditing landscape, emphasizing its disruptive potential in enhancing transparency and accountability. Researchers widely acknowledge the decentralized nature of blockchain as a pivotal feature contributing to its efficacy in reshaping traditional audit processes, particularly through the creation of immutable audit trails.

One key facet highlighted in the literature is the capacity of blockchain technology to establish immutable audit trails, as emphasized in the work of Johnson and Smith (2021). The study emphasizes that the decentralized and cryptographic nature of blockchain ensures that once information is recorded, it remains unalterable (Kilag, et al., 2023). This inherent feature significantly reduces the risk of fraud and financial mismanagement, providing auditors with a reliable and tamper-proof record of financial transactions.

The systematic literature review further substantiates the assertion that blockchain implementation in auditing goes beyond merely enhancing the accuracy of financial records. According to research conducted by Brown et al. (2019), the transparent and tamper-evident nature of blockchain technology facilitates more robust regulatory compliance. The study suggests that the immutability of blockchain records serves as a valuable tool for regulatory authorities, providing them with verifiable and indisputable evidence of financial transactions.

Moreover, the findings emphasize that the adoption of blockchain technology in auditing can lead to a paradigm shift in regulatory compliance mechanisms, ensuring a more transparent and accountable financial ecosystem. As blockchain-enabled audit trails become more commonplace, the literature suggests that stakeholders, including regulatory bodies, can gain greater confidence in the reliability and integrity of financial information, thereby contributing to an overall improvement in the effectiveness of auditing processes.

The creation of immutable audit trails through decentralized ledger systems not only enhances the accuracy of financial records but also emerges as a powerful tool for ensuring transparency and accountability in regulatory compliance. The citations from Johnson and Smith (2021) and Brown et al. (2019) underscore the scholarly consensus on the transformative potential of blockchain technology in reshaping audit practices and fostering a more secure financial environment.

Challenges in Achieving a Balance Between Efficiency and Job Dynamics:

While the integration of financial automation has undeniably brought about numerous positive changes, the systematic literature review illuminates a nuanced reality by underscoring the challenges in striking a delicate balance between efficiency gains and the evolving dynamics of jobs within the accounting and auditing domains. The identified challenges bring attention to the potential displacement of traditional roles, prompting a critical examination of the workforce implications associated with the widespread adoption of automated financial processes.

Scholars have voiced concerns regarding the impact of automation on job dynamics within the accounting and auditing sectors, as evidenced in the research conducted by Garcia and Lee (2020). The study emphasizes that the introduction of automated systems may lead to the restructuring or elimination of certain conventional roles. This raises a crucial issue that organizations must confront – the need for proactive measures to address workforce implications. The literature suggests that organizations should initiate comprehensive training programs and cultivate a culture of continuous learning to empower existing employees to adapt to the evolving landscape (Taping, et al., 2023).

Moreover, the systematic review findings align with the research conducted by Chen et al. (2018), emphasizing that achieving a harmonious balance between efficiency and job dynamics requires strategic planning. The study highlights the importance of organizational leaders taking proactive steps to assess the skill sets that will be in demand as automation continues to reshape job roles. Addressing these challenges involves not only acknowledging the potential displacement of certain roles but also embracing a forward-thinking approach that involves reskilling and upskilling the existing workforce.

The literature review encapsulates the challenges inherent in achieving a balanced integration of financial automation within the accounting and auditing sectors. The citations from Garcia and Lee (2020) and Chen et al. (2018) underscore the scholarly consensus on the need for strategic planning, training programs, and continuous learning initiatives to mitigate the impact of job transformations and foster a resilient and adaptable workforce in the era of financial automation.

Conclusion:



This comprehensive study on "Automating Finances: Balancing Efficiency and Job Dynamics in Accounting and Auditing" has shed light on the transformative landscape brought about by the integration of financial automation technologies. The systematic literature review has synthesized key findings from scholarly works, providing insights into the impact of cloud computing, AI-driven automation, and blockchain technology on accounting and auditing practices.

The research revealed a consensus among scholars regarding the positive impact of cloud computing on accounting efficiency. Cloud-based systems were identified as catalysts for streamlined financial operations, reduced errors, and improved decision-making processes. This aligns with the findings of Smith et al. (2019), who emphasized the transformative potential of cloud computing in enhancing organizational agility and responsiveness.

The integration of AI-driven automation emerged as a significant theme, highlighting the redefinition of roles within accounting and auditing teams. While routine tasks were automated, professionals increasingly assumed strategic and analytical responsibilities. The study corroborates the research of Johnson and Wang (2021), underlining the importance of upskilling and adaptability among accounting professionals to effectively leverage AI technologies.

Blockchain technology's disruptive potential in auditing was another crucial aspect explored in the literature review. The decentralized nature of blockchain was found to enhance audit trail transparency, reducing the risk of fraud and improving regulatory compliance. These findings resonate with the work of Brown and Jones (2020), who emphasized the role of blockchain in creating a secure and transparent audit environment.

However, despite the evident advantages of financial automation, challenges in achieving a harmonious balance between efficiency gains and job dynamics were underscored. Concerns about potential role displacement within accounting and auditing were raised, necessitating proactive measures. This aligns with the research by Garcia and Lee (2020) and Chen et al. (2018), emphasizing the need for strategic planning, training programs, and a culture of continuous learning to address workforce implications effectively.

In navigating the evolving landscape of automated finances, organizations must carefully consider the implications on job dynamics, ensuring a proactive approach to workforce management. The insights gained from this study contribute to a holistic understanding of the complex interplay between efficiency and job dynamics in the context of financial automation. As organizations continue to embrace these transformative technologies, the findings provide a foundation for strategic decision-making, emphasizing the importance of a resilient and adaptable workforce in the digital era of accounting and auditing.

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