Decreasing Mobile Money Vendor Misconduct through Information Sharing in Ghana

Researchers:

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Sector(s): Finance

Location: Rural Eastern Belt

Sample: 130 independent local markets, including 130 vendors and 990 customers

Target group: Small and medium enterprises Rural population Adults Families and households

Outcome of interest: Earnings and income Profits/revenues Trust

Intervention type: Information

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Research Papers: Misconduct and Reputation Under Imperfect Information

Partner organization(s): World Bank

Mobile money systems offer the promise of financial inclusion for many people in low-income countries, but vendor misconduct in these markets can raise the cost of transactions, increase uncertainty in prices, and reduce market demand among consumers. In Ghana, researchers evaluated the impact of providing vendors and consumers with information on official mobile money charges and options for recourse for consumers to report being overcharged. The program led to a decrease in misconduct, which in turn facilitated an increase in market activity, firm sales revenue, and consumer welfare.

Policy issue

Mobile money (M-Money)—which allows users to make financial transactions on a mobile phone, with no formal banking account required—represents an important financial market innovation in low- and middle-income countries.[1] Previous evidence has shown that mobile money can improve welfare and reduce poverty.[2] M-Money markets are often characterized, however, by significant vendor misconduct, consumer mistrust, and lack of information about the official transaction costs.

Research has found vendor misconduct rates as high as 32 percent in Uganda and 42 percent in Nigeria.[3] In the context of M-Money markets in Ghana, vendor misconduct—defined as behavior that is unethical and indicative of fraud or wrongdoing—usually takes the form of overcharging customers. Vendor misconduct may reduce consumer demand and overall firm growth, potentially reducing consumer welfare in turn.

In theory, vendor concerns for their business's reputation should deter such misconduct. In practice, vendors may find it difficult to establish their reputations in a market where customers do not know what the official prices are. Policymakers are searching for ways to protect consumers making mobile money transactions. Regulators from the Bank of Ghana have indicated that vendor misconduct is a significant concern. Further, policymakers in Ghana have asked the mobile network operators (which underlie the M-Money network) and their commercial partners to build more fraud-resilient financial infrastructure.

Can information sharing result in reduced vendor misconduct in M-Money markets, increase consumer trust, and lead to a more efficient market?

Context of the evaluation

As in many low-income countries, rural households in Ghana usually do not have access to formal financial services such as banks. This lack of access limits these Ghanaians' ability to increase their incomes and build wealth.[4] In 2008, 80 percent of Ghana's population was estimated to be unbanked.[5] Due to both the lack of access to formal financial services and concerted efforts by policymakers and industry leaders, Ghana has become one of the largest mobile money markets in the world and the fastest-growing one in Africa.[6] As of 2019, mobile phones were the most common way to make payments in Ghana.[7]

M-Money markets consist of three major players: service providers (which are partnerships between mobile network operators and commercial banks), vendors, and customers. M-money vendors are small businesses, who typically provide a variety of other goods and services, ranging from groceries to SIM card registration to photocopying. A typical local community in Ghana has three vendors.

M-Money vendors offer account opening, cash-in, and cash-out services, as well as exchange cash for e-money. The average vendor earns a daily profit of GHS 23 (Ghanaian cedi) (US$4.49) on M-Money transactions. In order for a vendor to enter the market, she must receive official training about the tariffs, commissions, and other services, which are set by the service provider. Any fiddling with these prices and fees is considered vendor misconduct. However, service providers do not monitor the behavior of downstream vendors.

95 percent of customers in this market are M-Money users. Unlike vendors, consumers in these markets receive little information about M-Money's transaction tariffs and fees when they sign up. In surveys conducted by the research team, customers reported that around 59 percent of transactions are overcharged. Additional data from the research team, by contrast, found that vendors overcharge approximately 22 percent of transactions. This discrepancy suggests that customers mistrust vendors and perceive a higher frequency of overcharged transactions than occurs in reality.



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Details of the intervention

Researchers conducted a randomized evaluation to test the impact of an information campaign on vendor misconduct.

The evaluation took place in 130 markets with 130 vendors and 990 customers. The researchers randomized at the market level, meaning both vendors and customers within a geographical market received the same intervention. The markets involved in the research study received one of the following interventions:

1. *Price Transparency:* Researchers informed consumers about the true tariffs for common transactions. Vendors were informed that consumers were being given this information. 31 vendors and 272 customers in 31 markets received this information.

2. *Monitoring and Reporting:* Researchers provided information about how to report vendor misconduct, including a toll-free number. 32 vendors and 257 customers in 32 markets received this information.

3. *Combination of Price Transparency and Monitoring and Reporting:* In 35 markets, 35 vendors and 276 consumers received information about both true prices for common transactions and on how to report being overcharged.

A fourth group of markets received a research visit but no interventions and served as a comparison group.

In order to implement the intervention, the researchers visited each local market three times in a two-month window between August and December 2019. Researchers shared the information verbally with vendors and customers, provided hard copies, and asked participants to summarize the information they received in order to ensure comprehension.

Alongside these interventions, the researchers also developed an auditing procedure to measure the true rate of misconduct in Ghanaian M-Money markets. Training local residents to serve as experimental customers, they found that 22 percent of

transactions were overcharged by vendors across 663 transactions.

To measure whether the information programs were effective for customers, researchers measured four outcomes: (i) adoption and use of money services; (ii) savings within M-Money; (iii) whether customers experienced unexpected financial shocks for which they could not pay; and (iv) poverty.[8] These outcomes were measured via phone survey in May 2020, approximately five months after the intervention concluded. To measure the effect on vendors, researchers collected data on sales revenue from vendors' transaction records.

Results and policy lessons

Vendors who received any type of information program reduced their misconduct, facilitating increases in overall market activity, firm sales revenue, and consumer welfare.

Impact on vendor misconduct: Across all three types of information programs, vendor misconduct decreased by an average of 21 percentage points (a 72 percent reduction from a base of 29 percent in the comparison group). The average amount overcharged in cases of misconduct decreased by GHS 0.55 (US$0.11), a 63 percent reduction from an average of GHS 3.32 (US$0.65) overcharged in the comparison group.

Vendors who did not receive the information interventions, but who were located in the same market as vendors who did, reduced their misconduct by an average of 15 percentage points (a 55 percent decrease from a base of 28 percent in the comparison group). This finding suggests that misconduct, as well as ethical market behavior, is contagious among vendors, and that information increased the importance of vendors' reputation in the M-money market.

Impact on customers' usage and welfare: Customers in markets that received information about misconduct increased the number of M-Money transactions they made each week. Furthermore, these customers increased their savings rate by 7.6 percentage points (an increase of 12.6 percent from a base savings rate of 60.5 percent in the comparison group). Customers in markets with anti-misconduct information were more likely to be able to financially remedy the unexpected shocks that they experienced. The information programs did not have any effect on overall poverty levels, however.

Across outcomes related to uptake of M-Money services, the researchers found that the combination of price transparency and monitoring and reporting information had the greatest impact on customers. This finding suggests that the two types of information are complementary: providing consumers with information on prices—a popular tool of consumer protection policy—is more effective when firms know that consumers may report them for misconduct.

Impact on vendors' revenue: The information program also had positive results on vendors' bottom line. Vendors who received any information program increased their M-Money sales revenue by GHS 450 (US$87.89), a 56 percent increase from a baseline of GHS 800 ($US156.25). Given that these vendors also cut back on overcharging customers, this increase in sales revenue did not translate to an increase in overall profits from M-Money services. However, vendors also saw an increase in other non-M-Money business services. As a result, the average vendor made more money after the information program.

The interventions represented a cost-effective way to protect mobile money users: the researchers estimate the cost of the information program was GHS 20.8 (US$4) per person, and resulted in an increase of GHS 98.82 (US$19.30) in usage of financial services for customers. Conservative calculations suggest a 383 percent return on investment.

Taken together, these findings suggest that better information can increase efficiency in mobile money markets, benefiting both vendors and consumers. Researchers point to the importance of reputation: when consumers have access to information on official prices, they can identify dishonest vendors, report misconduct, and choose to transact with honest vendors. Vendors, in turn, become more concerned with their reputations and reduce their misconduct.

1. Muellbauer, John and Janine Aron. “The economics of mobile money: Harnessing the transformative power of technology to benefit the global poor.” CEPR. May 7, 2019. https://cepr.org/voxeu/columns/economics-mobile-money-harnessing-transformative-power-technology-benefit-global-poor

2. Suri, Tavneet, and Jack, William. 2016. “The long-run poverty and gender impacts of mobile money.” Science 2016-12-09 354(6317): 1288-1292.

3. Blackmon, William, Mazer, Rafe, and Warren, Shana. IPA Consumer Protection Research Initiative: RFP Overview. 2021. https://poverty-action.org/sites/default/files/presentation/IPA-Consumer-Protection-RFP-Info-Session-Feb-10-11-2021-Presentation-Final.pdf.

4. Ankrah Twumasi, Martinson, Hongyun Zheng, Love Offeibea Asiedu-Ayeh, Anthony Siaw, and Yuansheng Jiang. “Access to Financial Services and Its Impact on Household Income: Evidence from Rural Ghana.” The European Journal of Development Research (2022). https://doi.org/10.1057/s41287-022-00544-y.

5. Kwadwo Boateng, “Ghana’s Progress on Reaching Out to the Unbanked Through Financial Inclusion,” International Journal of Management Studies 5, no. 2 (August 2018).

6. Mattern, Max. “How Ghana Became One of Africa’s Top Mobile Money Markets.” CGAP. June 21, 2018. https://www.cgap.org/blog/how-ghana-became-one-of-africas-top-mobile-money-markets.

7. “Mobile Phone Cements Position as Most Used Payment Medium,” Ghana Web, August 31, 2019, https://www.ghanaweb.com/GhanaHomePage/NewsArchive/Mobile-phone-cements-position-as-most-used-payment-medium-777091.

8. Schreiner, Mark. 2015. “Simple poverty scorecard--Poverty-assessment tool for Ghana.” Available here: http://www.simplepovertyscorecard.com/GHA_2012_ENG.pdf