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Impact of Digital Accounting Software on the Accuracy and Efficiency of Financial Reporting: A Structured Critical Review

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ABSTRACT :

Digital accounting software is widely expected to improve financial reporting, yet the evidence on whether it does so, and under what conditions, is fragmented across software types, contexts and outcome measures. This paper presents a structured critical review of peer-reviewed studies on enterprise resource planning (ERP), cloud-based accounting and related automation, examining accuracy, efficiency and timeliness, reliability, internal controls and implementation challenges. Studies are coded by context, design, outcome measure and whether outcomes are objectively measured or perceived. A framework combining the Technology–Organisation–Environment (TOE) framework and the DeLone and McLean Information Systems Success Model is used to derive four propositions for future testing. The review finds that benefits are conditional rather than automatic: archival ERP studies report gains in some outcomes, such as timeliness for motivated firms and internal information quality, alongside adverse or null results for others, while cloud-accounting evidence is predominantly qualitative or perception-based. No original data are analysed and no causal claims are made. The paper identifies a gap in objectively measured outcome evidence for small and medium-sized enterprises (SMEs) and outlines a survey-based study to address it.

Keywords: **digital accounting software; financial reporting quality; cloud accounting; ERP; internal control; accounting information systems**

1. Introduction

Financial reports support decisions by managers, lenders, investors and regulators, and their usefulness depends on information that is accurate, timely and reliable. The preparation of that information has moved from manual ledgers and spreadsheets towards integrated enterprise resource planning (ERP) systems, cloud-based accounting platforms and, more recently, automation tools such as robotic process automation (RPA), which is now being adopted in public accounting (Cooper et al., 2019). Moll and Yigitbasioglu (2019) observe that internet-related technologies may improve financial visibility and allow more timely intervention, but also conclude that accounting scholars have given too little attention to how these technologies affect accountants' everyday work.

A common assumption is that digital accounting software reduces manual errors and speeds up reporting. The evidence is more qualified. In an archival study of ERP implementations, Brazel and Dang (2008) found higher absolute discretionary accruals after implementation, a result they interpret as greater earnings management, although firms with incentives to report sooner shortened their reporting lag. Widyaningdyah and Ezra (2020) found that ERP adoption in Indonesian firms did not reduce internal control weaknesses, because control features were not fully used. Much of the cloud-accounting literature, meanwhile, addresses why firms adopt the technology (for example, Sastararuji et al., 2022) rather than what adoption does to reporting outcomes.

This pattern points to a specific rather than general research gap. Among the studies retrieved for this review, objectively measured outcomes appear mainly in archival ERP research on firms with publicly available reporting data, while evidence on cloud accounting, the software most often associated with small and medium-sized enterprises (SMEs), is largely qualitative, case-based or perception-based. The gap is therefore one of measurement and context, and it is provisional given the targeted search described in Section 2.

The paper addresses one primary question: *To what extent, and under what conditions, is the use of digital accounting software associated with the accuracy and efficiency of financial reporting?* Three supporting questions follow. RQ1: What does existing evidence show about reporting accuracy and reliability? RQ2: What does it show about efficiency and timeliness? RQ3: Which technological, organisational and human factors, including implementation challenges, determine whether expected benefits materialise, and do they differ between SMEs and larger firms? The paper contributes a structured synthesis that separates objectively measured from perceived outcomes, a conceptual framework linking implementation conditions to reporting outcomes, and four propositions with a research agenda. It analyses no original data and makes no causal claims.

2. Review Method

The paper uses a structured critical review with narrative synthesis rather than original empirical testing. A quantitative design was judged infeasible because error rates, close times and correction frequencies are mostly internal to firms and not publicly disclosed, and a survey would capture perceptions

rather than measured accuracy.

Targeted searches combined terms such as digital accounting systems, accounting information systems, cloud accounting, ERP, accounting automation, financial reporting quality, reporting timeliness and internal control weaknesses. Studies were retained if they were peer-reviewed, examined ERP, cloud-based or automated accounting software, and addressed at least one reporting-related outcome or the conditions and risks affecting its realisation. Vendor publications, unreviewed theses and sources whose bibliographic details could not be confirmed against publisher or indexing records were excluded. Each retained study was coded for software type, context, design, outcome and whether the outcome was objectively measured or perceived (Table 1), and appraised informally on design strength and measurement. Because the search was not run across a full set of bibliographic databases and no screening flow is reported, this is not a systematic review, and its conclusions are provisional.

3. Theoretical and Conceptual Framework

The Technology–Organisation–Environment (TOE) framework (Tornatzky & Fleischer, 1990) explains how technological characteristics, organisational conditions (size, resources, skills, management support) and environmental factors (vendor support, regulation) shape whether and how well a technology is adopted. It is appropriate because RQ3 asks which conditions determine outcomes, and it has been applied to cloud accounting (Sastararuji et al., 2022). The DeLone and McLean (2003) Information Systems Success Model links system quality, information quality and service quality to use and user satisfaction, and then to net benefits. It is appropriate because it distinguishes owning a system from using it and from the quality of the information it produces, which maps directly onto accuracy and reliability. The Technology Acceptance Model was not used because it explains individual intention to adopt, whereas this paper concerns organisational outcomes after adoption.

TOE conditions (technology, organisation, environment) → Implementation quality and feature use → Information quality and control effectiveness → Reporting accuracy, timeliness and efficiency

This logic yields four propositions. They are untested and are stated for future research, not as findings.

P1. The association between software use and reporting accuracy is stronger where built-in validation and control features are actually used.

P2. Timeliness gains are larger where processes are integrated and the firm has an incentive to report quickly.

P3. Staff skills, training and implementation quality moderate the relationship between software use and reporting outcomes.

P4. Self-reported improvements exceed objectively measured improvements.

Organisational size is treated as an open question because the available evidence does not support a directional proposition.

4. Synthesis of Evidence

Table 1 summarises the principal studies. Software types differ (ERP and cloud accounting), and evidence on objective outcomes and evidence on SMEs come from different studies, so comparisons below are made cautiously.

Table 1
Coding Summary of Reviewed Studies

Study	Software and context	Design	Outcome type	Main finding (as reported)
Brazel & Dang (2008)	ERP; firms with public reporting data	Archival	Objective (accruals, release lag)	Higher absolute discretionary accruals after implementation and with more modules; shorter reporting lag for firms with timeliness incentives.
Dorantes et al. (2013)	Enterprise systems; firms with public reporting data	Archival	Objective (forecast quality as proxy)	Better management earnings forecasts, interpreted as an improved internal information environment.
Morris (2011)	ERP; firms with public reporting data	Archival, matched sample	Objective (control weakness disclosures)	ERP implementers less likely to report internal control weaknesses than non-implementers.
Widyaningdyah & Ezra (2020)	ERP; Indonesian firms	Quantitative, firm-level	Objective (control weaknesses)	No reduction in control weaknesses; control features not fully used.
Ma et al. (2021)	Cloud client accounting; small and medium accounting practices	Qualitative interviews (8 practices)	Perceived and descriptive	Identified determinants and impacts of adoption; very small sample limits generalisation.
Yau-Yeung et al. (2020)	Cloud accounting; Australian organisations	Empirical, transaction cost lens	Risks and mitigation	Cloud accounting adds process-specific risks; vendor choice, contracts, policies and training central to mitigation.

Study	Software and context	Design	Outcome type	Main finding (as reported)
Sastararuji et al. (2022)	Cloud accounting; Thai SMEs	Explanatory case study	Adoption factors	Technology, organisation, environment and institutional factors explain adoption; no reporting outcomes tested.
Slimani (2025)	Cloud accounting; Algerian institutions	Questionnaire (228 employees)	Perceived	Emphasises benefits for reporting quality and recommends wider adoption; outcomes self-reported.

Note. Outcome type follows the objective–perceived distinction in Section 2. Findings are summarised from the authors' reported results.

4.1 Accuracy and reliability (RQ1)

None of the retrieved studies measures arithmetic error rates directly, so objective evidence relies on proxies. Dorantes et al. (2013) used the quality of management earnings forecasts as a proxy for the firm's internal information environment and found that enterprise systems were associated with better forecasts, consistent with improved access to decision-relevant information. Brazel and Dang (2008), using accruals-based measures, reached a less favourable conclusion: more earnings management after implementation and with greater module adoption. The findings are not strictly contradictory, because they measure different constructs, but together they show that integrated systems can improve internal information without guaranteeing better reporting quality as measured by accruals. Perception-based studies are more favourable. Slimani (2025) surveyed 228 employees in Algerian institutions and recommends wider cloud accounting adoption, but the outcomes are self-reported and cannot be equated with measured accuracy (P4).

4.2 Efficiency and timeliness (RQ2)

Direct measures of preparation time, close duration or productivity are absent from the retrieved studies. The clearest objective evidence is Brazel and Dang's (2008) finding that firms with incentives to release earnings sooner shortened their reporting lag after ERP implementation, which indicates that timeliness gains depend on managerial incentives as well as on the software (P2). Moll and Yigitbasioglu (2019) suggest that cloud and related technologies may allow more timely intervention, but this is an expectation drawn from a review rather than measured evidence. Efficiency claims for cloud accounting therefore remain largely untested against objective benchmarks.

4.3 Internal controls

Morris (2011) reported that ERP-implementing firms were less likely to disclose material internal control weaknesses than a matched sample of non-implementers. Widyaningdyah and Ezra (2020) found no such reduction in Indonesian firms and attributed this to incomplete use of ERP control features. Differences in context, period and measurement prevent a direct reconciliation, but the explanation offered by the second study is consistent with P1: control benefits appear to depend on whether built-in controls are actually used. For cloud platforms, Yau-Yeung et al. (2020) found that cloud accounting introduces risks specific to the accounting process, and that some known cloud risks are more pronounced, so control effectiveness also depends on governance of the vendor relationship.

4.4 Challenges and organisational differences (RQ3)

The studies converge on the point that outcomes depend on conditions beyond the software itself. Yau-Yeung et al. (2020) identified vendor selection, contractual arrangements, internal policies and staff training as central to managing cloud accounting risk. Sastararuji et al. (2022) advise SMEs to assess the organisational fit of a platform and to integrate it with other operations, and Ma et al. (2021) report that organisational readiness and external pressure shaped adoption among small accounting practices. These findings support the TOE logic and the consequence of weak implementation shown by Widyaningdyah and Ezra (2020) (P3).

On firm size, the archival evidence concerns firms with publicly available reporting data, whereas the SME evidence is qualitative or perceptual. No retrieved study compares small and large firms on objectively measured reporting outcomes, so the direction of any size effect is unresolved. A further plausible constraint, that software cannot correct inaccurate source data, follows from the framework but was not directly tested in the retrieved studies.

5. Discussion and Practical Implications

In answer to the primary question, the reviewed evidence indicates that the association between digital accounting software and reporting outcomes is conditional. Benefits are plausible and sometimes observed, particularly for internal information quality, for timeliness where incentives exist, and for control effectiveness where features are used. Adverse or null results appear when use is partial or other incentives dominate. This agrees with the DeLone and McLean (2003) emphasis that net benefits depend on use and information quality, and with the TOE view that organisational and environmental conditions shape outcomes. The review cannot show that software causes these outcomes: the archival studies are observational and the cloud studies are mostly qualitative or perception-based.

Finance teams and managers. Software should be treated as an enabler whose value depends on configuration and use. Validation rules and access controls should be activated, staff trained, and baseline error counts and close times recorded before implementation so that benefits can be evaluated rather than assumed.

Auditors. The presence of an ERP or cloud system should not be taken as evidence of stronger controls. The evidence suggests testing whether control features are enabled and used and, for cloud platforms, reviewing vendor and contractual arrangements (Yau-Yeung et al., 2020).

Software selection and SMEs. Fit with existing processes and integration with other operations matter at least as much as feature lists (Sastararuji et al., 2022). Because SME evidence is the weakest, small firms should be cautious about vendor claims of accuracy gains and should test them against their own before-and-after data.

6. Limitations and Future Research

First, the search was targeted rather than systematic, so relevant studies may have been missed and publication bias cannot be assessed. Second, several sources were assessed from abstracts and indexing records rather than full texts, and the review draws on a small number of studies with different software types, contexts and measures, which limits comparison. Third, ERP evidence may not transfer to cloud platforms or AI-enabled tools. Fourth, the propositions are untested.

Future research should (a) use firm-level data on adoption timing and measured outcomes such as close time, post-close adjustments and error counts, with comparison groups to reduce selection bias; (b) conduct a survey of accountants that measures feature use, implementation quality and skills alongside objective items, uses validated scales with reliability testing, and separates perceived from measured accuracy, which would allow P1–P4 to be tested; and (c) compare SMEs and larger firms and examine AI-enabled features as evidence accumulates. No survey data were collected for this paper.

7. Conclusion

This review asked to what extent, and under what conditions, digital accounting software is associated with the accuracy and efficiency of financial reporting. The available evidence suggests that the association is conditional on implementation quality, feature use, incentives and governance, and that benefits are neither automatic nor uniform across outcomes. Objective evidence is concentrated in ERP research on firms with public reporting data, while cloud-accounting evidence, particularly for SMEs, relies mainly on qualitative and perceived outcomes. The paper contributes a framework that links TOE conditions to information quality and reporting outcomes, four testable propositions, and a research agenda that separates perceived from measured accuracy. Conclusions remain provisional, given the targeted search, and the relationships described are associations rather than demonstrated causal effects.

References

- Brazel, J. F., & Dang, L. (2008). The effect of ERP system implementations on the management of earnings and earnings release dates. *Journal of Information Systems, 22*(2), 1–21.
- Cooper, L. A., Holderness, D. K., Sorensen, T. L., & Wood, D. A. (2019). Robotic process automation in public accounting. *Accounting Horizons, 33*(4), 15–35. https://doi.org/10.2308/acch-52466
- DeLone, W. H., & McLean, E. R. (2003). The DeLone and McLean model of information systems success: A ten-year update. *Journal of Management Information Systems, 19*(4), 9–30. https://doi.org/10.1080/07421222.2003.11045748
- Dorantes, C.-A., Li, C., Peters, G. F., & Richardson, V. J. (2013). The effect of enterprise systems implementation on the firm information environment. *Contemporary Accounting Research, 30*(4), 1427–1461.
- Ma, D., Fisher, R., & Nesbit, T. (2021). Cloud-based client accounting and small and medium accounting practices: Adoption and impact. *International Journal of Accounting Information Systems, 41*, Article 100513.
- Moll, J., & Yigitbasioglu, O. (2019). The role of internet-related technologies in shaping the work of accountants: New directions for accounting research. *The British Accounting Review, 51*(6), Article 100833. https://doi.org/10.1016/j.bar.2019.04.002
- Morris, J. J. (2011). The impact of enterprise resource planning (ERP) systems on the effectiveness of internal controls over financial reporting. *Journal of Information Systems, 25*(1), 129–157.
- Sastararuji, D., Hoonsopon, D., Pitchayadol, P., & Chiwamit, P. (2022). Cloud accounting adoption in Thai SMEs amid the COVID-19 pandemic: An explanatory case study. *Journal of Innovation and Entrepreneurship, 11*, Article 43. https://doi.org/10.1186/s13731-022-00234-3
- Slimani, S. (2025). The impact of cloud accounting adoption on the quality of financial reporting in Algerian economic institutions: A field study. *Economic Sciences, Management and Commercial Sciences Review, 18*(2), 435–452.
- Tornatzky, L. G., & Fleischer, M. (1990). *The processes of technological innovation*. Lexington Books.
- Widyaningdyah, A. U., & Ezra, L. (2020). Enterprise resource planning (ERP) support for internal control effectiveness. *Jurnal Reviu Akuntansi dan Keuangan, 10*(2), 234–246. https://doi.org/10.22219/jrak.v10i2.11507
- Yau-Yeung, D., Yigitbasioglu, O., & Green, P. (2020). Cloud accounting risks and mitigation strategies: Evidence from Australia. *Accounting Forum, 44*(4), 421–446. https://doi.org/10.1080/01559982.2020.1783047