



Short messages fall short for micro-entrepreneurs: Experimental evidence from Kenya

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- This brief presents findings from a field experiment aimed at studying the demand for SMS-based business trainings and their potential for improving management and business outcomes amongst micro-entrepreneurs in Kenya.
- Three months after the intervention, SMS-based business trainings improved knowledge and adoption of best practices and business outcomes, particularly for younger micro-entrepreneurs. However, all engagement with the content ended within the first five months, and all observed positive impacts disappeared twelve months after the intervention. The results are contrary to the priors held by social science researchers, who overestimate the effectiveness of SMS-based business trainings.
- Notwithstanding the lack of longer-run impacts, micro-entrepreneurs were willing to pay a small amount for additional SMS-based trainings, suggesting that they still value access to the content.
- This evidence highlights the limitations of SMS-based trainings for improving longer-run outcomes for micro-entrepreneurs and reveals that researchers are over-optimistic about the potential impacts. It also points towards possible behavioural drivers limiting the potential of remotely provided information-based support in low-capacity contexts.

POLICY BRIEF KEN-22036

MARCH 2024

This project was funded
by the IGC

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Policy motivation

Employing 70% of the labour force worldwide and accounting for 40% of the GDP in emerging economies, small businesses form the economic backbone of low-income countries globally.¹ However, **poor management practices are a major factor keeping profits low amongst small business owners in these contexts.**²

Existing literature shows that business trainings aimed at encouraging the adoption of best practices can help bridge this gap in management capital, and over USD 1 billion is spent annually to train entrepreneurs in low- and middle-income countries.³ However, most of these are traditional in-person classroom-style trainings, which are expensive, hard to scale, and can exclude those who cannot attend in-person.

Text message-based (henceforth, SMS-based) business trainings are gaining popularity as a potential solution; they are cheap, easily scalable, and do not require in-person attendance. However, despite their increasingly widespread use, **there is little evidence on whether SMS-based business trainings can be effective for improving outcomes for micro-entrepreneurs.**

This brief presents findings from a study that addresses this evidence gap by examining the demand for SMS-based business trainings and their potential for improving management and business outcomes amongst micro-entrepreneurs in low-income settings.⁴

Overview of research

Through close collaboration with a Kenyan firm specialising in the development and creation of SMS-based training content, this research project conducts a field experiment in Kenya to study the demand for and effectiveness of SMS-based business management trainings.

The study sample was sourced from a list of contacts maintained by the implementing partner in collaboration with a local microfinance institution. They compiled this list through extensive fieldwork aimed at identifying micro-entrepreneurs to target for their products.

¹ ILO (2019); World Bank (2021)

² Bloom et al. (2010, 2013); Bloom and Van Reenen (2010); Bruhn, Karlan and Schoar (2010); McKenzie and Woodruff (2017)

³ McKenzie (2020)

⁴ Mehmood (2023)

Research design

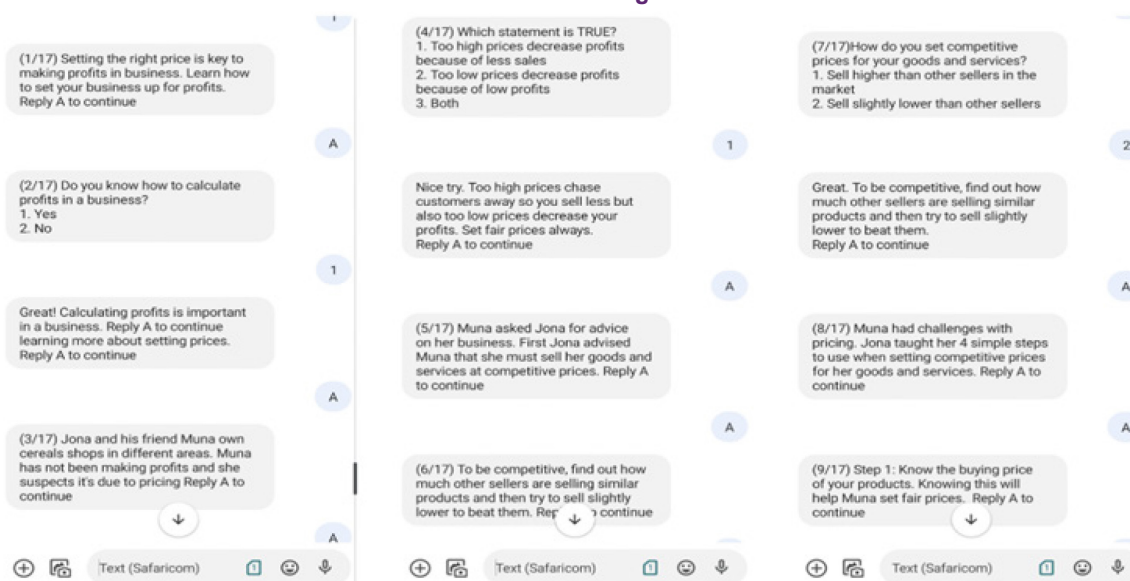
In this experiment, access to SMS-based training was randomised at the individual level across 4,700 micro-entrepreneurs (60% treatment; 40% control/placebo) nationwide. Data on management practices and business outcomes were then collected through phone-based surveys conducted three months and twelve months after the intervention to estimate short and longer-run effects, respectively.

Additionally, to determine if this study's main findings align with or depart from existing priors, ex-ante predictions for the longer-run treatment effects were elicited from social science researchers. Lastly, the demand for SMS-based trainings was measured amongst a subsample of the micro-entrepreneurs through Take-It-Or-Leave-It (TIOLI) offers with randomised prices and an in-person Becker-DeGroot-Marschak (BDM)⁵ elicitation.

The treatment

The SMS-based business training course consisted of simply worded content to encourage micro-entrepreneurs to adopt business practices that have been shown to be highly correlated with profitability.⁶ This training was developed in light of existing research on the importance of keeping training content simple in low-capacity contexts.⁷ Available in English and Swahili, the content covered practices including marketing, advertising, pricing, record-keeping, and stock management and was divided into bite-sized chunks spanning approximately 150 text messages. These messages were pushed to micro-entrepreneurs through an interactive chatbot in a fixed sequence, with a limited number of reminders being sent to those who stopped engaging at any point.

FIGURE 1: Interactions with SMS-based trainings



⁵ Becker, DeGroot and Marschak (1964)

⁶ Bloom and Van Reenen (2010)

⁷ Drexler, Fischer and Schoar (2014); Arráiz, Bhanot and Calero (2019)

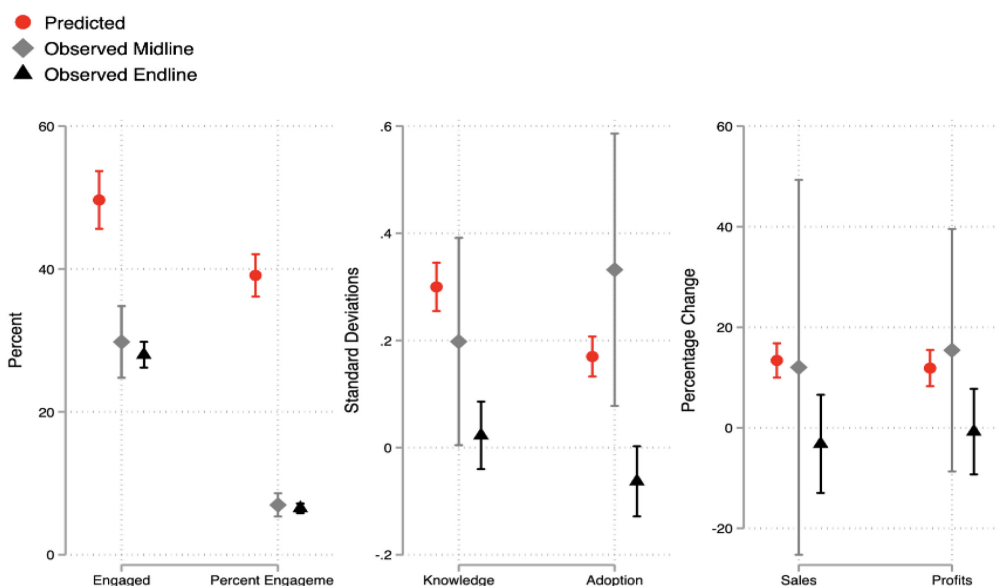
Note: This figure shows screenshots of interactions with the SMS-based chatbot as it pushes out content to users. In this context, most micro-entrepreneurs set prices just based on their buying costs, without accounting for prices of their competitors, so the content pushes them to change their pricing strategy.

Key findings

Three months after the intervention, SMS trainings improved knowledge and adoption of best practices and business outcomes, particularly for younger micro-entrepreneurs. Assignment to treatment increased knowledge and adoption of best practices by 0.20 and 0.33 standard deviations, respectively. I also find large positive, but statistically insignificant, effects on business performance in the overall sample and significant positive effects for younger (below-median) micro-entrepreneurs on sales (109% increase), profits (38% increase), and business survival (11.6 percentage points increase). These positive effects for younger entrepreneurs are driven by higher engagement with the content, larger effects on time spent on business, and loan amounts applied for and received.

However, these positive results dissipate in the longer run; twelve months after the intervention, there are no observable effects on knowledge and adoption of best practices, nor on business sales, profits, and survival. Additionally, the positive effects on business outcomes observed for younger entrepreneurs after three months also disappear after twelve months. The time trend of engagement reveals that the lack of longer-run effects is likely driven by micro-entrepreneurs abandoning all interactions with the content within the first five months of the training deployment and well before the twelve-month follow-up.

FIGURE 2: Predicted vs observed effects



Note: This figure shows how predicted treatment effects for the Endline compare with observed Midline and Endline effects. Error bars represent 90% confidence intervals.

Comparing observed results with the predictions elicited from social science researchers reveals that **social scientists overestimate the potential of SMS-based trainings in the longer run**, as illustrated in Figure 2. The findings from this study are thus contrary to priors, and informative.

Notwithstanding the lack of longer-run effects, findings show that **micro-entrepreneurs are still willing to pay a small amount for additional SMS-based business trainings**, as measured using both willingness-to-pay elicitation methods. From the TIOLI offers, I find that almost half of those offered the option to buy an additional training were willing to pay a price equal to twice the marginal cost of provision, and the BDM elicitation shows that 35% were willing to pay a price ten times the marginal cost.

Policy implications

- **SMS-based trainings could have short-term positive effects, but they are unlikely to improve outcomes for micro-entrepreneurs in the longer run.** Pushing content out through an interactive chatbot may be useful in contexts where the focus is on immediate and temporary effects. However, this method is likely to be inadequate for achieving longer-run impacts.
- **Social science researchers overestimate the potential of SMS-based trainings to improve outcomes for micro-entrepreneurs**, and the findings from this study are thus contrary to priors. Updating these priors is important because policymakers and practitioners often rely on social science experts to make decisions about how to invest in remote, information-based support programmes.
- **Keeping participants engaged is a major challenge that limits the potential of remotely-provided information-based support.** While providing trainings remotely offers the prospect of extending access to hard-to-reach populations for a fraction of the cost, it comes with the added challenge of managing content. Comparisons of cost-benefit analyses across remote and in-person trainings should account for this trade-off to choose the best policy option across different settings.
- **Micro-entrepreneurs are willing to pay a small amount to get SMS-based trainings.** Most business trainings provided to micro-entrepreneurs in low-income countries are funded externally and provided free of cost to participants. Findings from this study indicate that a market-based model of delivery might be feasible in this space. Policymakers can explore support options where micro-entrepreneurs pay for trainings themselves, which would be more financially sustainable.

- **Behavioural drivers may potentially be limiting engagement.**

Despite a lack of sustained engagement and longer-run effects, micro-entrepreneurs are still willing to pay to get SMS-based trainings, indicating that they do value access to the content. This suggests that engagement levels might not reflect the actual demand for SMS-based trainings, pointing towards possible behavioural drivers constraining engagement. Further research is needed to identify and address these behavioural constraints, in order to capitalise on the full potential of digital content delivery in low-income settings.

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