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Problems and Solutions in the Digitalization of Accounting in Small and Medium-Sized Enterprises (Smes)

Abstract

The digitalization of accounting in small and medium-sized enterprises (SMEs) has moved beyond a narrow software issue and now directly affects managerial control, reporting quality, and tax compliance. Properly designed digital accounting systems improve the speed of transaction processing, widen access to timely financial information, strengthen document traceability, and make internal control more consistent. Yet SMEs rarely move to this model without friction. In practice, the transition is often slowed by fragmented systems, weak data quality, limited staff capability, resistance to new routines, cyber-risk exposure, and the perception that implementation costs are difficult to absorb. This article examines the main barriers to accounting digitalization in Azerbaijani SMEs, relates them to the logic of IFRS for SMEs, and proposes staged solutions that are realistic under SME resource constraints. The study is based on literature review, analysis of institutional and regulatory documents, and interpretation of the 2024 KOBIA survey. The survey shows that ERP use remains limited at 12.2%, while cloud technology adoption is even lower at 6.8%, suggesting that digitalization is still largely fragmented rather than process-integrated. The article offers a structured barrier taxonomy, a tool-to-reporting alignment perspective, and a phased roadmap for SME-oriented digital accounting reform.

Keywords: *SMEs, digital accounting, ERP, cloud accounting, e-invoicing, e-signature, audit trail, IFRS for SMEs*

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Kiçik və orta ölçülü müəssisələrdə (KOBM) mühasibat uçotunun rəqəmsallaşdırılmasında problemlər və həll yolları

Xülasə

Kiçik və orta müəssisələrdə (KOS) mühasibat uçotunun rəqəmsallaşdırılması artıq yalnız texniki yenilənmə deyil, idarəetmə keyfiyyəti, hesabatlılığın etibarlılığı və vergi uyğunluğunun davamlılığı ilə birbaşa bağlı bir inkişaf istiqamətidir. Rəqəmsal uçot həlləri əməliyyatların daha operativ işlənməsinə, məlumatların vaxtında əldə olunmasına, sənəd dövriyyəsinin elektronlaşdırılmasına və audit izinin güclənməsinə şərait yaradır. Bununla belə, KOS-larda bu keçid çox vaxt zəif inteqrasiya, natamam və ya keyfiyyətsiz məlumat bazası, ixtisaslı kadr çatışmazlığı, dəyişikliklərə müqavimət, kiber-risklər və tətbiq xərclərinin yüksək görünməsi kimi maneələrlə müşayiət olunur. Məqalənin məqsədi Azərbaycanda KOS-larda rəqəmsal mühasibat uçotuna keçidi ləngidən əsas problemləri sistemli şəkildə qruplaşdırmaq, onları IFRS for SMEs yanaşması ilə əlaqələndirmək və praktik baxımdan tətbiq oluna bilən mərhələli həll istiqamətləri təklif etməkdir.

Tədqiqat ədəbiyyatın təhlili, normativ-institusional sənədlərin müqayisəsi və KOBİA-nın 2024-cü il sorğu nəticələrinin şərhə əsasında aparılmışdır. Sorğunun nəticələrinə görə ERP istifadəsi 12.2%, bulud texnologiyalarının tətbiqi isə 6.8% səviyyəsindədir ki, bu da KOS-larda rəqəmsallaşmanın əsasən parçalı xarakter daşdığını göstərir. Məqalədə problemlərin təsnifatı, rəqəmsal alətlər ilə hesabatlılıq tələbləri arasında əlaqə və KOS-lar üçün mərhələli rəqəmsal uçot yol xəritəsi təqdim olunur.

Açar sözlər: KOS, rəqəmsal mühasibat uçotu, ERP, bulud mühasibatlığı, e-qaimə-faktura, e-imza, audit izi, IFRS for SMEs

Introduction

Small and medium-sized enterprises (SMEs) form the numerical core of most market economies, but the quality of their accounting infrastructure often develops more slowly than their commercial activity. In many SMEs, sales, procurement, payroll, inventory, and tax reporting evolve as business needs arise, while accounting systems remain partly manual, weakly integrated, or overly dependent on spreadsheets. As a result, the accounting function may exist formally, yet still struggle to provide management with timely, reliable, and decision-useful information.

The issue has become more pressing for at least three related reasons. First, the broader digital transformation of business has changed expectations about the speed, traceability, and comparability of financial information. Second, the growing use of e-documents, cloud services, and platform-based business processes has altered how accounting evidence is created and stored. Third, access to credit, supplier confidence, and business transparency increasingly depend on whether SMEs can produce consistent financial records rather than merely comply with minimum filing requirements (OECD, 2021a; OECD, 2021b).

The Azerbaijani context is especially important because public digital infrastructure has advanced faster than accounting practice inside many firms. The jurisdictional profile published by the IFRS Foundation confirms that Azerbaijan has an established legal pathway for the use of international standards and their translation into Azerbaijani (IFRS Foundation, 2019). At the same time, tax administration has expanded the use of e-services, electronic cabinets, and e-invoicing tools, creating a framework within which primary accounting documents can already circulate in digital form (Azərbaycan Respublikası İqtisadiyyat Nazirliyi yanında Dövlət Vergi Xidməti, 2024a; 2024b).

A further source of urgency is the updated third edition of the IFRS for SMEs Accounting Standard, issued in February 2025 and effective for annual periods beginning on or after 1 January 2027, with earlier application permitted (IFRS Foundation, 2025). For SMEs, this is not simply a reporting change. Any adjustment in recognition, measurement, or disclosure logic ultimately requires accounting policies, account structures, document flows, and review procedures to be reflected in the digital system itself. In other words, digitalization and reporting quality are not parallel agendas; they are operationally intertwined.

Empirical evidence also points to a clear implementation gap. The 2024 KOBİA survey shows that Azerbaijani SMEs use basic communication technologies far more actively than process-integrating solutions: e-mail use reaches 53.4%, social media 53.0%, and websites 30.3%, while ERP adoption is only 12.2% and cloud technologies 6.8% (KOBİA, 2024). This contrast suggests that many firms are digitally visible without being digitally integrated. From an accounting perspective, such a pattern usually means duplicated entries, delayed reconciliations, incomplete audit trails, and weaker internal control over data flows.

Against this background, the purpose of this article is to identify the principal obstacles to accounting digitalization in Azerbaijani SMEs, classify them by their operational and reporting significance, and develop solutions that are feasible under SME resource limitations. The study focuses on accounting processes in SMEs and treats digitalization not as an end in itself, but as a governance mechanism that affects information quality, control reliability, and reporting discipline. The discussion proceeds by first outlining the analytical framework, then examining the main barriers, and finally presenting a phased implementation logic.

Research

The article follows a qualitative analytical design built on three mutually reinforcing methods. The first is a review of academic and institutional literature on SME digitalization, cloud accounting, ERP adoption, control maturity, and reporting quality. The second is comparative analysis of regulatory and policy documents relevant to Azerbaijan, including enterprise classification rules, tax-related digital instruments, and the evolving public digital-finance environment. The third is a focused empirical interpretation of selected indicators from the 2024 KOBIA survey, used not as a full statistical model but as contextual evidence for the current level of SME digital adoption.

In methodological terms, accounting digitalization is treated here as a four-layer process: transaction capture, data integration, control architecture, and reporting output. This approach is useful because many SME digitalization discussions remain tool-centred. By contrast, the four-layer model makes it possible to examine whether a digital solution actually improves the path from source document to financial statement. It also helps relate operational practices to IFRS for SMEs requirements concerning consistent accounting policies, documentary support, reviewability, and disclosure preparation.

Azerbaijan's institutional setting already contains several elements that could support a more coherent digital accounting model. The official criteria distinguishing micro, small, and medium-sized enterprises create a practical basis for tiered implementation rather than one uniform solution for all firms (Azərbaycan Respublikası Nazirlər Kabineti, 2018). In addition, the public policy direction toward more integrated digital public-finance systems indicates that accounting information environments are becoming more standardized and data-driven at the state level (Azərbaycan Respublikası Prezidenti, 2026). From a policy perspective, these conditions make staged SME digitalization both possible and necessary.

Still, the existence of legal and technical infrastructure does not by itself produce accounting maturity at firm level. The KOBIA survey shows a pronounced imbalance between digital tools used for visibility or communication and those used for integrated business control (KOBİA, 2024). This imbalance is analytically important. When firms adopt outward-facing digital tools earlier than internal accounting tools, the appearance of modernization may mask continued dependence on manual reconciliations, fragmented ledgers, and person-dependent reporting routines.

From a reporting perspective, the key analytical point is that digital accounting should not be judged by software presence alone. The decisive question is whether the system can produce evidence-based, reviewable, and internally consistent financial information. A firm may use e-invoices and still lack a reliable audit trail; it may operate cloud software and still produce weak disclosures if account mapping, role design, and reconciliations remain underdeveloped. For this reason, digital maturity in accounting must be assessed through process quality and control logic rather than through technology labels alone.

This logic supports the construction of a tool-to-reporting alignment matrix for SMEs. Such a matrix does not imply that any digital tool automatically generates IFRS-compliant reporting. Instead, it shows which tools can support specific needs: e-invoicing helps preserve transaction evidence; e-signature strengthens document authentication; bank integration reduces reconciliation lag; cloud accounting supports centralized record access; and ERP tools can improve consistency across modules when properly configured. Table 1 presents this alignment in a practical format relevant to SMEs with limited resources.

Table 1.

Mapping digital accounting tools to reporting and control needs.

Digital tool or process	Primary accounting support	Why it matters for IFRS for SMEs-oriented implementation
Electronic invoicing and authenticated e-signature	Source-document capture, dating, and authenticity	Strengthens the evidential basis of transactions and improves cut-off discipline.

Digital tool or process	Primary accounting support	Why it matters for IFRS for SMEs-oriented implementation
Bank feed and automated reconciliation	Cash recording and bank matching	Supports completeness of cash balances and more timely period-end closing.
Sales–inventory integration	Revenue, inventory, and cost-of-sales consistency	Reduces re-entry and improves transaction classification across operational and accounting records.
Digital document archive	Retrieval of contracts, invoices, supporting schedules, and approvals	Facilitates review, follow-up, and preservation of supporting evidence for reporting.
Fixed-asset module	Asset register, depreciation, additions, and disposals	Improves measurement consistency and reduces manual depreciation errors.
Role-based access and approval logs	User permissions, segregation of duties, and change traceability	Supports reliable preparation and review of financial information.
Tax-to-financial reporting mapping layer	Reconciliation of statutory tax outputs and general purpose financial statements	Allows SMEs to separate tax logic from broader financial-reporting logic without duplicating the full accounting process.

Source: Compiled by the author based on IFRS Foundation (2025), Azərbaycan Respublikası İqtisadiyyat Nazirliyi yanında Dövlət Vergi Xidməti (2024a; 2024b), Gao (2024), and Huy and Phuc (2025).

The practical implication is that SMEs do not need to begin with a full ERP implementation in every case. For many firms, the more defensible strategy is staged digitalization. Recent research on SME transformation repeatedly shows that sequencing matters: controls, data quality rules, and staff routines should stabilize before more complex integration layers are added (Sagala & Öri, 2024; Broccardo et al., 2024). A staged approach is particularly suitable in Azerbaijan, where firm sizes, managerial capacity, and digital readiness vary considerably.

For micro-enterprises, the minimum viable digital accounting package should be modest but disciplined: regular use of e-invoices, authenticated document exchange, a standardized chart of accounts, monthly bank reconciliation, basic backup routines, and clearly assigned user responsibilities. For small enterprises, the next step is partial integration across invoicing, banking, inventory, and accounting functions, supported by simple written procedures and approval rules. For medium-sized SMEs, the priority shifts toward deeper module integration, stronger log control, better disclosure support, and periodic review of reporting outputs against IFRS for SMEs logic. In all cases, the principle is the same: move from control reliability to system complexity, not the other way around.

A final analytical consideration concerns the relationship between national digital infrastructure and enterprise readiness. Azerbaijan’s public systems are moving toward greater digital coordination, but the effectiveness of this environment for SMEs will depend on what happens inside firms themselves. If enterprise data remain inconsistent, if responsibilities are unclear, or if digital tools are adopted without process redesign, the benefits of external infrastructure will be only partial. Public digital progress can create enabling conditions, but enterprise-level accounting discipline determines whether those conditions are translated into usable reporting quality.

Conclusion

The analysis indicates that the digitalization of accounting in Azerbaijani SMEs should be understood as a managerial and institutional transformation rather than a simple software upgrade.

The broader environment is becoming more supportive: digital tax tools are expanding, public financial-information systems are becoming more integrated, and international reporting logic remains accessible through the IFRS for SMEs framework. Yet these favourable conditions do not automatically create better accounting inside firms. The decisive constraints remain internal - namely process fragmentation, weak data discipline, capability shortages, and uneven control design.

Eight interrelated barrier groups were identified in the course of the study: weak integration across systems, poor master-data quality, separation between tax bookkeeping and general-purpose reporting, shortage of qualified staff, resistance to procedural change, cyber-risk concerns, cost-sequencing problems, and weak project governance. Their common feature is that each one undermines the reliability of the path from transaction to report. For SMEs, this means that digitalization fails not when a program is unavailable, but when the accounting process remains structurally fragile after the technology is introduced.

A second conclusion is that IFRS for SMEs should be treated as a design logic for digital accounting rather than merely as a formal reporting destination. The 2025 third edition, applicable from 2027 with early adoption permitted, reinforces the need for accounting policies, classifications, evidence retention, and disclosure preparation to be reflected in system design (IFRS Foundation, 2025). In this sense, digital accounting is strongest when reporting requirements are built into workflows from the start, not added manually at period-end.

A third conclusion concerns implementation strategy. The evidence reviewed here does not support a “big bang” model for most SMEs. A phased path is more realistic, less risky, and more aligned with the resource profile of smaller firms. The first stage should build minimum control reliability and standardize key data; the second should strengthen integration and staff capability; the third should consolidate digital governance, reporting review, and continuous improvement. This sequence reduces the risk of buying complex tools before the organization is ready to use them well.

The policy implications are equally significant. If Azerbaijan aims to improve SME transparency, reporting quality, and access to finance, support mechanisms should extend beyond subsidizing software acquisition. More value is likely to come from practical guidance on data standards, model chart structures, reconciliation templates, security minimums, role-based procedures, and IFRS-oriented training for SME accountants and managers. Public institutions can create leverage by combining digital infrastructure with methodological support rather than treating technology uptake as sufficient in itself.

The article also has limitations. It relies on secondary literature, regulatory sources, and one national survey rather than on primary interviews, enterprise case studies, or a large-scale quantitative dataset. For that reason, its contribution is analytical rather than econometric. Further research could test the proposed maturity logic through sectoral comparisons, field evidence from Azerbaijani SMEs, or survey instruments measuring the relationship between system integration, control quality, and reporting outcomes.

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