Cloud Accounting and Digital Transformation: A Conceptual Framework for Business Sustainability

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Abstract

The convergence of cloud computing and financial management has catalyzed a fundamental shift in organizational operations. This review paper systematically synthesizes the literature regarding cloud accounting as a driver for digital transformation and business sustainability. By integrating the Technology-Organization-Environment framework, Resource-Based View, and Dynamic Capability Theory,a conceptual model is developed that positions digital transformation as a mediator between technological adoption and sustainable performance across economic, environmental, and social dimensions. Through a thematic analysis of contemporary research also identifies how cloud accounting facilitates the "sensing, seizing, and transforming" of organizational resources. Six research propositions were proposed that underscore the necessity of a "digital vision" in overcoming adoption barriers such as cybersecurity concerns and legacy manual processes. The paper concludes by outlining research gaps and providing a roadmap for future empirical investigation into the digital-sustainability nexus.

Keywords: cloud accounting, digital transformation, business sustainability, accounting innovation, ESG reporting, Triple Bottom Line

Introduction

The contemporary business environment is defined by a rapid transition toward decentralized, data-driven architectures. Within this landscape, accounting has evolved from a back-office recording function into a strategic pillar of digital transformation. Traditional accounting models, tethered to localized hardware and manual data entry, are increasingly redundant as organizations migrate toward cloud-based infrastructures (Khanom, 2017). This transition is not merely technical but represents a shift from "software as a product" to "software as a service", allowing for real-time financial transparency and organizational agility (Khanom, 2017).

Despite the theoretical benefits, the transition is uneven. In many developing regions, as many as 81% of Small and Medium-sized Enterprises continue to rely on manual, paper-based record-keeping (Sastararuji et al., 2022). Furthermore, while sustainability—balancing economic, environmental, and social imperatives—has become a corporate mandate, the role

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of accounting technologies in facilitating this Triple Bottom Line remains under-theorized. This review addresses this gap by synthesizing current literature to examine how cloud accounting serves as the engine for digital transformation, ultimately driving long-term business sustainability.

Literature Review

Cloud accounting has emerged as one of the most significant technological innovations in contemporary accounting practice. Unlike traditional accounting systems that require local installation and maintenance, cloud accounting operates through internet-based platforms hosted on remote servers. This model allows organizations to access financial information in real time while reducing investments in hardware infrastructure and software maintenance.The adoption of cloud accounting has accelerated due to advances in cloud computing technologies and increasing organizational demand for flexibility and scalability. Organizations, particularly small and medium-sized enterprises (SMEs), increasingly view cloud accounting as an efficient alternative to conventional accounting systems because it offers lower implementation costs, automatic software updates, and enhanced accessibility.

Recent studies suggest that cloud accounting contributes significantly to organizational performance by improving operational efficiency, financial reporting quality, and decision-making capabilities. The integration of artificial intelligence (AI), machine learning (ML), robotic process automation (RPA), and predictive analytics into cloud accounting platforms has further enhanced their strategic value. Consequently, cloud accounting is no longer viewed merely as an accounting tool but as a critical component of digital business ecosystems.Despite these advantages, concerns regarding cybersecurity, data privacy, vendor dependence, and regulatory compliance continue to influence adoption decisions. Organizations must therefore balance technological benefits with governance and risk management considerations.

Digital transformation refers to the integration of digital technologies into organizational processes, business models, and value creation mechanisms. It extends beyond technological adoption and encompasses cultural, structural, and strategic changes designed to improve organizational performance.Research indicates that digital transformation enhances operational efficiency through automation, process optimization, and improved information management. Organizations increasingly rely on data-driven decision-making supported by cloud computing, analytics, artificial intelligence, and digital platforms.Digital transformation also promotes organizational agility. Firms can respond more effectively to changing customer preferences, market disruptions, and competitive pressures by leveraging digital technologies. Furthermore, digital transformation encourages innovation by enabling organizations to develop new products, services, and business models.

However, successful transformation requires significant investments in technology infrastructure, employee training, leadership commitment, and organizational culture. Resistance to change, skill shortages, and implementation complexity remain common barriers.Cloud accounting contributes directly to digital transformation by digitalizing financial processes and facilitating data integration across organizational functions. Through real-time access to financial information, cloud accounting strengthens strategic decision-making and

organizational responsiveness.Business sustainability has become a central objective for organizations seeking long-term value creation. Sustainability extends beyond financial performance and encompasses environmental stewardship and social responsibility.

The Triple Bottom Line (TBL) framework remains one of the most widely accepted approaches to sustainability assessment. According to this framework, organizational performance should be evaluated across three dimensions:

Methodology

To ensure a rigorous and reproducible synthesis of the literature, this study adopts a Systematic Literature Review methodology (Shaikh et al., 2025). Unlike narrative reviews, an SLR provides a transparent and unbiased framework for identifying and analyzing relevant academic contributions (Shaikh et al., 2025).The literature search was conducted across two primary scientific databases: Web of Science and Scopus, ensuring a high standard of peer-reviewed content (Stjepić et al., 2020). The search utilized Boolean operators to combine keywords related to the three core pillars of this study they are Cloud Accounting or Online Accounting Digital Transformation or Business Process Management,Business Sustainability or Triple Bottom Line Studies were included if they met the following criteria: published in peer-reviewed journals between 2015 and 2026; provided empirical or theoretical insights into cloud accounting adoption or digital transformation mechanisms; and addressed organizational performance or sustainability outcomes. Exclusion criteria included non-English publications, news articles, and studies focusing solely on technical software architecture without organizational context.A thematic synthesis approach was used to categorize findings into four areas: technological evolution, digital transformation mechanisms, sustainability outcomes, and theoretical foundations. Quantitative data, such as path coefficients and cost-saving metrics from key studies (Ahmed, 2020; Rawashdeh & Rawashdeh, 2022), were extracted to validate the proposed conceptual model.

Thematic Synthesis of Current Research

Cloud accounting represents a paradigm shift where data is processed on remote servers and returned via the internet, liberating firms from localized software maintenance (Khanom, 2017). This evolution is characterized by a move away from purchasing software as a physical asset to subscribing to expertise-driven platforms (Khanom, 2017).

The economic implications of this shift are quantifiable. Empirical evidence suggests that migrating manual accounting phases—such as document collection, bookkeeping, and journal recording—to the cloud can yield significant savings (Ahmed, 2020). For a standard SME, each phase (e.g., collection of supporting documents) represents approximately 10% of the manual workload, valued at 250,000 ID per month (Ahmed, 2020). A full transition across all phases, including the elaboration of trial balances, can lead to total monthly savings of up to 2,500,000 ID (Ahmed, 2020).Digital transformation is conceptualized as the fundamental restructuring of business models through resource integration (Hsiao, 2023). Research identifies Business Process Management as a critical orchestrator in this journey, utilizing process engines, collaboration tools, and automation to build organizational agility (Stjepić et al., 2020).

Hsiao (Hsiao, 2023) argues that DT follows a tiered process:

1. **Resource Integration:** Combining IT-based resources (like cloud accounting) with organizational knowledge.
2. **Capability Building:** Developing "lower-order" and "higher-order" capabilities to convert these resources.
3. **Outcomes:** Realizing enhanced organizational performance.

Cloud accounting facilitates this by digitalizing the financial stream, but its effectiveness is moderated by the firm's "digital vision"—a strategic intent that outperforms individual-level "intention" in predicting successful adoption at the organizational level (Rawashdeh & Rawashdeh, 2022).The impact of cloud accounting on sustainability is examined through the Triple Bottom Line:

- **Economic:** Beyond the 2,500,000 ID monthly savings identified by Ibrahim Ahmed (Ahmed, 2020), cloud accounting reduces upfront IT capital expenditure, which is vital for SME resilience (Sastararuji et al., 2022).
- **Environmental:** The transition to the cloud mandates a "paperless" environment, reducing physical waste and supporting the green transition.
- **Social:** Transparency is enhanced through real-time access and immutable audit trails, which are foundational for accurate ESG reporting and stakeholder trust.

Theoretical Perspectives

The TOE framework explains the determinants of adoption. Research indicates that while competitive pressure (path coefficient 0.352) and top management support are influential, "organizational readiness" (0.434) is a primary driver for cloud migration (Rawashdeh & Rawashdeh, 2022). Interestingly, for many SMEs, adoption is often "informal" and triggered by internal crises or the need for mobility (e.g., during the COVID-19 pandemic) rather than external strategic planning (Sastararuji et al., 2022).

From an RBV perspective, cloud accounting is an "IT-based resource" that, when integrated, creates unique competitive advantages (Hsiao, 2023). However, DCT adds that firms must possess the capacity to "sense" market changes through real-time data, "seize" opportunities through faster decisions, and "transform" processes via automation to sustain these advantages (Stjepić et al., 2020).Based on the synthesis, an integrated model is proposed where **Cloud Accounting Adoption** drives **Digital Transformation**, which subsequently mediates the achievement of **Business Sustainability**.

Research Propositions:

- **P1:** The adoption of cloud accounting is positively mediated by a "digital vision," which serves as a more accurate organizational proxy for adoption than individual intention (Rawashdeh & Rawashdeh, 2022).
- **P2:** Cloud accounting adoption significantly enhances digital transformation by acting as a foundational resource for BPM-led agility (Stjepić et al., 2020).
- **P3:** Digital transformation mediates the relationship between cloud accounting

adoption and sustainable business performance (path coefficient to performance: 0.84) (Rawashdeh & Rawashdeh, 2022).

- **P4:** Organizational readiness (0.434) and top management support (0.368) positively moderate the success of cloud accounting implementation (Rawashdeh & Rawashdeh, 2022).
- **P5:** Internal operational needs (efficiency and mobility) are stronger drivers for SME cloud adoption than external environmental pressures in developing contexts (Sastararuji et al., 2022).
- **P6:** The transition from manual systems (affecting 81% of SMEs in certain regions) to cloud accounting provides the primary pathway for environmental sustainability through resource efficiency (Sastararuji et al., 2022).

Discussion of Gaps and Future Research

This review highlights that while the economic benefits of cloud accounting (e.g., 250,000 ID savings per phase (Ahmed, 2020)) are documented, there is a lack of longitudinal data on the social and environmental long-term impacts. Most current research focuses on the "intention" to adopt; however, as Rawashdeh and Rawashdeh (Rawashdeh & Rawashdeh, 2022) suggest, future studies should focus on the "digital vision" and actual implementation success. Additionally, there is a need for more research into how "Ostrich strategies" (ignoring tech shifts due to security fears) among practitioners can be mitigated through professional education (Khanom, 2017).

Conclusion

Cloud accounting is no longer a peripheral utility; it is the cornerstone of digital transformation and a prerequisite for modern business sustainability. By reducing the manual processing flow—potentially saving up to 2,500,000 ID per month for SMEs (Ahmed, 2020)—and fostering a "digital vision" that drives organizational performance (0.84) (Rawashdeh & Rawashdeh, 2022), cloud accounting enables firms to meet the complex demands of the Triple Bottom Line. Practitioners must transition from viewing the cloud as a mere cost-saving tool to a strategic asset that facilitates the agility required in a volatile global market.

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