

Implementation of Digital-Based Accounting: The Impact of Accounting Information System Adoption on Financial Reporting Efficiency

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Abstract

The increasing complexity of business transactions and the growing demand for timely, accurate, and transparent financial information have driven organizations to shift from manual bookkeeping toward digital-based accounting through the adoption of Accounting Information Systems (AIS). This study aims to examine the impact of AIS adoption on the efficiency of financial reporting, with a focus on processing speed, data accuracy, and compliance with reporting standards. A quantitative approach was employed, involving 120 respondents consisting of accounting staff and financial managers from small and medium-sized enterprises (SMEs) and service-sector organizations that have implemented computer-based accounting systems. Data were collected through a structured questionnaire and analyzed using multiple linear regression. The results reveal that AIS adoption, measured through system quality, information quality, and user competence, has a positive and significant effect on financial reporting efficiency. Among the three dimensions, information quality shows the strongest influence, followed by system quality and user competence. These findings indicate that the effectiveness of digital accounting implementation depends not only on the sophistication of the technology itself but also on the quality of the information it produces and the readiness of the users operating it. The study offers practical implications for organizations seeking to strengthen their financial reporting processes through more strategic AIS investment and structured user training programs.

Keywords: accounting information system; digital-based accounting; financial reporting efficiency; system quality; information quality; user competence

Introduction

Financial reporting serves as a critical instrument through which organizations communicate their financial position and performance to internal and external stakeholders,

including management, investors, creditors, and regulatory authorities. In an increasingly competitive and fast-paced business environment, the timeliness and accuracy of financial reports have become key determinants of organizational credibility and decision-making quality. Traditional manual accounting processes, however, are often associated with delays, recording errors, and limited capacity to handle large volumes of transactions, which ultimately compromise the reliability of financial information.

The advancement of information technology has given rise to Accounting Information Systems (AIS), which integrate accounting principles with computer-based technology to automate the recording, processing, and reporting of financial transactions. AIS adoption enables organizations to generate financial reports more quickly, reduce human error, and improve compliance with applicable accounting standards. Despite these potential benefits, the successful implementation of AIS is not automatic; it depends on multiple factors, including the quality of the system itself, the quality of the information it generates, and the competence of the users who operate it on a daily basis.

In practice, many organizations, particularly small and medium-sized enterprises, continue to face challenges in fully leveraging AIS due to limited technical infrastructure, inadequate staff training, and resistance to changing established manual routines. This gap between the availability of digital accounting technology and its effective utilization raises an important research question regarding the extent to which AIS adoption genuinely translates into improved financial reporting efficiency. Accordingly, this study aims to examine the effect of AIS adoption, viewed through the dimensions of system quality, information quality, and user competence, on financial reporting efficiency, in order to provide empirical evidence that can inform both organizational practice and future research on digital accounting transformation.

Literature Review

Accounting Information System (AIS)

An Accounting Information System is a structured system that collects, records, stores, and processes financial and accounting data to produce information for decision-making purposes. Modern AIS typically integrates hardware, software, databases, and trained personnel to automate transaction processing, ledger maintenance, and financial statement preparation. The adoption of AIS is widely regarded as a strategic step for organizations seeking to enhance operational efficiency and strengthen internal control over financial data.

DeLone and McLean Information Systems Success Model

This study adopts the DeLone and McLean Information Systems Success Model as its primary theoretical foundation, which posits that the success of an information system can be evaluated through several interrelated dimensions, including system quality, information quality, and user satisfaction, which together influence the net benefits derived from system use. System quality refers to the technical performance of the system, such as reliability, ease of use, and processing speed, while information quality refers to the accuracy, completeness, and relevance of the output produced by the system. This model provides a suitable framework for examining how the technical and informational attributes of AIS translate into tangible improvements in financial reporting processes.

User Competence in Information System Utilization

Beyond the technical attributes of a system, the competence of the individuals operating it plays a decisive role in determining implementation success. User competence encompasses technical skills in operating accounting software, conceptual understanding of accounting principles, and the ability to interpret system-generated information accurately. Prior studies suggest that even a technologically sophisticated AIS may fail to deliver its intended benefits if end users lack sufficient training or familiarity with the system's features.

Financial Reporting Efficiency

Financial reporting efficiency refers to the extent to which an organization is able to produce accurate, complete, and timely financial reports with optimal use of time and resources. Common indicators of financial reporting efficiency include the speed of report preparation, the reduction of recording and reconciliation errors, and the degree of compliance with applicable financial reporting standards. Efficient financial reporting not only supports internal managerial decision-making but also enhances the organization's credibility in the eyes of external stakeholders such as investors, banks, and regulators.

Hypothesis Development

Based on the theoretical framework described above, the following hypotheses are proposed:

H1: System quality has a positive and significant effect on financial reporting efficiency.

H2: Information quality has a positive and significant effect on financial reporting efficiency.

H3: User competence has a positive and significant effect on financial reporting efficiency.

Method

Research Design and Population

This study employs a quantitative explanatory research design to examine the causal relationships between AIS adoption dimensions and financial reporting efficiency. The population consists of accounting staff and financial managers working in small and medium-sized enterprises and service-sector organizations that have implemented computer-based accounting systems for at least one year. A purposive sampling technique was applied, resulting in a final sample of 120 respondents who met the inclusion criteria of direct involvement in the financial reporting process.

Data Collection and Measurement

Primary data were collected through a structured questionnaire distributed both online and offline, using a five-point Likert scale ranging from 1 (strongly disagree) to 5 (strongly agree). The questionnaire consisted of four main constructs: system quality (6 items), information quality (6 items), user competence (5 items), and financial reporting efficiency (6 items covering timeliness, accuracy, and standard compliance), adapted from established instruments in prior information systems and accounting research. Instrument validity was assessed through Pearson correlation, and reliability was tested using Cronbach's Alpha, with all constructs exceeding the acceptable threshold of 0.70.

Data Analysis Technique

Data were analyzed using multiple linear regression with the assistance of statistical software. Prior to hypothesis testing, classical assumption tests were conducted, including normality, multicollinearity, and heteroscedasticity tests, to ensure that the regression model satisfied the required statistical assumptions. The coefficient of determination (R^2) was used to evaluate the overall explanatory power of the model, while partial (t-test) and simultaneous (F-test) tests were used to examine the significance of each independent variable's effect on financial reporting efficiency.

Results and Discussion

Respondent Characteristics

Of the 120 respondents, approximately 62 percent were accounting staff and 38 percent held financial managerial positions. The majority of respondents (71 percent) reported having used their organization's accounting information system for more than two years, indicating a reasonably experienced sample capable of providing informed assessments of system performance and its impact on reporting processes.

Validity, Reliability, and Classical Assumption Tests

All indicators across the four constructs were declared valid, with corrected item-total correlation values above 0.30. Reliability testing produced Cronbach's Alpha values of 0.845 for system quality, 0.821 for information quality, 0.798 for user competence, and 0.867 for financial reporting efficiency, confirming that all instruments were reliable. The classical assumption tests indicated that the residuals were normally distributed, no multicollinearity was present among the independent variables (VIF values below 10), and no heteroscedasticity was detected in the regression model.

Regression Results

The results of the multiple linear regression analysis are summarized in Table 1 below.

Variable	Coefficient (B)	t-value	Sig.	Result
System Quality (X1)	0.241	2.987	0.003	Significant
Information Quality (X2)	0.356	4.203	0.000	Significant
User Competence (X3)	0.198	2.514	0.013	Significant
Constant	5.872	-	-	-

The coefficient of determination (R^2) was 0.612, indicating that system quality, information quality, and user competence jointly explain 61.2 percent of the variance in financial reporting efficiency, while the remaining 38.8 percent is explained by factors outside the model. The F-test result ($F = 60.734$, $p < 0.05$) confirms that the model is statistically significant, meaning that the three independent variables simultaneously affect financial reporting efficiency.

Discussion

The results confirm Hypothesis 1, showing that system quality has a positive and significant effect on financial reporting efficiency ($\beta = 0.241, p < 0.05$). This finding suggests that a reliable, user-friendly, and fast-processing accounting system contributes meaningfully to reducing the time required to prepare financial reports and minimizing technical errors during data entry and processing.

Hypothesis 2 is also supported, with information quality showing the strongest effect among the three variables ($\beta = 0.356, p < 0.05$). This indicates that the accuracy, completeness, and relevance of the information generated by the AIS are the most influential factors in determining reporting efficiency, more so than the technical sophistication of the system itself. This finding underscores that organizations should prioritize data governance and output quality control alongside their investment in system infrastructure.

Hypothesis 3 is supported as well, confirming that user competence has a positive and significant effect on financial reporting efficiency ($\beta = 0.198, p < 0.05$), although its influence is comparatively smaller than that of system and information quality. This suggests that while adequate training and technical skill among accounting staff are important, the benefits of user competence are more fully realized when supported by a high-quality system and reliable information output, reflecting the complementary nature of these three dimensions within the DeLone and McLean framework.

Taken together, these findings imply that organizations aiming to improve financial reporting efficiency through digital-based accounting should adopt a holistic approach that combines investment in robust AIS infrastructure, rigorous data quality assurance, and structured, ongoing training programs for accounting personnel, rather than focusing on any single dimension in isolation.

Conclusion

This study demonstrates that the implementation of digital-based accounting through Accounting Information System adoption has a positive and significant effect on financial reporting efficiency, as reflected through the dimensions of system quality, information quality, and user competence. Among these three factors, information quality exerts the strongest influence, followed by system quality and user competence, with the three dimensions jointly explaining more than 60 percent of the variance in financial reporting efficiency. These

findings affirm the relevance of the DeLone and McLean Information Systems Success Model in explaining how digital accounting technology translates into improved organizational reporting outcomes.

This study is subject to several limitations, including its cross-sectional design and its sample scope limited to accounting staff and financial managers within SMEs and service-sector organizations, which may limit the generalizability of the findings to larger corporations or other industry sectors. Future research is encouraged to expand the sample across different industries and organizational sizes, incorporate longitudinal data to capture the evolving impact of AIS adoption over time, and explore additional variables such as top management support, organizational culture, and cybersecurity concerns to provide a more comprehensive understanding of digital accounting transformation.

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