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ICT Infrastructure Readiness for Accrual-Based IPSAS in Zimbabwean Government Schools

By

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ABSTRACT: Zimbabwean government schools must now report on accrual-based International Public Sector Accounting Standards (IPSAS). This requires them to record and report assets, liabilities, revenues and expenses as they arise. This study assessed whether schools in Marondera District have the information and communication technology (ICT) infrastructure the reform assumes. A convergent mixed-methods case study was used. In the study 71 of 73 sampled school heads, bursars, accounts and administrative staff and Ministry officials completed a questionnaire (97.3% response rate). Ten key informants were interviewed. Likert data (0–4) were tested against the neutral midpoint, and interviews were analysed thematically. ICT infrastructure averaged 2.52. All five items were rated significantly above neutral, but effects were small to moderate ($d = 0.32$ – 0.58). About 36.6% of respondents rejected the view that infrastructure adequately supports accrual reporting. Interviewees cited outdated computers, weak power back-up and software that is not IPSAS-native, especially in rural schools. Infrastructure was present though too limited for accrual reporting. A district ICT baseline for school finance offices, an IPSAS-compliant Ministry platform and rural solar back-up were recommended.

KEYWORDS: Accrual based accounting, IPSAS, ICT infrastructure, Government schools, Digital transformation.

Abbreviations: ICT, information and communication technology; IPSAS, International Public Sector Accounting Standards; TOE, Technology–Organisation–Environment framework; ZFRM, Zimbabwe Financial Reporting Manual.

INTRODUCTION

Governments are gradually following the transmission from cash to accrual reporting. Of 169 jurisdictions tracked, 31% reported on an accrual basis in 2024 and 56% are projected to do so by 2030, most new adopters being middle- and low-income economies (IFAC & CIPFA, 2025). In developing countries, IPSAS reforms often stall between announcement and practice because of

weak capacity and systems (Polzer et al., 2023). Zimbabwe gave IPSAS legal force through Statutory Instrument 41 of 2019. This caused a launch of a seven-year implementation plan. As such Zimbabwe had to issue the Zimbabwe Financial Reporting Manual in 2023, but it remains a partial adopter (Chosani et al., 2024). It has committed to full accrual reporting by 2026

(Ndebele, 2025). Schools must now register and value assets, receivables and payables. About 76% of the country's schools lacked internet access and 36% lacked electricity in 2023 (UNICEF Zimbabwe, 2023). No study has measured whether school finance offices have the ICT infrastructure accrual reporting presupposes. This article addresses that gap by assessing the level of ICT infrastructure available for accrual-based IPSAS in Marondera District government schools.

2. LITERATURE AND THEORY

Accrual IPSAS magnifies the quantity and complexity of records relative to cash accounting. In European central governments, upgrades to integrated enterprise systems facilitated accrual adoption, and accounting maturity rose with IT maturity (Bekiaris & Markogiannopoulou, 2023). Across 130 countries, public sector digital maturity is positively associated with IPSAS adoption (Paixão et al., 2024). In Zimbabwe, digital systems have reached public institutions but limited connectivity and device shortages slow progress (Poshai & Shava, 2025), and under-funding of technology is the main barrier to full IPSAS implementation in local authorities (Chosani et al., 2024). The study relied on the Technology–Organisation–Environment (TOE) framework, in which adoption of an innovation depends on the organisation's technological context, among other factors (Tornatzky & Fleischer, 1990). Here, ICT infrastructure is the technological context that determines whether a school can absorb the accrual reform.

3. MATERIALS AND METHODS

A pragmatic, convergent mixed-methods case study design was used. The population comprised 90 people directly involved in school financial management. School heads, bursars, accounts personnel, administrative officers, accounts clerks and Ministry of Education district and provincial officials were part of this. Yamane's (1967) formula at $e = 0.05$ gave a sample of 73, allocated by stratified sampling across the six roles and filled purposively with staff who handle financial records.

A structured questionnaire contained six five-item Likert sections scored 0 (strongly disagree) to 4 (strongly agree), and two open-ended questions; this article analyses the ICT infrastructure section. Semi-structured interviews were held with ten key informants (district officials, IT managers and senior auditors), and observation checklists and school records were used for triangulation. For each item, the mean (M), standard deviation (SD) and percentage agreeing and disagreeing were computed, and a one-sample t -test compared the mean with the neutral midpoint of 2, with Cohen's d as effect size. Interviews were analysed thematically (Braun & Clarke, 2022). Ministry and institutional ethical approval, informed consent, anonymity and confidentiality were observed.

4. RESULTS AND DISCUSSION

Seventy-one questionnaires were usable (97.3%) and all ten interviews were held. Two-thirds (67.6%) of respondents worked in urban schools.

Table 1. ICT infrastructure items (n = 71)

Item	M	SD	% A	% D	t(70)	p
ICTI1	2.38	1.19	62.0	36.6	2.70	.009
ICTI2	2.51	1.12	62.0	28.2	3.82	< .001
ICTI3	2.62	1.07	62.0	18.3	4.86	< .001
ICTI4	2.54	1.08	62.0	22.5	4.18	< .001
ICTI5	2.54	1.16	63.4	21.1	3.90	< .001
ICTI avg	2.52		62.3	25.4		

ICTI1 overall infrastructure adequacy; ICTI2 software supports accrual reporting; ICTI3 facilities for processing financial information; ICTI4 asset and liability recognition and reporting; ICTI5 timely IPSAS reports. % A/% D = agree/disagree; test value = 2.

The construct averaged 2.52, between "not sure" and "agree" (Table 1). Every item was significantly above neutral, so schools are not without infrastructure. Effects were, however, small to moderate ($d = 0.32$ – 0.58), and on average a quarter of respondents disagreed with each statement.

Overall adequacy (ICTI1) was sharply polarised: 62.0% agreed and 36.6% disagreed. Facilities for processing financial information (ICTI3) scored highest ($M = 2.62$), while accrual-specific capabilities, namely software support (2.51), asset and liability reporting (2.54) and timely reporting (2.54), lagged. Infrastructure thus suits cash-era processing better than accrual demands.

Interviews and open-ended answers explained these scores. Respondents named "unreliable internet connectivity and outdated computers" as the biggest technological challenge and reported that the Ministry-prescribed system is not IPSAS-native, forcing manual workarounds and duplicate paper and digital submissions. Funding limits were most acute in rural schools.

Consistent with TOE, these results mirror the underfunding barrier reported for Zimbabwean local authorities (Chosani et al., 2024) and the stalled implementation typical of low-income adopters (Polzer et al., 2023). The European experience of upgrading systems in step with accrual reform (Bekiaris & Markogiannopoulou, 2023) has not yet been replicated at school level. The polarised ICTI1 responses and urban-weighted sample suggest the district-wide deficit is larger than the average implies. The study relied on perceptions from one district; multi-district studies with objective infrastructure audits are needed.

5. CONCLUSION AND RECOMMENDATIONS

ICT infrastructure in Marondera District government schools is present but insufficient for accrual-based IPSAS. The Ministry should (i) set and audit a minimum ICT baseline for every school finance office; (ii) provide an IPSAS-native school accounting platform with asset, receivable and payable modules aligned to the ZFRM; (iii) prioritise solar power back-up for rural schools; and (iv) cost infrastructure within the national IPSAS plan so that the 2026 full-accrual target is resourced.

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