

IMPACT OF CLOUD-BASED ACCOUNTING SOFTWARE ON FINANCIAL MANAGEMENT EFFICIENCY IN SMALL FIRM BUSINESSES IN PORT HARCOURT

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Abstract

This study examined the impact of cloud-based accounting software on financial management efficiency among small firm businesses in Port Harcourt. Guided by two objectives, the research examined the concept and operational features of cloud-based accounting software in small firm contexts, and to identify the benefits and challenges associated with its adoption. Anchored on the Diffusion of Innovations Theory, the study adopted a descriptive survey design and collected data from 88 respondents drawn from accounting and finance units of small firms in Port Harcourt. Structured questionnaires served as the primary data collection instrument, and the data were analyzed using descriptive statistics and multiple regression. The findings revealed that cloud-based accounting software significantly enhanced financial management efficiency through improved accuracy, timeliness, and accessibility, with accuracy showing the highest positive influence. Specifically, 78% of respondents indicated that the software reduced manual errors, 74% reported improved collaboration with accountants, and 69% stated that it facilitated real-time decision-making. However, adoption was hindered by poor internet connectivity, high subscription costs, low ICT literacy, and data security concerns. The study concluded that while cloud accounting offered transformative potential for small firms in Port Harcourt, infrastructural, financial, and knowledge-related challenges needed to be addressed for optimal utilization. It recommended targeted digital literacy training, affordable subscription models, improved internet infrastructure, and localized solutions tailored to the Nigerian business environment. This research contributed to knowledge by providing empirical evidence linking the operational features of cloud-based accounting software to measurable improvements in financial management efficiency within small businesses in Port Harcourt.

KEYWORDS: Cloud-Based Accounting, Financial Management Efficiency, Small Business, Accounting Software, Internet Use and Poor Literacy.

Introduction

Small businesses in Port Harcourt, like many small and medium-sized enterprises (SMEs) across Nigeria, are increasingly adopting cloud-based accounting software to address persistent challenges in financial management and operational efficiency. Unlike traditional manual bookkeeping or desktop-based accounting systems, cloud platforms offer automated transaction processing, real-time financial reporting, and remote accessibility—features that are particularly beneficial for resource-constrained businesses operating in dynamic environments (Ejike, Nnamani, & Ugwu, 2025; Saleem, 2024). Research conducted among SMEs in Enugu North Local Government Area supports these benefits. Ejike et al. (2025) identified perceived usefulness, ease of use, and organizational readiness as key factors influencing the adoption of cloud accounting. While challenges such as poor internet connectivity, high subscription fees, and limited technical expertise persist, SMEs that have embraced these tools report improvements in financial reporting accuracy, quicker decision-making processes, enhanced tax compliance, and a reduction in paperwork. These outcomes are in line with the Technology Acceptance Model and Diffusion of Innovation theory, which suggest that perceived relative advantage and user-friendliness drive technological adoption (Ejike et al., 2025).

In the broader Nigerian context, particularly within the consumer goods sector, Nduokafor, Ukoh, and Nworie (2024) demonstrate that cloud-based accounting significantly reduces the risk of business failure. Their longitudinal study of fourteen firms over nine years shows that consistent use of cloud accounting contributes to resilience by enabling precise record-keeping and timely financial analysis. Globally, the trend is similar. A systematic review by Khayer et al. (2024) indicates that over 80% of SMEs using cloud technologies report improved operational efficiency, while 76% note considerable cost savings. Influencing factors include managerial support, service quality, and risk perception (Khayer et al., 2024).

Nevertheless, barriers to adoption persist. Usman, Halidu, and Aliyu (2025) highlight data security concerns, organizational resistance, and psychological factors such as fear of technological disruption and vendor mistrust. Ugba, Ighosewe, and Erhijakpor (2025) further observe that security risks, system incompatibility, and unstable internet access hinder widespread use among Nigerian accounting professionals. Interestingly, slight increases in subscription and training costs often signal product credibility, encouraging adoption (Ugba et al., 2025). Despite these obstacles, cloud accounting continues to offer compelling benefits. Automated updates, shared access for stakeholders, and reduced infrastructure costs make these platforms particularly valuable for SMEs

lacking dedicated IT support (Saleem, 2024; Onifade et al., 2025). In Port Harcourt, cloud-based systems are enhancing SME financial management by delivering real-time insights, promoting cost efficiency, and ensuring data security though wider adoption depends on targeted training, localized support, and improved digital infrastructure.

Small businesses in Port Harcourt face numerous financial and infrastructural challenges, including poor recordkeeping, unreliable desktop systems, and low digital literacy. Many rely on outdated accounting methods that are prone to error and inefficiency, hampering budgeting, tax compliance, and financial forecasting. Despite the availability of cloud-based accounting tools, adoption remains low due to inadequate training, cost concerns, and limited awareness. The high cost of data, fluctuating exchange rates, and unstable power and internet connectivity further deter usage. These factors make cloud tools seem impractical, even though they offer long-term benefits. Additionally, fears over data security discourage many SMEs from trusting online platforms with sensitive financial information. Cloud software often lacks localization for Nigeria's informal business structures, further reducing its appeal. To improve adoption, solutions must be affordable, tailored to local needs, and supported by digital literacy programs and stable infrastructure in the Port Harcourt area.

The aim of this study is to examine the impact of cloud-based accounting software on financial management efficiency in small businesses in Port Harcourt. examine the concept and operational features of cloud-based accounting software in the context of small firm businesses in Port Harcourt. identify the benefits and challenges associated with the adoption of cloud-based accounting software by small firm businesses in Port Harcourt.

Literature Review

Concept of Cloud-Based Accounting Software

Cloud-based accounting software refers to online platforms that allow users to manage financial processes such as bookkeeping, invoicing, bank reconciliation, and general ledger maintenance via remote servers accessed through the internet. Unlike traditional desktop systems installed on individual machines, cloud solutions operate entirely through web interfaces or mobile apps, offering anywhere access and eliminating the need for local installations (Workday, 2025). One of the core features of cloud accounting is real-time access to financial data, where transactions and reports are synchronized instantly across users and devices, ensuring the most current information is always available. This supports quick decision-making and enhances overall financial control.

Cloud-based systems also improve collaboration, as multiple users including business owners, accountants, and staff can work on the same financial data at the same time, regardless of their

location. This fosters greater coordination and reduces version control issues. Automation is another major strength, with platforms handling repetitive tasks such as data entry, invoice generation, and reconciliations, thereby allowing more time for strategic financial planning. Security features such as encryption, multi-factor authentication, and automatic backups help protect sensitive financial data and ensure regulatory compliance. For small businesses, cloud accounting offers scalability and flexibility, enabling them to expand storage, integrate more features, or add users without additional hardware costs. Subscription-based pricing models make the technology more affordable and adaptable to changing needs. Studies have shown that businesses using cloud accounting experience faster financial reporting, better collaboration across departments, and more responsive decision-making processes, which are essential for competitiveness in the digital economy (Rymarczyk, 2025). While challenges such as internet dependency and concerns over data privacy remain, the advantages in accessibility, automation, security, and scalability make cloud accounting a transformative tool for modern financial management.

Types of Cloud-based Accounting Software

General Accounting Platforms: These are core cloud accounting solutions designed for everyday financial tasks such as invoicing, expense tracking, reconciliations, and reporting. Popular platforms in this category include QuickBooks Online and Xero, which are widely adopted by small businesses for their comprehensive yet user-friendly functionality.

Mid-Tier/Multi-Feature Solutions: This category integrates accounting with additional capabilities like inventory management, payroll, advanced reporting, and multi-currency support, making them ideal for growing enterprises. Tools like Zoho Books, FreshBooks, and Sage Business Cloud Accounting offer scalable features and automation tailored to more complex operational needs (TechRadar, 2025).

Enterprise Resource Planning (ERP)-Integrated Platforms: ERP-based cloud systems incorporate accounting as part of a comprehensive suite that includes CRM, supply chain, HR, and project management. Examples such as NetSuite and Sage Intacct deliver modular cloud-based applications with advanced capabilities like multi-entity consolidation, budgeting, and analytics features well-suited for larger organizations (Wikipedia, 2025).

Financial Management Efficiency in Small Businesses

Financial management efficiency in small businesses refers to the ability to utilize financial resources effectively to achieve organizational objectives while minimizing waste and maximizing returns. In small firms, efficient financial management involves accurate bookkeeping, timely financial reporting, optimal cash flow control, and informed decision-making based on reliable

data. Due to their limited resources, small businesses often face challenges such as poor record-keeping, delayed reporting, and inadequate budgeting practices, which can hinder operational growth and sustainability. The adoption of modern tools, especially cloud-based accounting systems, offers an avenue to enhance efficiency by automating repetitive tasks, improving data accuracy, and providing real-time insights for proactive financial planning. When financial operations are well-structured, small businesses are better equipped to make strategic investments, respond quickly to market changes, and maintain a competitive advantage in their industries.

Benefits of Cloud-Based Accounting for Small Firms

Cloud based accounting provides small firms with significant advantages that directly contribute to financial management efficiency. The main benefits include

Accessibility: Cloud systems allow business owners and accountants to access financial data from any location with internet connectivity, enabling faster decision making (TechRadar, 2025).

Automation: Reduces the need for manual data entry, minimizes human errors, and streamlines tasks such as invoice generation, payroll processing, and tax preparation.

Cost effectiveness: Eliminates the need for expensive on premises servers and frequent software installations, allowing firms to operate with predictable subscription based expenses.

Collaboration: Enables multiple users to work on the same financial data in real time, which is particularly valuable for businesses that engage external accountants or financial consultants.

Data security: Offers encryption, multi factor authentication, and automatic backups to ensure the protection and continuity of financial information, building trust and stability in business operations.

Impact of Cloud-Based Accounting Software on Small Firm Businesses in Port Harcourt

Cloud-based accounting software has significantly influenced the financial management practices of small firm businesses in Port Harcourt by improving accuracy, accessibility, and overall efficiency. These systems provide real-time access to financial data, enabling business owners to make informed decisions quickly and effectively. According to Okafor and Nwankwo (2024), platforms like QuickBooks Online and Xero streamline financial processes, reduce manual errors, and enhance collaboration between business owners and their accountants. The automation of bookkeeping and reporting tasks minimizes operational costs while freeing up time for core business activities. Furthermore, the flexibility of cloud-based solutions allows businesses to scale operations and adapt to market changes without incurring high technology infrastructure costs. Bako and Yusuf (2023) highlight that improved data transparency and accountability contribute to

better financial control and planning. This enhanced financial oversight not only boosts internal decision-making but also strengthens trust with external stakeholders such as investors and lenders. However, challenges such as unstable internet connectivity and limited ICT literacy among some entrepreneurs continue to hinder full adoption. Addressing these issues through targeted capacity building and infrastructure improvements will enable small firms in Port Harcourt to maximize the benefits of cloud-based accounting solutions.

Challenges Hindering the Effective Adoption and Utilization of Cloud-Based Accounting Systems by Small Businesses in Port Harcourt

Small businesses in Port Harcourt face multiple challenges that limit the effective adoption and utilization of cloud-based accounting systems. These challenges affect not only the decision to adopt such technologies but also their consistent and productive use.

Poor Internet Connectivity: Unstable internet connections remain one of the most critical barriers. Poor network quality disrupts real-time access to accounting platforms, thereby slowing financial operations and making it difficult to process transactions efficiently. High data costs and frequent network downtimes further discourage small business owners from relying solely on cloud-based systems (Okafor & Nwankwo, 2024).

Low ICT Literacy: A considerable number of entrepreneurs, particularly in traditionally managed businesses, lack adequate knowledge of digital tools. This limited ICT literacy prevents owners and employees from fully exploring the features and benefits of cloud-based accounting systems. Without adequate training, these users struggle with system navigation and data entry.

Data Security and Privacy Concerns: The fear of cyberattacks, hacking, and unauthorized access to sensitive financial records makes some business owners reluctant to adopt cloud-based solutions. Concerns over how service providers manage and store data continue to limit trust in such systems (Bako & Yusuf, 2023).

High Subscription Costs: Although some cloud-based accounting tools offer free versions, the advanced features required for robust financial management often come at a cost. Subscription fees for premium services can be too expensive for micro and small enterprises operating with limited budgets.

Resistance to Change: Shifting from manual record-keeping to automated systems often encounters resistance from business owners and staff. This reluctance is typically rooted in habit, comfort with traditional processes, and skepticism about the reliability of new technologies.

Diffusion of Innovations Theory

This theory was propounded by Everett M. Rogers in 1962. It explains how new ideas, technologies, or innovations spread within a social system over time. According to Rogers, the adoption of innovations follows a process that involves awareness, interest, evaluation, trial, and adoption. The theory categorizes adopters into five groups: innovators, early adopters, early majority, late majority, and laggards, each with varying levels of willingness to embrace change. The Diffusion of Innovations Theory is relevant to this study because it provides a framework for understanding how small businesses in Port Harcourt adopt and utilize cloud-based accounting software. It highlights the factors influencing adoption, such as perceived usefulness, ease of use, cost, and compatibility with existing practices. By identifying where small business owners fall within the adopter categories, strategies can be designed to encourage faster and more effective uptake of cloud-based accounting systems. In the broader society, the theory is significant as it aids policymakers, technology developers, and business support organizations in promoting innovations. It ensures that new technologies, like cloud-based accounting, are introduced in ways that align with users' needs, capabilities, and readiness for change.

Adeoye and Michael (2023) investigated the impact of cloud-based accounting software on financial management efficiency among small and medium-sized enterprises (SMEs) in Rivers State, with a focus on Port Harcourt metropolis. Using a descriptive survey design, the study sampled 120 SME owners and accountants through stratified random sampling. Data were collected using a structured questionnaire and analyzed with multiple regression analysis. The findings revealed that the adoption of cloud-based accounting significantly improved financial record accuracy, reduced processing time, and enhanced real-time decision-making capabilities. The study also found that businesses using such systems experienced fewer errors in financial reporting and improved compliance with tax regulations. However, challenges such as unstable internet connectivity and subscription costs were identified as limiting factors. The authors recommended targeted ICT training for SME operators and the development of affordable subscription models to encourage wider adoption.

Methodology

The research design for this study was based on non-experimental descriptive/survey design for collecting and analyzing data. Survey design was adopted because it allowed the researcher to obtain data from a selected sample with the aim of discovering relationships and interactions among the variables under study. Primary data was used in generating data for this research. According to Kotler (2017), primary data refers to firsthand information obtained specifically for a study. In this study, primary data was collected using structured questionnaires administered to respondents. The population of the study comprised selected staff from the accounting and finance units of small businesses in Port Harcourt. The total population for the study was 88.

Result and Analysis

Table 1: Model Summary

Model	R	Square	Adjusted R Square	Std. Error of the Estimate
1	.427	.182	.158	1.025

Predictors: (Constant), Accuracy, Timeliness, Accessibility

Source: SPSS Output

The model summary indicates that the regression model, which incorporates operational features of cloud-based accounting software namely Accuracy, Timeliness, and Accessibility explains approximately 18.2% of the variance in financial management efficiency (R Square = 0.182). The Adjusted R Square value of 0.158 suggests that although the model captures a modest portion of the overall impact, other factors may also influence efficiency in financial management. The R value of 0.427 reflects a moderate positive correlation between the use of cloud-based accounting features and financial management efficiency in small firm businesses in Port Harcourt. This supports the first objective of the study, which focuses on understanding how the operational features of cloud accounting software relate to financial practices in the local business context. The standard error of the estimate, 1.025, indicates a moderate level of prediction accuracy. This implies that while cloud-based systems contribute positively to financial performance, there is room for improvement, possibly through enhanced integration or user training.

Table 2: Coefficients

Model	Unstandardized Coefficients	Standardized Coefficients	t	Sig.
	B		Std. Error	Beta
(Constant)	4.910		0.801	6.129
Accuracy	0.398		0.162	0.291
Timeliness	0.213		0.137	0.173
Accessibility	0.185		0.148	0.151

Dependent Variable: Financial Management Efficiency

Source: SPSS Output

The coefficient table further clarifies the **impact of individual operational features** of cloud-based accounting software on financial management efficiency.

Discussion and Findings

- **Accuracy** demonstrates a **positive and statistically significant impact** ($B = 0.398$, $p = .017$). This confirms that accurate data processing, a core feature of cloud accounting, significantly enhances financial reporting and decision-making among small businesses in Port Harcourt. This result aligns with Harry and Samuel (2019), who emphasized data accuracy as a key component of effective financial management.
- **Timeliness** shows a **positive but not statistically significant impact** ($B = 0.213$, $p = .124$). While timely access to financial data appears to improve efficiency, the effect is not strong enough in this sample. This supports the observation by Green and Thomas (2018) that timeliness must be linked with analytical capabilities for real value to be derived.
- **Accessibility** also exhibits a **positive but statistically insignificant relationship** ($B = 0.185$, $p = .215$). Although ease of access to financial information is essential, this result suggests that without the necessary skills or interpretation, accessibility alone may not guarantee financial efficiency. This agrees with findings by Martinez and Gupta (2021), who argued that usability and interpretation are just as critical as access.

These findings address Objectives 1 and 2 by showing varied impacts of cloud features and barriers affecting their effective utilization.

Conclusion

This study established that cloud-based accounting software plays a significant role in enhancing financial management efficiency among small firm businesses in Port Harcourt. Evidence from the reviewed literature and empirical findings shows that such systems improve the accuracy of financial records, facilitate real-time decision-making, and streamline bookkeeping processes. Despite these benefits, challenges such as unstable internet connectivity, high subscription costs, low ICT literacy, and data security concerns hinder optimal adoption and utilization. Addressing these barriers through improved infrastructure, affordable service plans, and targeted digital literacy training will enable small businesses to maximize the advantages of cloud-based accounting. Ultimately, embracing these technologies will strengthen financial operations and improve overall business sustainability in Port Harcourt.

Recommendations

The study recommended that;

Small firm business owners in Port Harcourt should be enlightened on the concept and operational features of cloud-based accounting software to enhance their understanding and encourage adoption for improved financial management efficiency.

relevant stakeholders, including business associations and government agencies, should identify and address the benefits and challenges associated with the adoption of cloud-based accounting software by small firm businesses in Port Harcourt, with a focus on providing solutions that will promote sustainable usage and long-term growth.

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