



Data without insight: Why small businesses under-invest in record-keeping — evidence from Kenya

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- Most small and medium-sized enterprises (SMEs) in sub-Saharan Africa recognise the value of keeping business records, yet nearly 40% do so infrequently or not at all. The primary barrier is not data collection but the ability to extract useful insights from raw data.
- A randomised experiment in Nairobi shows that a free smartphone-based Point-Of-Sale (POS) app with automated analytical summaries increased daily record-keeping by 7-9 percentage points compared to the same app without the analytics feature. This is equivalent to 12-15% of the baseline prevalence of daily record-keeping.
- Effects are larger among entrepreneurs who cited time constraints and difficulty as their main barriers to record-keeping—the most resource-constrained businesses—than among other entrepreneurs. This suggests that the inability to translate raw data into actionable insights might be a real barrier to record-keeping and learning among entrepreneurs in developing countries.
- Compared to businesses that received no app, app users showed markedly better inventory knowledge, a more diversified inventory portfolio, and significantly higher daily sales, suggesting meaningful changes in business strategies.
- Training entrepreneurs to keep records is not enough. Policymakers and development organisations should invest in tools that help entrepreneurs learn from their data, not just collect it.

POLICY BRIEF KEN-23075

MAY 2026

This project was
funded by the IGC

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Policy motivation

Small and medium enterprises (SMEs) are the backbone of African economies, accounting for over 80% of non-farm employment in many countries in sub-Saharan Africa. Supporting their growth is critical to wider development objectives.

Yet most SMEs operate without systematic records of their sales or inventory. This limits their ability to decide what to stock, when to reorder, and which customers to extend credit to.

The puzzle is that most entrepreneurs know record-keeping matters. In a baseline survey of retail SMEs in Nairobi, over 85% considered sales and inventory record-keeping at least moderately useful. Despite this, nearly 40% kept records less than daily—or not at all. Time constraints and the difficulty of maintaining records were the most commonly cited reasons.

Policymakers and development organisations have long sought to address this through business training programmes. But training interventions have produced only modest and often short-lived results (de Mel et al., 2014; McKenzie & Woodruff, 2013). This study proposes and tests a different explanation: entrepreneurs may lack the time or capacity to extract useful knowledge from their own business data. If they cannot learn from their records, the returns to keeping them are low, and so they would not bother.

Overview of the research

To test this hypothesis, we conducted a randomised controlled trial (RCT) among over 2,000 retail SMEs in Kenya, in partnership with Technoserve Kenya. Businesses were provided with a free smartphone-based point-of-sale application—mSpark Basic—which allowed them to record sales and inventory digitally, view entries in spreadsheet format, and track total sales revenue.

After a two-month warm-up period, half the app users were randomly upgraded to an enhanced version: mSpark Analytics. This version required no changes in how businesses entered data. What changed was what the app did with the data: it automatically generated simple charts and plain-language summaries of sales patterns, popular products, and inventory trends.

By comparing the two groups, the study isolates the effect of reducing the cost of learning from data on record-keeping behaviour and business outcomes. A pure control group—businesses that received no app—allows us to estimate the overall impact of the app relative to no intervention.

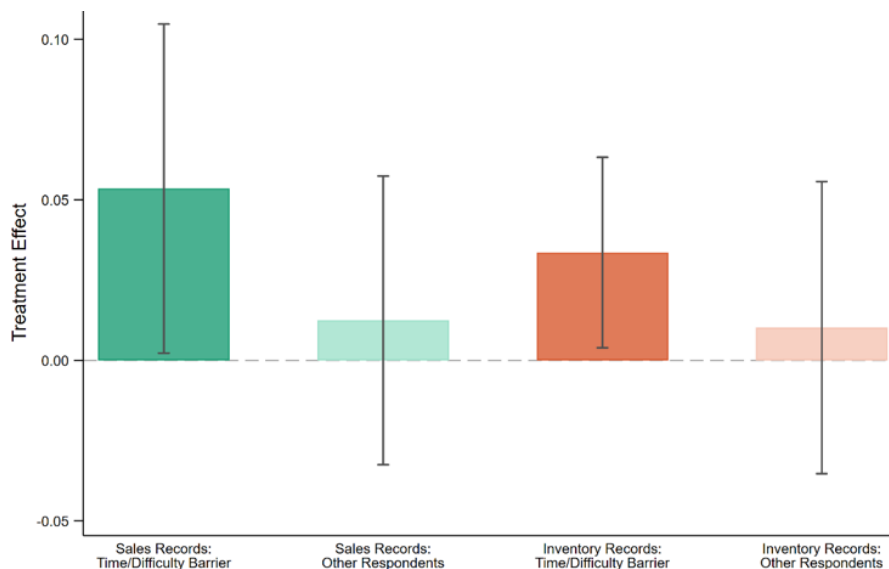
Key findings

Automated analytics significantly increase record-keeping

Businesses with access to the Analytics app used it around 25% more intensively than those with the Basic version. They were also 7-9 percentage points more likely to record sales and inventory on a daily basis. This is equivalent to 12-15% of the baseline prevalence of daily record-keeping.

The effect was largest for businesses that had not been keeping records at all. Among non-recorders at baseline, access to the Analytics app raised the probability of recording sales in the app by 20 percentage points.

Figure 1: Does the app improve record-keeping? Treatment effects of Analytics app by record type and baseline barrier



Note: Bars show the estimated effect of the Analytics App assignment on the likelihood of daily record-keeping at endline, measured separately for sales records (green) and inventory records (coral). Within each type, results are shown for respondents who cited time constraints or difficulty with record-keeping at baseline ('Time/Difficulty Barrier') and for all others ('Other Respondents'). Whiskers show 95% confidence intervals."

Effects are concentrated among the most constrained entrepreneurs

The record-keeping gains were concentrated among entrepreneurs who had cited time or difficulty as their primary barriers to keeping records at baseline. Among this group, the Analytics app's effect on daily in-app record-keeping was at least three times larger than for other respondents.

This pattern is consistent with the study's core hypothesis: automated analytics raise the return to record-keeping most for those who are most constrained in processing raw data themselves.

Businesses change how they operate

Comparing all app users to a control group that received no app, we find that app users showed markedly better inventory knowledge and diversified their product range without increasing inventory investment. App users also reported significantly higher daily sales.

However, when comparing Analytics app users to Basic app users, we do not find significant short-run differences in sales or inventory management. This is unsurprising: the Analytics upgrade was introduced just six to eight weeks before the final survey, leaving limited time for new insights to affect performance. Performance gains are likely to accrue over time.

Policy recommendations

Pair record-keeping tools with automated analytics

Nudging businesses to collect data is not enough. What matters is helping them learn from it. Digital tools that automate the analysis of business records—identifying sales trends, flagging low-stock items, and summarising performance—can help in this regard and meaningfully increase record-keeping adoption, especially among time-constrained entrepreneurs.

Develop analytical skills for entrepreneurs

The findings from this paper suggest that business growth in developing countries could potentially be constrained by entrepreneurs not analysing the data they collect and translating them into business strategies. Policies to eliminate this friction should focus on making entrepreneurs more aware of the value of their business data and providing them with training in simple data analysis.

Reduce financial barriers to adoption

Take-up of the app in this study exceeded 93%, in part because access—including mobile data costs—was provided free of charge. Subsidising access to analytics-enabled tools through public programmes, NGO partnerships, or telecom arrangements, is likely to yield high returns, particularly for businesses that would otherwise face cost barriers.

Scale through existing digital infrastructure

As smartphone penetration rises across sub-Saharan Africa, embedding automated analytics into digital tools that SMEs are already adopting offers a scalable, low-cost pathway to improving business decision-making.

Partnerships with telecom companies, fintech platforms, and business support organisations can accelerate reach without requiring large new investments in infrastructure.

Implementation challenges

Several challenges merit attention. First, any digital tool to be developed needs to account for the quality of hardware used by targeted users as well as their technical literacy.

Second, the intervention was implemented in partnership with an established NGO. Scaling beyond that context may require additional investment in onboarding assistance and technical support for less digitally experienced users.

Third, the performance effects documented here are short-run; longer-term follow-up is needed to confirm that gains in record-keeping and inventory knowledge translate into sustained improvements in practices, sales, and profits.

References

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